LArSoft Coordination Meeting

Release and project report

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Today's agenda and speakers

- Release and project report (Erica)

- CI operations report (Vito di Benedetto)

- LArG4 support project (Hans Wenzel)

- Modularization of DetSim and DataPrep (David Adams)

- AOB

Releases

- Last week(s):
  - v06_06_01 released Sept 13
    - Changes to develop
  - v06_07_00 released Sept 23
    - Updated Pandora
    - New version of art: v2.04
      - Fixes a bug that caused slow reads of concatenated input files
- This week
  - No special changes this week (?)
- Unlabeled production releases?
  - Have found cases of experiment "production" releases not labeled as such
    - These could have been removed from /grid/fermiapp or cvmfs without warning!
  - Release managers:
    - Please check list of releases, and let us know if we've missed any!

Deprecated *art* features

- A number of deprecated features are currently still enabled

    – Some are in common use

- As v2.05 (next release), **deprecated features will no longer be available**

    Assume the experiments are coordinating fixes(??)

Deprecation	Replace with	Deprecated as of
art		
config_dumper --label	config_dumper --filter	art 1.09.03
services.user.myService: {...}	services.myService: {...}	
services.Timing: {...}	services.TimeTracker: {...}	art 1.13.00
services.SimpleMemoryCheck: {...}	services.MemoryTracker: {...}	
artmod executable	cetskelgen executable	art 1.14.01[1]
produces<T,art::BranchType>(...) in a ResultsProducer	produces<T>(...)	art 1.16.02
EventSelector::acceptEvent(unsigned char const*, int)	EventSelector::acceptEvent(TriggerResults const&)	art 1.17.07
SelectEvents.SelectEvents: [...]	SelectEvents: [...]	art 2.01.00
services.scheduler.fileMode	*Contact artists@fnal.gov for details*	art 2.01.00
services.MemoryTracker.filename: "..."	services.MemoryTracker.dbOutput.fileName: "..."	art 2.01.00
messagefacility		
#include "messagefacility/Utilities/do_nothing_deleter.h" mf::do_nothing_deleter	#include "cetlib/no_delete.h" cet::no_delete	art 1.16.00
fhiclcpp		
fhicl::ParameterSet::get_keys()	fhicl::ParameterSet::get_names()	art 1.16.00
fhicl::ParameterSet::get_pset_keys()	fhicl::ParameterSet::get_pset_names()	
cetlib		
#include "cetlib/make_unique.h" cet::make_unique<T>(...)	#include <memory> std::make_unique<T>(...)	art 1.18.03

See https://cdcvs.fnal.gov/redmine/projects/art/wiki#Deprecations for details

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Testing new GENIE and GEANT4 releases

- GENIE: created a "release candidate" to facilitate testing

  - v06_10_00_rc1

    - Includes the new GENIE via updated `nutools`

  - Have not yet received any feedback on this

- GEANT4

  - Previously reported problems with LArG4 are understood, will be fixed soon

    - Will make v06_10_00_rc2 this week with **both** this and new GENIE

  These two products have direct impact on physics

  - Want experiment input on how to proceed

  - Will want experiment sign-off before migrating to the new versions

Ubuntu support

- Currently support Ubuntu 14.04 as "known to work (+)"

    - Provide source and binary distribution tarballs at best effort

- Ubuntu 16

    - Requested by at least one user a while back

        - Discussed migration issues at that time

    - No experiments have commented

    - Currently a "known to work" platform

    - *art* is now proposing to migrate at the same time as the move to GCC 6.x

        - Would support Ubuntu 14 and 16 for one release, then drop Ubuntu 14

- What feedback does the LArSoft community want us to do?

    - Status of BNL Ubuntu cluster?

    - Other Ubuntu users?

Update on art::Assns usability

Recall from Aug 30 LArSoft Coordination Meeting
(Saba Sehrish)

A utility function using the range-v3 library

```
for_each_associated_group(
                    /* association collection */,
                    /* a callable */);
```

This function performs the following:

- takes an association collection as input argument 1
- transforms it to a range of range objects
- calls the provided callable, the input argument 2, on the objects.

For example, given an `art::Assns<recob::Track, recob::Hit>`, it will transform this collection to a range representing range of art::Ptr<recob::Hit> for each track. The provided callable is invoked over this range for each track.

Update on art::Assns usability

Association Usability Project Status

- Introducing the use of `for_each_associated_group` in to the LArSoft code base
  - Robert Sulej and Dorota Stefan will use in the PMA code
  - Make the code and examples with documentation available, feature/*ss_ranges* in lardata and duntpc will be ready after
    - Testing with the new LAsrSoft release
    - Completing the documentation of one last example
  - Make UPS product for the range-v3 library
- Current version of `for_each_associated_group` works only for the association collections with no payload i.e. art::Assns<L, R>
  - Extend the functionality to art::Assns<L, R, D> without modifying the user interface
  - Enhancement to the *art* framework to implement iterator for the collection of tuples in order to use the range-v3 library

9   9/26/16   Saba Sehrish | LArSoft Coordination Meeting

Status of on-going sub-projects

- CI system operations

  - Vito

- Usability: associations

  - Saba Sehrish

- Profiling and optimization project

  - No report this week

- LArSoft documentation

  - Katherine Lato

The end