



art news

4 October 2018

art stakeholders meeting



Upgrading LArSoft to *art* 3

- Moving LArSoft to support multi-threading is a significant effort that is underway
 - Serial event-processing is *art*'s default behavior—getting here is the first step.
 - You must opt-in to multi-threaded execution.
- There is guidance for how to do this:
 - https://cdcv.sfnal.gov/redmine/projects/art/wiki/Upgrading_to_art_3
- Lynn and I have been upgrading the LArSoft repositories to support *art* 3.
 - Exposed some breaking changes I was not aware of
 - I am in the process of updating the breaking-changes page
 - Exposed suboptimal practices (e.g.):
 - Lot of calls to `RandomNumberGenerator::getEngine(...)`, which will be deprecated in *art* 3.02 and removed in *art* 3.03.
- We continue to support LArSoft, and will work to improve *art* usage within it.

An *art* bug introduced in 3.00

Consider this configuration

```
# excluded_path.fcl

physics: {
  filters: {
    f: {
      module_type: Prescaler
      prescaleFactor: 1
      prescaleOffset: 0
    }
  }

  tp1: [f]
  tp2: [f]
  trigger_paths: [tp1]
}
```

Expect only tp1 to execute

```
%MSG-i path: Early 04-Oct-2018 13:00:45 CDT
JobSetup
The following module label is either not
assigned to any path, or it has been assigned
to ignored path(s):
'f'
%MSG
Segmentation fault (core dumped)
```

Bug fixed for *art* 3.02. Can release bug-fix versions of *art* 3.00 and *art* 3.01 upon request.

art 3.01 workaround is to specify the `--prune-config` option.

art 3.02 status

- Various features included for *art* 3.02
 - Biggest change is the separation of *art* into *art* and *art_root_io*.
- Waiting on the resolution of a ROOT bug
 - We don't necessarily have to change versions
- Compile-time deprecations
 - `art::RandomNumberGenerator::getEngine`
 - Default constructors for `art::EDProducer` and `art::EDFilter`
- Run-time deprecations
 - Global `errorOnFailureToPut` flag/program-option
 - Specifying an event number to `-e | --estart` vs. an `art::EventID`