

LArSoft Coordination Meeting

Release and project report

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on behalf of
the SciSoft team
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Today's agenda and speakers

- Release and project report (Erica)
- Integration of NuGraph GNN into LArSoft (Giuseppe)
- AOB

Releases

- Since Sept 19 LCM:
 - v09_78_05 released Sep 21
 - Bug fixes
 - [larana#31](#): CPU optimizations for Chi2PIDA
 - [larsim#122](#): Make ISTPC::isScintInActiveVolume look into all volumes
 - [lardataalg#44](#): Removed unused private data member from util::MultipleChoiceSelection
 - [lardataobj#39](#): Add `#include <cstdint>` needed for `uint16_t`
 - v09_78_06 released Sep 26
 - Last release with compilers clang 7.0 and gcc 9.3 (qualifiers `c7` and `e20`, respectively)
 - Updated release of WireCell
 - v09_79_00 released Oct 5
 - Supported compilers now clang 14 and gcc 12.1 (qualifiers `c14` and `e26`)

Releases

- Since Sept 19 LCM (cont'd):
 - v09_79_01 released Oct 19
 - New features
 - [larwirecell#41](#): updates to DepoFluxWriter and FrameSaver. See [release notes](#) for details
 - v09_80_00 released Oct 27
 - New features
 - [lardataobj#40](#):
 - Change time stamp of recob::OpWaveform to be consistent with raw::OpDetWaveform.
 - [larreco#60](#): Added parameters for some hard-coded values + code clean-ups
 - Bug fixes
 - Remove some unused and obsolete functions
 - [larreco#61](#)
 - [larana#32](#)

Releases

- Since Sept 19 LCM (cont'd):
 - v09_81_00 released Nov 1
 - New features
 - [larpandoracontent#58](#) : Updates for DUNE FD production phase 2 release
 - Bug fixes
 - Add missing cstdint header
 - [lardataobj#41](#)
 - [lardataalg#46](#)
 - v10_00_00rc0 released Nov 2
 - First v10 series release candidate based on re-factored geometry system
 - Additional feature branches and PRs available for testing with experiment code
[...next slide](#)

Updates to experiment code for v10_00_00rc0

The PR list:

DeepLearnPhysics/Supera#22
 DUNE/dunesw#86
 DUNE/protoduneana#23
 DUNE/duneana#41
 DUNE/dunereco#71
 DUNE/dunedataprep#32
 DUNE/duneprototypes#35
 DUNE/dunesim#51
 DUNE/duneopdet#43
 DUNE/dunecore#95
 SBNSoftware/icarusalg#75
 SBNSoftware/sbncode#393
 SBNSoftware/sbndcode#393
 SBNSoftware/icaruscode#642
 SBNSoftware/sbnobj#98

The feature branch list:

ubana:feature/knoepfel_geom_separate
 ubcore:feature/knoepfel_geom_separate
 ubcrt:feature/knoepfel_geom_separate
 ubcv:feature/knoepfel_geom_separate
 ubevt:feature/knoepfel_geom_separate
 ublite:feature/knoepfel_geom_separate
 ubooncode:feature/knoepfel_geom_separate
 ubraw:feature/knoepfel_geom_separate
 ubreco:feature/knoepfel_geom_separate
 ubsim:feature/knoepfel_geom_separate

Releases

- Since Sept 19 LCM (cont'd):
 - v09_81_01 released Nov 13
 - New features
 - [larsim#125](#): Add ellipsoidal model for recombination to introduce angular dependence
 - [lardataalg#47](#): Add MCGeneratorInfo to the MCTruth dump
 - v09_81_02 released nov 30
 - Bug fixes
 - [larana#34](#): Fixed reversed logic error checking handle to OpDet collection
 - v09_90_00rc0 released Dec 8
 - Release candidate with *art* 3.14.01

Status of PRs

- Approval in progress
 - [larg4#48](#): Option to store dropped MCParticles as separate vector
 - [larg4#49](#): Adds option to restrict saved particles to specified volumes
 - [larg4#50](#): Make it possible to set excitation energy in the GDML file
- Under discussion
 - [larsim#126](#): Corrected for SCE convention and generalization
 - Awaiting response from author
 - [larsim#127](#): Change SingleGen to use NuRandomService to initialize random engine
 - Awaiting response from author

Status of coming updates (updated since Sept 19 LCM)

- **Geometry refactoring**
 - Release candidate available: v10_00_00rc0
 - Feature branches / PRs needed to update experiment code are available
 - See p. 6
 - Need sign-off from experiments prior to migration
- **Root**
 - Moving to v6.28 series to address dictionary issues, possibly others
 - Requires *art* v3.13+
 - Latest version, v6.28.06b, has a memory leak – awaiting fix
 - This version is in LArSoft v09_90_00rc0

Status of coming updates (updated since Sept 19 LCM)

- **art**
 - Plan to skip *art* v3.13 and move to *art* v3.14 series
 - Expect *art* v3.14.02 release soon after holidays
 - Will be another RC with this + fixed root as soon as ready
- **Geant4**
 - Working on build of latest release, v4_11_1_p03b.
 - Will create a release candidate with this + (preferrably) *art* v3.14.0x
 - Need sign-off from experiments on this change

Status of coming updates (updated since Sept 19 LCM)

- **The proposed plan**

- Migrate LArSoft to art v3.14.0x asap after holidays
 - Will include root 6.28.xx with bug fix
 - No changes will be needed to experiment code
- Build Geant4 RC with Geant 4_11_1_p03 and art v3.14.0x
 - Need experiment sign-off to migrate
- Release LArSoft v10 with refactored geometry after *art* migration
 - Need experiment sign-off prior to release

Please let us know of any problems with this plan

Status of coming updates (updated since Sept 19 LCM)

- **Spack**

- Current plan calls for full migration before SL7 EOL
 - **UPS not supported** under AL9.
 - Experiments must update from cetbuildtools to cetmodules
- New: have Spack builds of LArSoft v09.81.00 under AL9 and SL7
 - Verified no missing rpaths in lar, art, root executables – otherwise untested.
 - To set up in AL9


```
source /cvmfs/larsoft.opensciencegrid.org/spack-packages/setup-env.sh
spack load larsoft/e3ryycs
```
 - To set up in SL7:


```
source /cvmfs/larsoft.opensciencegrid.org/spack-packages/setup-env.sh
spack load larsoft/2vibnr
```
- Also new: evaluating current approach for developing under Spack. Will advise of any changes soon.

The end