Re-thinking Linux Distributions

... separate the operating system from the content

Presented at FOSDEM 2016 by
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Platform Architect
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Who am I?

Langdon White

- Formerly Evangelist for RHEL
- Platform Architect for Developer Experience
- Working on Fedora Modularity

Thomas

- Plays a lot of ~~soccer~~football and basketball
- Lots of homework
- Uses Instagram to talk to friends

Now

Distributions are awesome!
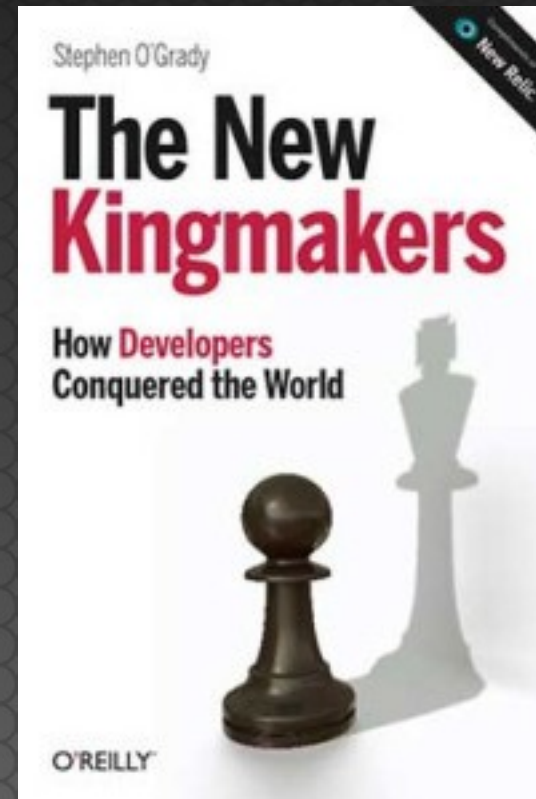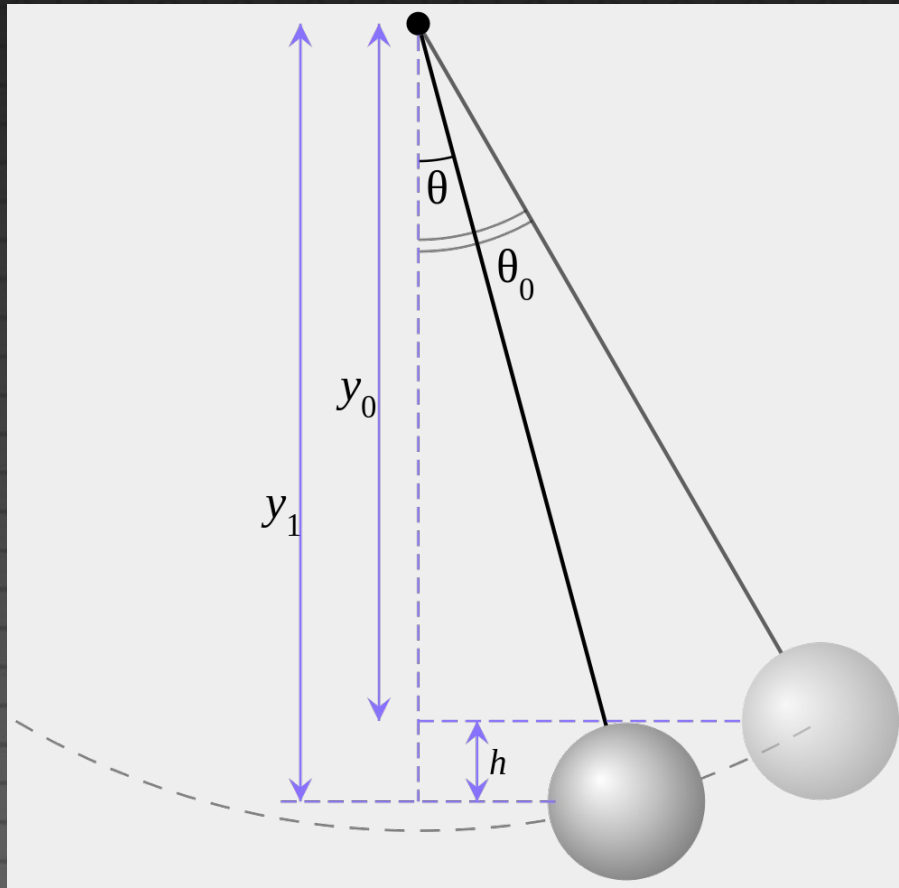
Framing the problem

Operating Systems, Frameworks, and Applications have different lifecycles

Framing the problem

Software has changed in the last 20 years

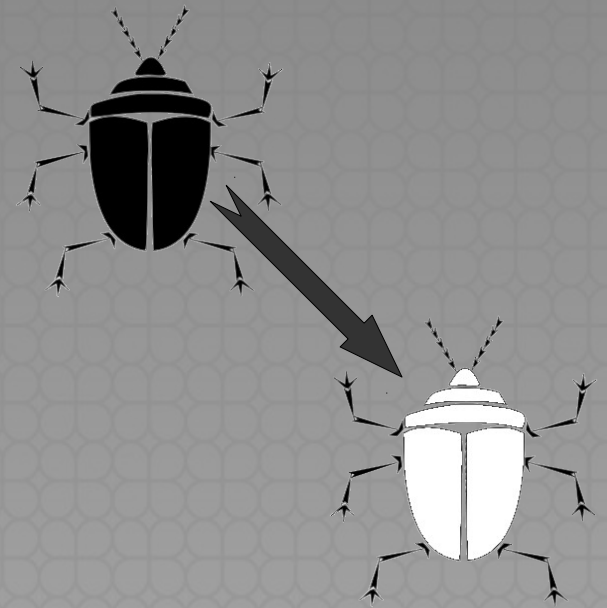# Framing the problem

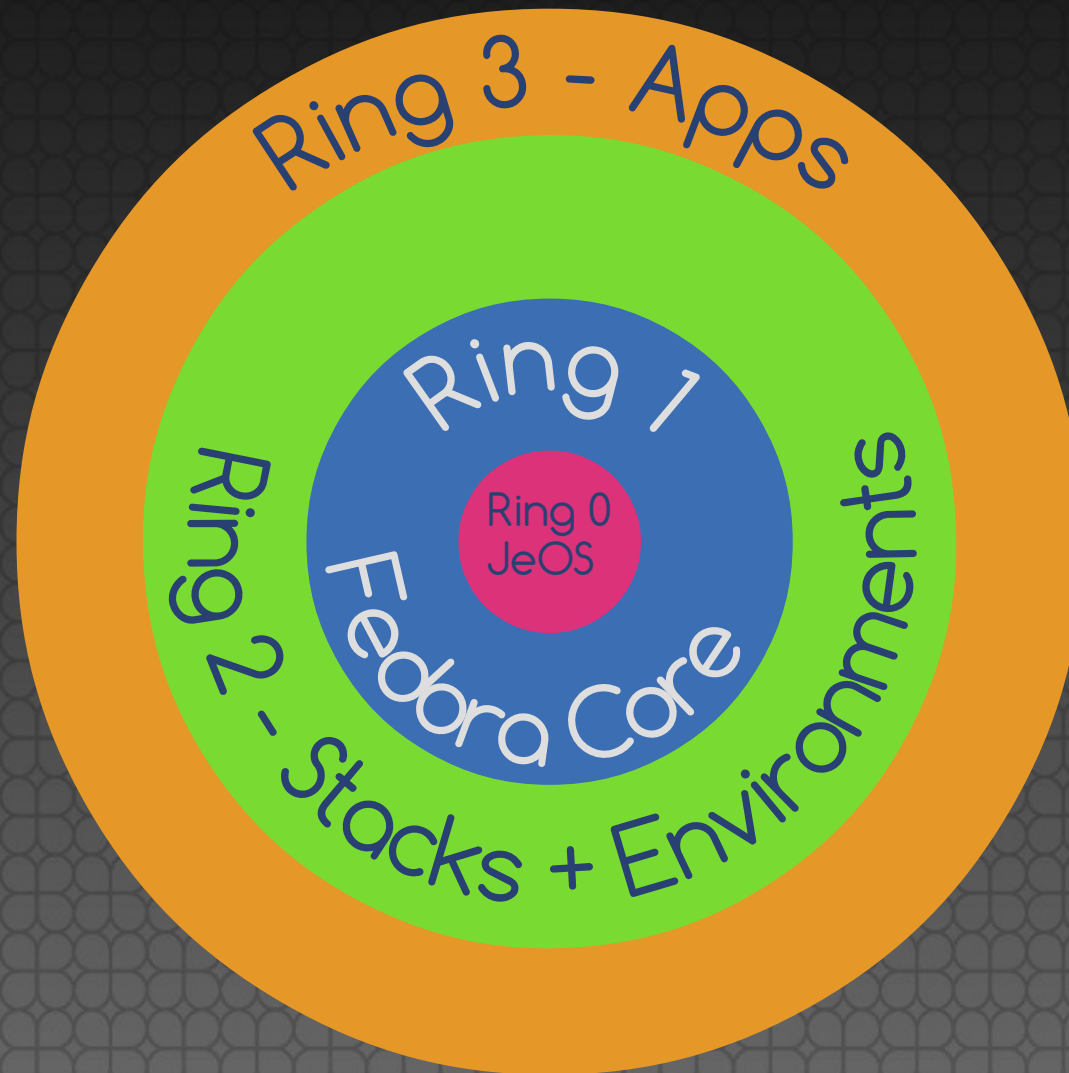Application decisions now favor developers

Framing the problem

Different user scenarios have different risks

Framing the problem

Updating may have unintended consequences

Solution proposed

Ring 3 - Apps

Ring 1

Ring 0 JeOS

Fedra Core

Ring 2 - Stacks + Environments

Fedora.next & Fedora Rings

Starting the solution

Choose Freedom. Choose Fedora.

Less setup, more innovation. Choose a flavor of Fedora streamlined for your needs, and get to work right away.

WORKSTATION

Fedora Workstation is a polished, easy to use operating system for laptop and desktop computers, with a complete set of tools for developers and makers of all kinds.

DOWNLOAD NOW

SERVER

Fedora Server is a powerful, flexible operating system that includes the best and latest datacenter technologies. It puts you in control of all your infrastructure and services.
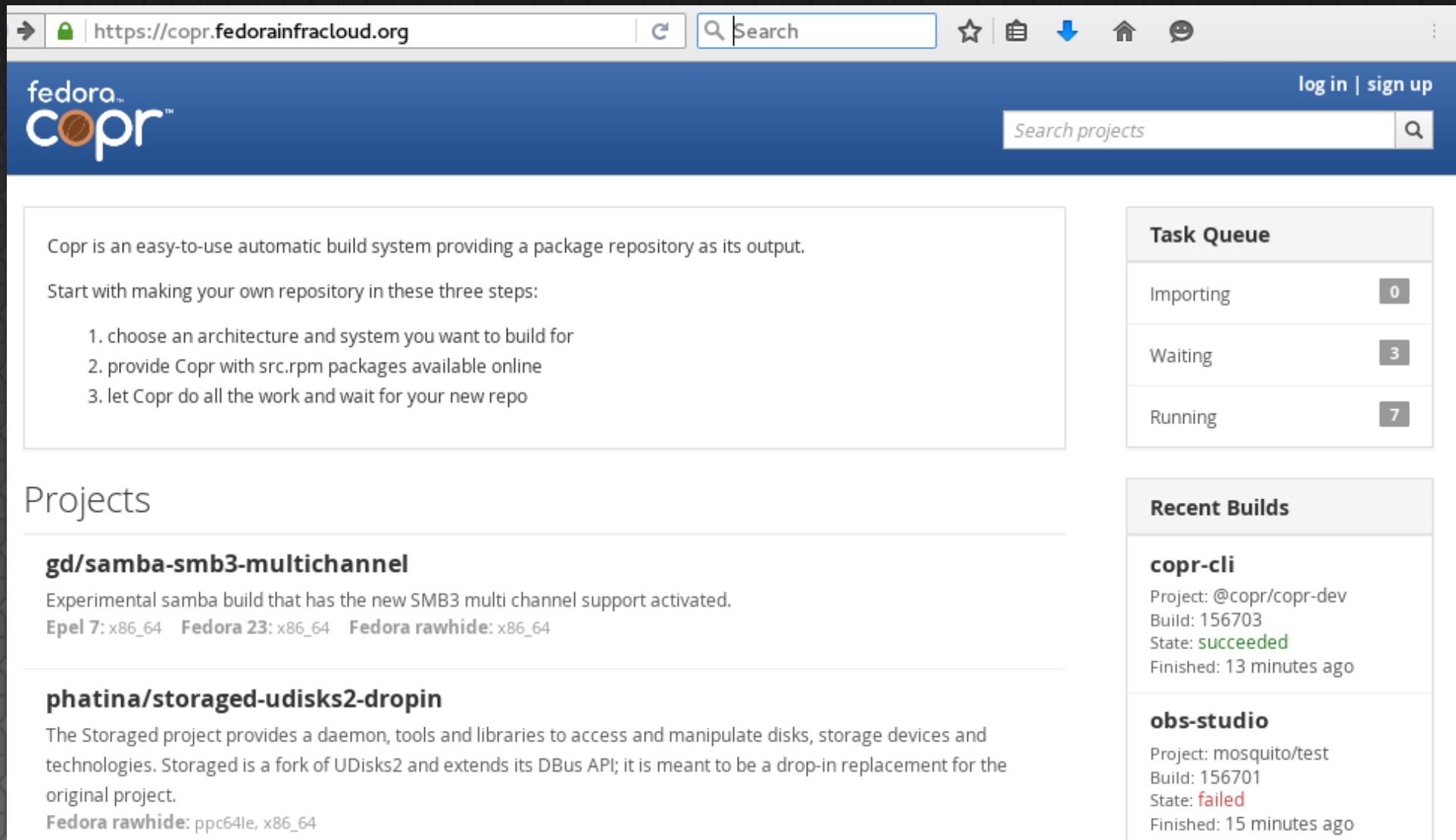
DOWNLOAD NOW

CLOUD

Fedora Cloud provides a minimal image of Fedora for use in public and private cloud environments. It includes just the bare essentials making it very light on resources, but you get enough to run your cloud application.

DOWNLOAD NOW

Fedora Editions

A next step

Cool Other Package Repositories (COPR)

Playground Proposal

Langdon talk preferences watchlist contributions log out

fedora

page | discussion | edit | history | move | watch

WIKI
- Fedora Project Wiki
- News
- Events
- Features
- Recent changes
- Random page
- Help

NAVIGATION
- Home
- Get Fedora
- Join Fedora

SUB-PROJECTS
- Ambassadors
- Community

Changes/Playground repository

< Changes

Playground repository   [edit]

Summary   [edit]

The Playground repository gives contributors a place to host packages that are not up to the standards of the main Fedora repository but may still be useful to other users. For now the Playground repository contains both packages that are destined for eventual inclusion into the main Fedora repository and packages that are never going to make it there. Users of the repository should be willing to endure a certain amount of instability when using packages from there.

⚠ **What the Playground repository will NOT include**
To avoid any potential confusion, we want to make it clear that in the Playground repository all packages must meet the same **legal guidelines** as packages in Fedora proper.

Select set of COPRs

Aleph Proposal

Env and Stacks/Projects/PackageReviewProcessRedesign

⚠️ **This page is a draft only**
It is still under construction and content may change. Do not rely on the information on this page.

Contents [hide]

(DRAFT) Incremental Review Process for Fedora Packages (DRAFT)

Fedora Packaging Reviews are currently largely "all or nothing" - a component doesn't really get reviewed until it's been repackaged as an RPM and submitted to a full review for packaging policy compliance. This is a draft proposal for breaking Fedora's packaging policy up into 6 different tiers based on the centrality of a component to the Fedora platform.

The term "Aleph" is proposed for each tier based on the Fedora logo, and the fact that each tier is expected to contain correspondingly larger numbers of different packages.

The 6 proposed levels:

- Aleph 0: Essential components
- Aleph 1: Integrated components
- Aleph 2: Policy compliant components
- Aleph 3: Repackaged components
- Aleph 4: Redistributed components
- Aleph 5: Upstream components

A proposal to define Fedora Rings

Problems
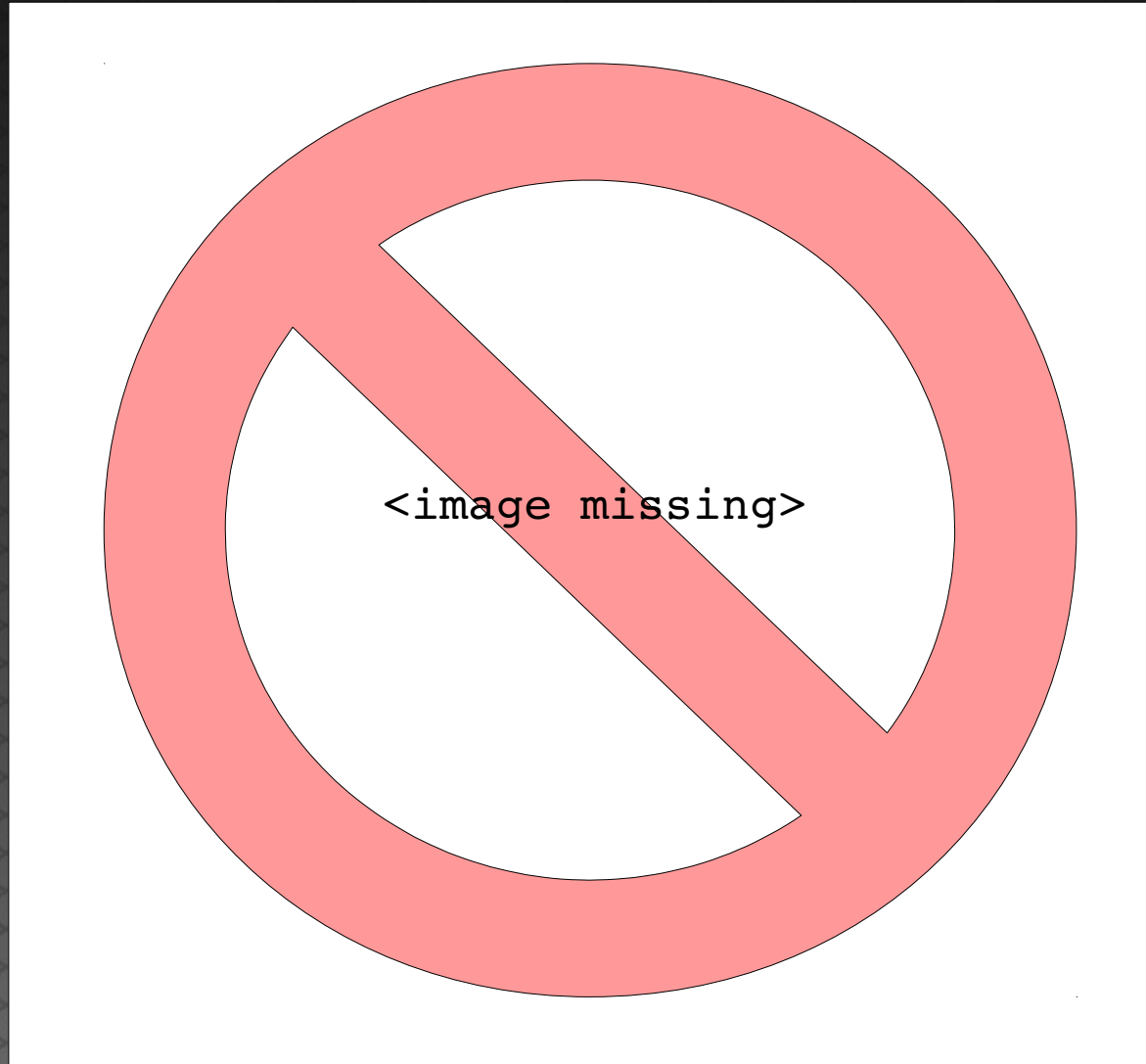
Rings metaphor falls down

Problems

Developers still won't participate

OK, now what?

A new direction

Modularity: providing components that are larger than a package

A new direction

Refine the OS to just the bare necessities

A new direction

Delivering in Native Formats

A new direction

Implementation

- RoleKit: Provides a method for simplifying the distribution & installation of multi-component server software

- xdg-app: A container-izing technology to package and deliver (desktop) applications with little access to the host OS

- Atomic Workstation: An effort to use os-tree to deliver a user's workstation & provide apps separately

- Nulecule & AtomicApp: A specification and reference implementation for delivering multi-component applications in containers

Delivering self-contained modules & apps

Implementation

- Base WG: Working on efforts to identify the "core" for Fedora

- Weak Dependencies: A mechanism to allow a package to use a dependency if it exists but not require it to run

- Environments & Stacks WG: Ideas being discussed to encourage more distribution of native formats and metadata

Streamlining the Operating System & Delivering Metadata

Lots more to do

- At DevConf.cz next weekend (Feb. 5-7 2016) we will be talking more about this subject (and I will be presenting)

- Application developers check out developer.fedoraproject.org and work with us on application distribution

- Help us to reinvigorate this effort by sharing your thoughts in the Fedora Community

- Look for updates at Fedora Flock in August

References

For more information, or to participate in the projects I have mentioned:

- RoleKit : https://github.com/libre-server/rolekit & new simpler, implementation style: https://gist.github.com/haraldh/010e1d4289904dd09b83

- xdg-app: https://wiki.gnome.org/Projects/SandboxedApps

- Atomic Workstation: https://fedoraproject.org/wiki/Workstation/AtomicWorkstation

- Nulecule: https://github.com/projectatomic/nulecule

- AtomicApp: https://github.com/projectatomic/atomicapp

- rpm & weak dependencies: http://www.rpm.org/wiki/PackagerDocs/DependenciesOverview

- Base WG: https://fedoraproject.org/wiki/Base

- Environments & Stacks WG: https://fedoraproject.org/wiki/Env_and_Stacks

Attributions

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Questions?

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