

LArSoft Coordination Meeting

Release and project report

Erica Snider
Vito di Benedetto
Giuseppe Cerati
Lynn Garren
Katherine Lato
Paul Russo
Saba Sehrish
Fermilab SciSoft Team

June 19, 2018

Today's agenda and speakers

- Release and project report (Erica)
- Changes to hit-finding (Tracy Usher)
- Pandora updates (Lorena Escudero)
- Jupyter / root / gallery integration (Wes Ketchum)
- LArSoft vectorization tests: status report (Guilherme Lima)

Announcements

- GPU Hackathon 2018 at BNL, Sept 17 - 21
 - **Experts will help select teams port applications to GPUs**
 - No prior knowledge of GPU programming needed
 - Anyone with scalable application that would benefit
 - Team **applications due June 30, 2018**
 - HEP applicants especially encouraged
 - Open to GPU users from national labs, universities and industry

See <https://www.bnl.gov/gpuhackathon20188> for details

Releases

- Last three weeks
 - v06_79_00 released May 31
 - Change in `geo::GeometryCore::WirePitch()` interface
 - v06_80_00 released June 1
 - Same as v06_79_00, except built with *art* v2_11_02
 - Use `UpdatreArt211.sh` to fix changes to include / library references
 - Branch `feature/team_for_art_2_11_01` for `argoneutcode`, `lariatsoft`, `sbndcode`, `uboonecode`
 - v06_08_01 released June 14
 - Picks up bug fix release of Genie, v2_12_10c
 - Also `ifdhc v2_3_4`
- This week
 - Bug fixes + whatever is approved today

art v3

- *art* v3 was released since the last LCM
 - **Introduces multi-threading capabilities** to *art* workflows
 - Will support workflows from older versions of *art*
 - Note, however, that **some v2 workflows** that “work” are technically ill-formed, so **will not work in v3**
 - See https://cdcvs.fnal.gov/redmine/projects/art/wiki/Upgrading_to_art_3 for upgrade information

- **LArSoft plans to migrate to art v3 at the earliest opportunity**
 - Assuming no objection
 - Will *follow* migration to e17
 - Will release LArSoft with art v3 as LArSoft v07
 - Release candidates will be announced when ready

Discussion of how to deal with large detectors

- A conversation recently initiated by DUNE (again...)
 - How to deal with the large event sizes from ProtoDUNE, DUNE 10kt, etc
- Intimately tied a number of issues
 - Multi-threading
 - Zero-suppression
 - Data pruning / reduction
 - Etc.
- **Would like suggestions on how to develop a plan**
 - Expect to organize a meeting to discuss
- Current related efforts
 - Re-architecture of LArSoft services to make them thread safe
 - Plan for the summer is to measure memory scaling with N threads

Proposed change to raw::RawDigit

- There is an open proposal to add a timestamp to raw::RawDigit
 - One time-stamp per channel
 - Needed to tie together various blocks within the DUNE DAQ that do not effectively talk to each other
 - Needed for ProtoDUNE data taking
 - Still collecting information
 - Need to understand implications for existing data

See [issue #20160](#) for available details

Comments / discussion welcome

GitHub and LArSoft

- The topic of migrating LArSoft repositories to GitHub once again under discussion
 - Would make available the development / collaboration tools available there
 - E.g., opens the possibility of moving to pull-request model
 - Might involve significant re-organization of the software to make most effective use of those tools

- Discussion of licensing LArSoft came up at the same time
 - Leading candidate: [Apache License, Version 2.0](#) from the Apache Software Foundation
 - On recommendation of Fermilab IP office

No actions in the short term. Seeking input, comments, discussion.

The end