

# Flatpak – A new way to distribute applications

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# Distributions do important work

- Easy to install and update
- Security updates
- Testing
- License compliance
- Single point of trust



# Downsides of the distribution model

- Middleman between developers and users
- Non-free apps are left out
- Fragmentation: deb vs. rpm
- “Fringe” apps don’t get packaged
- Less used apps get little or no testing





# For application developers

- No control over updates
- No control over dependencies
- No direct contact to users
- Multiple targets: Fedora, Ubuntu, Debian,...







# Introducing Flatpak



# Main goals

- Cross-distribution deployment
- Sandboxing
- Invisible to the user
- Directly connect users and app developers





# How does it work ?



# How does it work ?

- Namespaces
- Cgroups
- Seccomp





# Dependencies are bundled

- Users and testers run exactly the same binaries
- Developer has full control over versions



# Runtime / Application split

- Don't want to bundle everything
- Common stack of libraries in /usr
- The app itself and the bundled parts in /app

Examples: freedesktop runtime, GNOME runtime





# Build support

- SDK counterpart to runtime
- flatpak-builder utility
- GNOME Builder integration



# Ostree

- Used for installation and updates
- Used for local storage
- Automatic deduplication
- Atomic updates





# Appstream

- Widely used and accepted
- Apps ship their own appdata
- Combined into a single xml file in a branch



# Sandboxing

- Traditional Unix security
- Modern security





# Portals

- Safe way to get out of sandbox
- Safety by user interaction

Examples: FileChooser, OpenURI, Print, Sharing



# OCI

- Repositories
- Build system integration
- Security checks





# Roadmap

- A stable runtime
- Fedora runtime
- Apps as Flatpaks for atomic Workstation



# Case study: Recipes





# Early testing

- Oct 28** receive first mockups
- Oct 30** first commits in git, already include a Flatpak manifest
- Oct 30** first Flatpak bundle available as release on github
- Dec 4** another Flatpak bundle available on github
- Dec 5** Flatpak repository hosted on github
- Dec 15** first tarball release on [download.gnome.org](https://download.gnome.org)

...not packaged in distributions yet



# Sandboxing

- Using Portals
  - File chooser portal for selecting images
  - Account portal for getting user information
  - OpenURL portal for handling links
  - Print portal for printing
  - Notification portal for notifications
- What is missing: Sharing





# Bundling

- Using GNOME runtime
- Bundling gnome-autoar and gspell
- Git submodules: libgd, libglnx



# Things to keep in mind

- Name-prefix all exported files
  - Desktop file
  - D-Bus service file
  - GNOME shell search provider
  - Icons
- Store files in `$XDG_DATA_HOME`





# Demo time!



Questions ?



# References

- Flatpak:

Website: <http://flatpak.org>

Code: <https://github.com/flatpak/flatpak>

List: <http://lists.freedesktop.org/archives/xdg-app>

IRC: #flatpak on freenode

- Recipes:

Website: <https://wiki.gnome.org/Apps/Recipes>

Code: <https://git.gnome.org/browse/recipes/>

