

pDUNE-SP Data Challenge 1 and Offline

pDUNE-SP Data Challenge 1 is Monday Nov 6th through Thursday Nov 9th.

First focus: Sustained data movement from CERN “emulated DAQ buffer” to Data Quality Monitoring (DQM) and Fermilab and CERN disk caches and tape, and DQM continuous operation.

Second focus: “production keep up processing” and “some physics plot output” at Fermilab based on data transferred.

Third focus: test “both sides” of interfaces to Beam Instrumentation Database – IFBEAM – at Fermilab.

- Sustained Ingest from existing CERN beam line instrumentation records
- Ingest of fake pDUNE-SP BI information and proof that payloads can access the information through LarSoft IFBEAM interfaces

DQM scope from Maxims slides to S&C meeting

DC1

- DC1 protocol
 - start out with trivial amount of data/files
 - MC data (of “detsim” variety) is dropped into an *emulated* DAQ buffer
 - F-FTS “lite” transfers the data to the initial staging area (in EOS)
 - A subset is copied to the DQM input dropbox
 - DQM jobs are submitted automatically to p3s
 - DQM results such as purity tables and event displays are served via the Web interface
 - Data is transmitted to FNAL
 - hopefully we'll write to CASTOR as well at a modest scale
 - Data are registered in SAM
 - hopefully we'll write to Enstore as well at a modest scale
 - Production at FNAL?
 - TBD
- If basic functionality is proven, data movement and processing will be scaled up
- We are currently enjoying responsive support from our CERN colleagues
- Work to be done - automation of the p3s data injection i.e. triggering jobs by new data
- Will consider other payloads to add

Production Scope from discussion at Production meeting this week

- Trigger for processing is data files arriving in dCache at Fermilab.
- Executable and FiCL files provided by Robert/Dorota does some processing but not full reconstruction provided to production team by Fri 27th Oct
- Output dataset is cataloged and accessible through DUNE data catalog <http://dune-data.fnal.gov>

Continuous Operation for ~48 hours?

- Currently propose to use MCC9 files in – already processed. May use “detsim files” copied back from Fermilab.
- If use MCC9 files these are 25TB at Cern which will be used provided at configurable intervals for DQM processing
- Given current DQM processing rates will take ~48 hours to run through all files
- Plan to provide some “shift-like monitoring” coverage during that period to help sustain data and job flows.

More info:

More details and outcomes are and will be posted on dune wiki .
Would appreciate people taking this opportunity to check they have access – at least read access – through sending email to dune-communication@fnal.gov

<https://wiki.dunescience.org/wiki/ProtoDUNE-SP>