

News and Announcements

Tom Junk

DUNE Software and Computing General Meeting

October 5, 2015

Meeting Time

- The Monday meeting during Detector Week conflicts with the DAQ meeting.
- Noon Central Time is awkward for CERN people
- Many other meetings are also of interest to S&C people
 - protoDUNE
 - 35t
 - beam simulations
 - Near Detector
 - Far Detector
- I asked the spokes about a new time – proposal Tuesday mornings during Physics Weeks at 9:00 AM (open slot before the long-baseline oscillations meeting). Should we send out a poll?

DUNE VO

- DUNE VO is ready for business
 - Fermigrid batch allocation shared between the LBNE VO (to be retired) and the DUNE VO
 - Bo Jayatilaka is negotiating with OSG sites (the ones currently signed up to run LBNE jobs) to get the DUNE VO accepted. Already several have agreed.
 - Have a look at the new DUNE monitoring pages on FIFEMON!

<http://fifemon.fnal.gov/>

The new grafana pages are really spiffy.

- use `--group=dune` on `jobsub` commands to use the new VO
- `JOBSUB_GROUP` defines the VO name (use lowercase) so you don't have to specify it on the command line

DUNE VO

- `mrbsenv` and `mrbslp` define `JOBSUB_GROUP` – to `lbne`.
 - The first time you invoke one of `mrbsenv` or `mrbslp`, it will override the `JOBSUB_GROUP` variable and set it to `lbne`. Subsequent invocations leave `JOBSUB_GROUP` unchanged.
 - Set it yourself! Or use `--group=dune` on the `jobsub` command line
- Service Certificate acquired for `dunepro`, installed, and tested
 - DUNE VO managers (service desk ticket) assign the production role if you need it (no huge reason so far)
 - DUNE production jobs run as user `dunepro` on the batch workers.

Documentation updated:

https://cdcvns.fnal.gov/redmine/projects/dune/wiki/Submitting_Jobs_at_Fermilab

Lined on the DUNE at Work page

Fermigrid GUMS Mapping Change

- GUMS – Grid User Management System. Maps incoming job requests to users with accounts on the grid workers.
- Prior to September 29, 2015, jobs submitted with the analysis role ran as user=lbneana (or duneana). Production jobs ran as lbnepro (or duneapro)
- After September 29, jobs run as the user's private UID
- File ownership and access issues are important
 - users had gotten used to chmod g+w'ing their directories and files, or using umask 002 in their jobs.
 - So far no complaints of anything being harder to use than before.
 - duneana and lbneana are in different groups! So users trying out the DUNE VO before Sep. 29 would have had trouble writing (or even reading) BlueArc and dCache files.
- In a pinch admins know how to chmod files for you (and even clean up unwanted ones).

CVMFS Managers

- As announced two weeks ago, these are the new CVMFS managers for DUNE
 - Dave Adams – FD, 35t, protoDUNE
 - Tingjun Yang – FD, 35t, protoDUNE
 - Alex Himmel – FD, 35t, protoDUNE
 - Elizabeth Worcester -- Long Baseline Physics WG
 - Laura Fields -- Beam Simulations

They all have permissions now to make CVMFS releases

Dave has excellent documentation on how to do this.

https://dune.bnl.gov/wiki/DUNE_LAr_Software_Releases

Scripts assume that code is in /grid/fermiapp (relased as ups products) but can be generalized.,

Documentation Update

- Many topics in the LBNE S&C Wiki have been migrated to the new DUNE Redmine Wiki

<https://cdcv.s.fnal.gov/redmine/projects/dune/wiki>

Still rather sparse.

Feel free to send comments to the managers/developers!

Upcoming LArSoft Requirements Workshop

- Dates: October 19-20
- Location: Fermilab

<https://indico.fnal.gov/conferenceDisplay.py?confId=10394>

Ideas from the organizing committee:

<https://cdcv.s.fnal.gov/redmine/projects/lartpc-requirements/repository>

Your input is welcome! Please sign up – remote participation is also possible and encouraged.

Fermilab's SCD Reco Group

- Adam Lyon has started collecting interested parties for a Scientific Computing Division reco group

<http://cd-docdb.fnal.gov/cgi-bin/DisplayMeeting?conferenceid=600>

Sending out feelers.

Adam
Lyon's
slide:

Fermilab SCD doesn't want to...

- **Take over experiment's reconstruction tasks & authority**
- **Compete with experiments and university groups**
- **Steal post-docs/students**
- **Solely drive reconstruction R&D**
- **Teach basic C++ or art/CMSSW through this group**

Fermilab SCD does want to...

Assist and augment the efforts of experiments

Help you develop and design your algorithms (profiling and validation)

Help you keep up with emerging computing architectures

Help you explore new ideas and techniques

Connect you to our relationships to outside expertise

Tap into interns, undergrad and co-op students

We want to help you write fast, modern, innovative, and validated reconstruction

Questions

What's your take on this idea?

How can this group help you and your experiment?

What kind of topics would you have the group tackle?

How can you and your friends support the group?

What are the boundaries of the reconstruction group (e.g. what's algorithm help & what's art help)?

How does this group function in our era of “do more with less”?

What is a good first deliverable that will generate success?

OPOS Request

Offline Production Operations Services

See Anna Mazzacane's talk at the FIFE Workshop June 2015

<https://indico.fnal.gov/getFile.py/access?contribId=43&resId=0&materialId=slides&confId=9737>

MCC 4 Coming soon (next few weeks) for 35t, DUNE FD.
Major improvements to photon detector simulation, TPC and photon detector reco.

New geometries – FD workspaces with 3mm and 5mm wire spacing, 45 and 36 degree wire angles, APA's on the outside.

OPOS Request

- MCC 3 production went smoothly but needed watching/validation/resubmission of jobs due to operational issues
 - dCache downtimes – output lost, jobs needed to be resubmitted
 - Fermigrid downtime
- Indeed, dCache has had its fair share of downtime in the last month:
 - Sep. 8 – memory problem on a server
 - Sep. 16 Emergency reboot of NFS server to solve configuration problem
 - Sep. 23 – security update → reboot dCache servers
 - Upcoming Oct 8 : 2-4 hour downtime to upgrade pnfs/Chimera database storage media to larger size.

OPOS Request

- OPOS wants well-defined workflows that uninitiated people can follow.
- OPOS wants scripts to be versioned and stored in a repository
- OPOS wants instructions on how to validate if jobs ran successfully
- Would like output files to go to SAM and be catalogued appropriately. Storage on tape conserves valuable disk resources.
- Tingjun Yang and Karl Warburton orchestrated the last MCC. We have more geometries and needs this time around.

art News

- Release 1.16 introduces the e9 qualifier for gcc 4.9.3. The e7 qualifier refers to gcc 4.9.2.
Meant to allow mac developers to use XCode 7

https://cdcv.sfnal.gov/redmine/projects/art/wiki/Release_Notes_11601

- New ups command: ups platform
- Brian Rebel's request to add non-event results to the *art* output file – implemented. Idea – maintain provenance for histograms and user-made trees.
- New results producer class defined
- Results read and write methods provided
- Results not copied from input to output by default – user must control that.

Ongoing work

- Databases – Jonathan Paley writing database interfaces in LArSoft
- Gianluca Petrillo developed a Channel Status Service – flags channels as good, bad, noisy.
- Need to get small metadata items from the 35t online to the data storage step:
 - Run Type identifier string
 - Detector configuration (which SSP's, RCE's, Penn Board enabled)
 - Run Mode (Trigger and Readout)
- Need to ping 35t DAQ people about zero suppression status
 - Gabriel Santucci working on online pedestal calculation – need to download these into RCE's for ZS to work

DUNE At Work Web Page – External Dependencies

In the small-issues department:

<https://web.fnal.gov/collaboration/DUNE/SitePages/Home.aspx>

uses javascript linked on ajax.aspnetcdn.com, which was unresponsive on Sep. 29 (30 minute load times). Response times got better on Sep. 30.

The javascript is used for the accordion menus.

The page also communicates with google-analytics.com, which can slow down the response time.