GNU Guix and D

Lightning talk

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Zortech C++

D

1. Sambamba (Artem Tarasov)*

2. Added ldc package to GNU Guix

3. Writing big data software targetting GPU and Intel MIC (ORNL)

*Tarasov *et al.*, Sambamba: fast processing of NGS alignment formats, Bioinformatics (2015) doi: 10.1093/bioinformatics/btv098

Guix

DConf 2016 Berlin

Each your own

'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

Guix

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!

No go area

VMs and containers are great, but they do not solve the problem of controlling the dependency graph

Hashes for hashes

'A package is just a blob with a checksum'

Joe Armstrong (Erlang) 2016

Enter GNU Guix

- `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

GNU Guix

- 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