



FNAL Spack / SpackDev status update

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HSF Packaging Meeting, 2019-05-29

Recap

- Previous [status report 2019-02-27](#).

Spack core improvements

- Support `VISUAL` environment variable for recipe editing.
- Improved environment save (source-able text, pickled environment dictionary) and useful `PATH`-like variable manipulation commands (slowww merge upstream).
- Improved handling of CMake builds (now out-of-source) (slowww merge upstream).
- Improvements to handling of sub-commands.

Upstream recipe improvements

- `mysql` client-only build, C++ standard support, new variants, bug fix (one merge pending).
- `mariadb-c-client` package, enhance `mariadb` to interoperate (slowww merge upstream).
- `postgresql` new variants and versions.
- `intel-tbb` improvements.
- `cppunit` C++ standard support, new versions.
- `gl2ps` improvements.
- `range-v3` improvements.
- `nix` improvements.
- `boost` improvements.
- `sqlite` new versions.
- `numpy` new versions.
- Reconcile FNAL `root` recipe with upstream.

Other Spack news

- **Spack Work Items** document is currently at **version 0.4**.
- Regular (usually bi-weekly) productive meetings with Peter Scheibel (Spack principal), including walk-through discussion of work items. New effort has been targetted to work on some of our requested improvements (*cf* **PR 11528**), and agreement in principal on some big issues (*e.g.*) including configuration tracking for built packages despite recipe evolution).
- Telecon with another Spack contributor (Elizabeth Fischer) with contributions to Spack not dissimilar to parts of SpackDev: agreement in principal to eventually merge SpackDev functionality into core.

SpackDev progress

- The check for additional packages requiring checkout for consistent builds has been improved for accuracy and speed.
- SpackDev can now handle packages whose names contain hyphens.
- Updates to accommodate upstream Spack developments.
- SpackDev can now print the spec tree for packages specified for development.
- The input DAG can now contain multiple top-level packages (*e.g.* `critic` and `larsoft`), and is co-concretized for consistency.
- Substantial improvements to the package checkout process.
- The global build can now handle tests in parallel.

MVP1a Status

- Almost at the end of a significant round of integration testing.
- LArSoft build is currently compatible with art suite 3.02.04 (will bump to 3.02.05 as a final step).
- Currently stalled packaging `wirecell`, as changes will be required to Spack core to accommodate submodule checkout quirks.
- Real Soon Now!