GNU Guix and D

Lightning talk

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Zortech C++
1. Sambamba (Artem Tarasov)*
2. Added ldc package to GNU Guix
3. Writing big data software targetting GPU and Intel MIC (ORNL)

‘It’s absolutely mad having specialist package managers per language’

Joe Armstrong (Erlang) 2016
Why do we create ’em?

- Current distributions are highly inadequate
- Programmers have multiple targets
Our needs

- We need something that works (first 5 minutes)
- Multiple version support
- Multiple targets
- Rolling upgrades
- Reproducible deployment
- Full control of the dependency graph
Large deployments

Ditto
Why?

- Current distributions are highly inadequate
- Debian stable, testing, unstable, experimental, security, backports - WTF?
- I take pity on the maintainers, users, developers, sysadmins, everyone!
VMs and containers are great, but they do not solve the problem of controlling the dependency graph.
‘A package is just a blob with a checksum’

Joe Armstrong (Erlang) 2016
guix package -i ldc

ldc is installed under a hash of its inputs:

store/j55dwv0(...)–ldc-0.16.1/bin/ldc2
Ashes to ashes

The hash for `store/j55dwv0(...)–ldc–0.16.1/` changes when

- source code changes
- configuration changes
- dependencies change
Guix does not replace dub, but can make dub simpler, reliable, robust, and reproducible in a Guix setting.

Ruby - Nokogiri - Andrei: in Guix once it works it always works.
GNU Guix and D

- GNU Guix gets a lot of things right - we are aiming for GREAT, not just OKAY (work)
- Rolling upgrades, versioning, transactions, immutable deployments...
- I.e., the deployment can be forked out to Guix
- Guix works in *any* distro - allows slow transition
- We will add dub, d-build-system, and emacs d-mode