

LArLite and LArSoft Interoperability Status

W. David Dagenhart

FNAL

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LArLite/LArSoft Interoperability

- Goal is to improve interoperability of LArLite and LArSoft. We are investigating how best to share code between them.
- Chris Jones and Marc Paterno interviewed people and wrote a draft proposal in June which is a good starting point.
- Documentation is here <https://cdcvs.fnal.gov/redmine/projects/sketch?jump=welcome>

Prototype/Test Code

- Added a new larlite data type with a test to write and read it
- Wrote a wrapper class that could be used in LArLite to allow use of LArSoft data products. Tested with a LArLite type (C++ and pyROOT)
- C++ LArLite executable that writes/reads a LArSoft data format class using the wrapper. pyROOT version doesn't work yet.

LArSoft Considerations

- Refactor data product classes to reduce non-essential library dependencies
- Refactor UPS products to allow use of data product classes with minimal library dependencies
- Move LArSoft to ROOT 6. (LArLite already works under ROOT 6.)
- Full dictionaries needed

LArSoft Questions

- Support for Ubuntu?
- An art “Lite” package that could be used by LArLite to read LArSoft files directly? This is one alternative way forward. I spent a little time studying CMS FWLite.

Observed Differences between LArLite and LArSoft

- Different inheritance structure of data products
- Repo not controlled or versioned
- Data types are enumerated in a central class
- Associations, Ptrs interfaces are different
- The headers included are different
- Build system is different (gmake versus cmake under mrb)
- Type, EventID in every data product
- Data product “get” interface different

LArLite/LArSoft participation

- Kazu appears to be critical to microboone commissioning and currently very busy with genuinely important other work. He has talked with us a couple times in a positive way. Sent github link to wrapper prototype code to him.
- Not a lot of interaction so far on the LArSoft side, although we have not asked much yet. (Lynn and Chris Green have helped with some build problems)

Next Steps

- We are discussing where this is going and who will do what next.