

Reworking the desktop distribution

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What's a desktop
distribution made of?

Packages,
Packages,
Packages

Every installation is “custom”

- What’s actually on user’s system is not tested
- Can’t distinguish between corrupted and modified
- Upgrades are unreliable

Basic Idea

- Operating System Image
- Self-contained applications
- Flexible development environments

OS'es that do this

- OLPC
- Android
- ChromeOS
- Endless OS

Fedora Workstation

- Pure GNOME (mostly)
- General purpose
- With a focus on developers

Fedora “Atomic” Workstation

- Pure GNOME (mostly)
- General purpose
- With a focus on developers
- **ostree images**
- **Using flatpak for apps**

OSTree

- “git” for binary trees
- Used:
 - GNOME Continuous
 - RHEL/Fedora Atomic Host
 - Endless OS
 - Flatpak

How do we make
an operating system image?

Packages,
Packages,
Packages

Why packages?

- Reuse years of packaging work
- Share security streams
- Don't have to rebuild the world for small changes
- Reduce inter-ostree deltas

rpm-ostree

- Build ostree's from rpm packages
- Layer over ostree for upgrades
 - Show which packages have changed
- Package layering

Package layering

- `rpm-ostree pkg-add`
- List of packages that are layered on top of each upstream tree
- Need to reboot to add/remove/update

The more you layer,
The more you have package pain

ostree admin unlock

- Layer a writable layer on top of /
- Do whatever you want
- Gone on reboot

Flatpak

Where do we get flatpaks

- Where everybody else gets them
- But *also* rebuild app packages

“Atomic” Workstation Status

- OSTrees:
 - Unofficial OSTrees **now**
 - Built in Fedora infrastructure **for F25**
- GNOME Software flatpak support: **pretty good**
- GNOME Software ostree support: **in progress**
- Flatpaks from RPMs: **prototype – F26?**

Demo

What about
developers?

Types of development

- **Server development**
- **Native application development**
- **GNOME desktop development**
- Scientific computing / Big data
- Low level system development (kernel + friends)
- Mobile app development
- Game development

Development principles

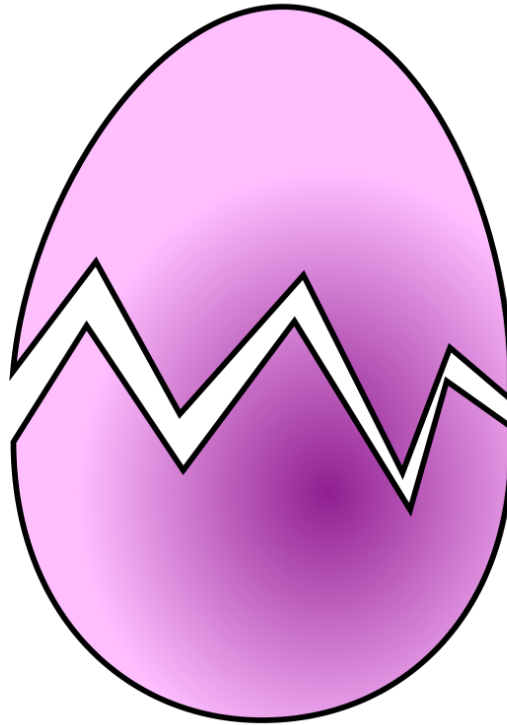
- Environment is not your workstation OS
- Environment is reproducible
- Environment works across different hosts

Server Development

(excluding Java)

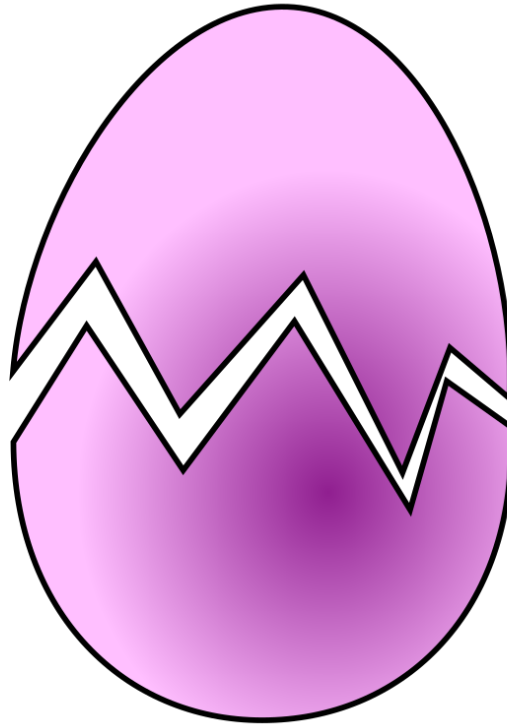
- Lots of terminal usage
- Various editors used, few IDE's
- Every language/project has its own way of working

Demo



PurpleEgg

Demo



Code name!

PurpleEgg

PurpleEgg

- Easy set up a scratch container
- Stick close to upstream
- Slick desktop integration

Native app development

- Flatpak, flatpak, flatpak

Whither jhbuild?

- No longer needed for **app** development
- Can also use flatpak for **library** development
- But what about **gnome-shell**, **gnome-online-accounts**, etc.?
- How do you *uniformly* hack on GNOME?

Questions?

These Slides:

<http://fishsoup.net/Guadec2016>

Trying it out: (*carefully*)

<https://pagure.io/fork/walters/workstation-ostree-config/branch/f24-continuous>

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<http://blog.fishsoup.net>