Archiso — creating an installation medium

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Who?

- Trusted User (2017)/ Developer (2019)
- Pro-audio, Python tools, web apps
- Documentation
- Archiso

What is archiso?

- A collection of mkinitcpio[1] scripts
- A script to create an installation or live medium (an **ISO** image): *mkarchiso*
- A script to test the image: *run_archiso*
- A set of profiles that define *what* is installed and used in the image

[1] https://wiki.archlinux.org/index.php/Mkinitcpio

The Past

Maintenance

- Aaron Griffin creates SVN repository in 2006
- Gerardo Exequiel Pozzi takes over maintainenance some time around 2009
- David Runge takes over maintenance in early 2020

Repository

- SVN
- Git (git.archlinux.org)
- Mainly developed on arch-releng@lists.archlinux.org[2]

[2] https://lists.archlinux.org/listinfo/arch-releng

What is all this?

- *mkarchiso* script doing the heavy lifting
- default profiles: **baseline** and **releng** (each with a *build.sh* script)
- *mkarchiso* being called by *build.sh* scripts
- profile directories with overlay directories (for files and directories to be moved to the image)
- *customize_airootfs.sh* script to alter even more things in the root filesystem of the image

Who else uses this?

Pacman based — based on or using archiso

- Archbang[3]
- ArchLabs Linux[4]
- Arco Linux[5]
- BlackArch[6]
- EndeavourOS[7]
- EZARCH
- Hyperbola GNU/Linux-libre[8]
- Parabola GNU/Linux-libre[9]
- SystemRescue[10]
- TalkingArch[11]

[3] https://gitlab.com/mrgreen/archbang
[4] https://bitbucket.org/archlabslinux/iso/src/master/
[5] https://github.com/arcolinux/arcolinux-iso-dev
[6] https://github.com/BlackArch/blackarch-iso
[7] https://github.com/endeavouros-team/EndeavourOS-archiso
[8] https://git.hyperbola.info:50100/software/hyperiso.git/
[9] https://git.parabola.nu/parabolaiso.git/
[10] https://gitlab.com/systemrescue/systemrescue-sources
[11] https://github.com/alex19EP/talking-arch

Pacman based — **not** using archiso

- Artix Linux (artools[12])
- Chakra (calamares[13])
- LinHES?
- Manjaro Linux (manjaro-architect[14] / calamares[15])

[12] https://gitea.artixlinux.org/artix/artools
[13] https://github.com/calamares/calamares
[14] https://gitlab.manjaro.org/applications/manjaro-architect
[15] https://github.com/calamares/calamares

2020 — The State of Things

Meanwhile. . . in archiso

- Move to gitlab[16] \o/
- License project under the terms of GPL-3.0-or-later[17]
- Replace downloaded UEFI shell with packaged edk2-shell[18]
- Apply linting, code sanitization and evaluation of automated testing
- Add script for starting the image using QEMU: *run_archiso*
- Consolidate per-profile script (i.e. *build.sh*) with *mkarchiso*[19]
- Introduce profile configuration (i.e. *profiledef.sh*)[20]

[16] https://gitlab.archlinux.org/archlinux/archiso
[17] https://lists.archlinux.org/pipermail/arch-releng/2020-May/003964.html
[18] https://gitlab.archlinux.org/archlinux/archiso/-/merge_requests/1
[19] https://gitlab.archlinux.org/archlinux/archiso/-/merge_requests/59
[20] https://gitlab.archlinux.org/archlinux/archiso/-/merge_requests/59

Let's have a look!

The Future

Where do we go?

- Move all open Flyspray tickets to Gitlab
- Improve documentation[21]
- Split out initcpio scripts to separate project[22] (mkinitcpio-archiso)
- Deprecate *build.sh*[23] and *customize_airootfs.sh*[24]
- Extend declarative profiles[25]
- Add archinstall as simple TUI for installation[26]
- Add accessibility features[27]

[21] https://gitlab.archlinux.org/archlinux/archiso/-/issues/39
[22] https://gitlab.archlinux.org/archlinux/archiso/-/issues/47
[23] https://gitlab.archlinux.org/archlinux/archiso/-/issues/51
[24] https://gitlab.archlinux.org/archlinux/archiso/-/issues/21
[25] https://gitlab.archlinux.org/archlinux/archiso/-/issues/29
[26] https://gitlab.archlinux.org/archlinux/archiso/-/issues/65
[27] https://gitlab.archlinux.org/archlinux/archiso/-/issues/67

What else?

- Reproducibility for created images[28]
- Automation of image release process[29]
- Long term: Move to dracut or other systemd-based initramfs[30]
- Provide Secure Boot support out-of-the-box[31]

[28] https://gitlab.archlinux.org/archlinux/archiso/-/issues?label_name%5B%5D=reproducibility
[29] https://gitlab.archlinux.org/archlinux/releng
[30] https://gitlab.archlinux.org/archlinux/archiso/-/issues/30
[31] https://gitlab.archlinux.org/archlinux/archiso/-/issues/69

What about others?

- Declarative profiles enable for easier directory and configuration based creation of an image
- *mkarchiso* should not require downstream modification, as branding and configuration are now separate from *build.sh*

Get involved!

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