

# DUNE Software Architecture News

Tom Junk

DUNE Software Architecture Meeting

July 28, 2021

# duneanaobj

- Chris Backhouse asked for a new UPS product, duneanaobj, containing data product definitions.

<https://github.com/DUNE/duneanaobj>

- Contains CAF objects StandardRecord.h and SRGlobal.h, and accessor code.
- Chris proposes that dunetpc depends on duneanaobj.
- CAFMaker lives in dunetpc, but needs to make data objects for export to non-*art*-based programs.
- Similar model in place for Chris Hilgenberg's garana product, on which garsoft now depends.
- Pattern of name comes from lardataobj.
- We have a duneobj directory in dunetpc. Proposed part of dunecore in the split, but it could be its own product.

# duneanaobj

- github source includes UPS files: product\_deps and associated files. Meant to be built with mrb.
- Also buildable outside of the *art* environment so lblpwgtools can read the CAFs.
- Ongoing maintenance required. Just like all DUNE software.
- Only one point of dependence however – CAFMaker.
- Chris says that while the amount of things in duneanaobj is modest at the moment, it will grow in scope as people develop.

# duneanaobj versioning

- Easy enough to include in the current development cycle.
- But the LBLPWG group wants to run with GENIE v2, as all the FD TDR studies were performed with GENIE v2.
- Very difficult to re-do the systematic uncertainty suite with GENIE v3. New larsoft depends on GENIE v3.
- ND PDR and TDR will have to match FD TDR.
- Chris tells me he based his CAFMaker branch in dunetpc off of v08\_27\_01 (August 2019).
- duneanaobj only depends on ROOT (and the compiler).
- larsoft v08\_27\_01 depends on ROOT v6\_16\_00 (e17 & c2); develop larsoft depends on ROOT v6\_22\_08b (e20 & c7).

# duneanaobj status

- larsoft v08\_27\_01 is on the list of preserved releases  
[https://cdcvs.fnal.gov/redmine/projects/larsoft/wiki/LArSoft\\_release\\_list](https://cdcvs.fnal.gov/redmine/projects/larsoft/wiki/LArSoft_release_list)
- (thanks, Lynn!)
- I made a duneanaobj-release-build project in Jenkins, and I wrote a build script for it in duneutil
- duneanaobj now has a v01\_00\_00, built with two qualifiers:
  - gv2 for GENIE v2
  - gv3 for GENIE v3
- Built and released in CVMFS. Only SL7 supported.
- product added to the list in scisoft and tarball uploaded.
- Instructions for how to build it given to Chris.

# duneanaobj: dunetpc modifications

- So far, code depending on duneanaobj in dunetpc is in a feature branch
- No changes made yet to dunetpc's develop branch
- Chris says he's okay for now telling people to build dunetpc from source to access duneanaobj
- We can mainline the current code, but developing based on v08\_27\_01 is going to require some care
- Code based on v08\_27\_01 will have to stay on a branch.
- Rebuilding dunetpc v08\_27\_01\_xxxx on Jenkins will require a resuscitation of the old build script (no problem), but require changes to check out Chris's feature branch and update the tag name appropriately.
- Changes to old larsoft will be more difficult.

# dunetpc split

- No news this week – Still waiting for Dom to finish his rearrangement.
- Encouragement from S&C to move to a pull request model.
- Probably get higher-quality code that way.

# Extras