

Let's Talk About Software Releases

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What is a release?

Ultimately a specification of a software suite of packages, their versions and build options.

→ the suite is typically driven by one or a few high level packages, an explicit set of dependencies, and an implicit "supported" base OS.

- lbnecode, g4lbne, fastmc

Given the specification we want:

- Automated means to install the release from source of binary.
- Methods to simply the use of the release for running or as a basis for further development.
- Assurance that the release will build and perform as expected.
- Once created, the release is available and reproducible for all time.

lbnecode

Near term:

- Need someone to tag releases of the `lbnecode` git repo
- Need someone to deal with nightly builds until the CI system comes on line.

Longer term:

- Nightly (per-commit) builds via CI system – (nominally: me)
- Validation jobs, unit tests – (`lbnecode` developers)
  - Development of job/tests – (everyone)
  - Running of jobs/tests by CI system – (nominally: me)

larsoft

Initial worch-based release [1]

- Build from source
- "Fermlab-compatible" UPS products area
- Versions for the code and the build process
- Provides model for all suite releases

Caveats:

- Only built on SL6.4, only version 1.00.02.
- No automated binary-based install - must compile
- No unit testing, no validation beyond simple =lar= job.
- Currently limited by being based on Fermilab build scripts
  - → ongoing work by Ben Morgan on UPS-free art/larsoft CMake build system. Quick advances being made but limited time available.

[1] https://cdcvs.fnal.gov/redmine/projects/lbne-software/wiki/Software_Installation_From_Source

g4lbne

- worch-based installation from source[2]
- Builds new Dk2Nu[3]
- Environment Modules environment management, not (yet) UPS
- ROOT 5.34/18, Geant4.9.4.p04

Caveats:

- Current worch-based install not yet fully a managed release
- Need to validate and upgrade to Geant4.9.6
- Would like to provide some development environment convenience.
  - → can build g4lbne "by hand" against base release

To be initial suite put under Contiguous Integration.

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[2] https://cdcvs.fnal.gov/redmine/projects/lbne-beamsim/wiki/Installation

[3] https://cdcvs.fnal.gov/redmine/projects/dk2nu

fastmc

- Nothing yet, still somewhat neglected (my fault)