

The  GNOME™ Conference
GUADEC

GNOME and BuildStream, two
(three?) years later

Abderrahim Kitouni akitouni@gnome.org



Section 1

What is BuildStream

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BuildStream is a Free Software tool for integrating software stacks.

It takes inspiration, lessons and use-cases from various projects including Bazel, OBS, Reproducible Builds, Yocto, Baserock, Buildroot, Aboriginal, GNOME Continuous, JH-Build, Flatpak Builder and Android repo.

from `https://buildstream.build/`

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HOW STANDARDS PROLIFERATE: (SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)



Credits: xkcd.com (CC BY-NC 2.5)

 Michael Catanzaro, *Migrating from JHBuild to BuildStream*,
GUADEC 2018.

- 👉 Michael Catanzaro, *Migrating from JHBuild to BuildStream*, GUADEC 2018.
- 👉 Emmanuele Bassi, *Continuous: Past, Present, and Future*, GUADEC 2017.
- 👉 Tristan Van Berkom, *GNOME Build Strategies and BuildStream*, GUADEC 2017

- 👉 Valentin David, *GNOME OS on real hardware*, GUADEC 2020.
- 👉 Sam Thursfield, *Move Fast and Break Everything: Testing major changes to a core component of GNOME*, GUADEC 2020.

Section 2

Replacing GNOME Continuous

"GNOME Continuous" is (was) the continuous integration and delivery platform for GNOME.

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- 🐙 Build every module that changes
- 🐙 Commit the result to ostree
- 🐙 Build a VM image based on that
- 🐙 Test the resulting VM image

Status

- 👉 Done, as in Continuous was shut down a few months ago
- 👉 “Better” than the last days of Continuous
- 👉 Slower than Continuous (but we build for multiple arches)
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- 👉 Need some help to implement testing the VM images (OpenQA?)

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The image has the `user` variant, but you can easily switch using

```
ostree admin switch GnomeOS:gnome-os/master/x86_64-  
devel  
as root
```

Section 3

Replacing flatpak-builder

different use-cases

- 🦋 Building the flatpak runtimes
- 🦋 Building flatpak apps
- 🦋 Developing flatpak apps

- 👉 Rudimentary flatpak plugin (write flatpak metadata explicitly)
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- 🐙 Rudimentary flatpak plugin (write flatpak metadata explicitly)
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- 🐙 Lacks Builder integration
- 🐙 Workspaces make working on individual modules easier (similar to what flapjack does with flatpak-builder)

Status

- 👉 Great for building flatpak runtimes
- 👉 Great for developing apps
- 👉 Not so great for building apps

Need a better flatpak plugin (and integration in Builder) to start moving apps to it (or not).

Section 4

Replacing jhbuild

- 👉 In theory, it's a great replacement for jhbuild (reproducible)
- 👉 In practice, the sandbox needs to be configured differently for different projects
- 👉 Every project needs to have all its dependencies explicitly stated

BuildStream has a configurable sandbox using `bst shell`, but we need to know the need of every project and actually do it.

Questions ?