FSD computing update

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FSD run plan meeting
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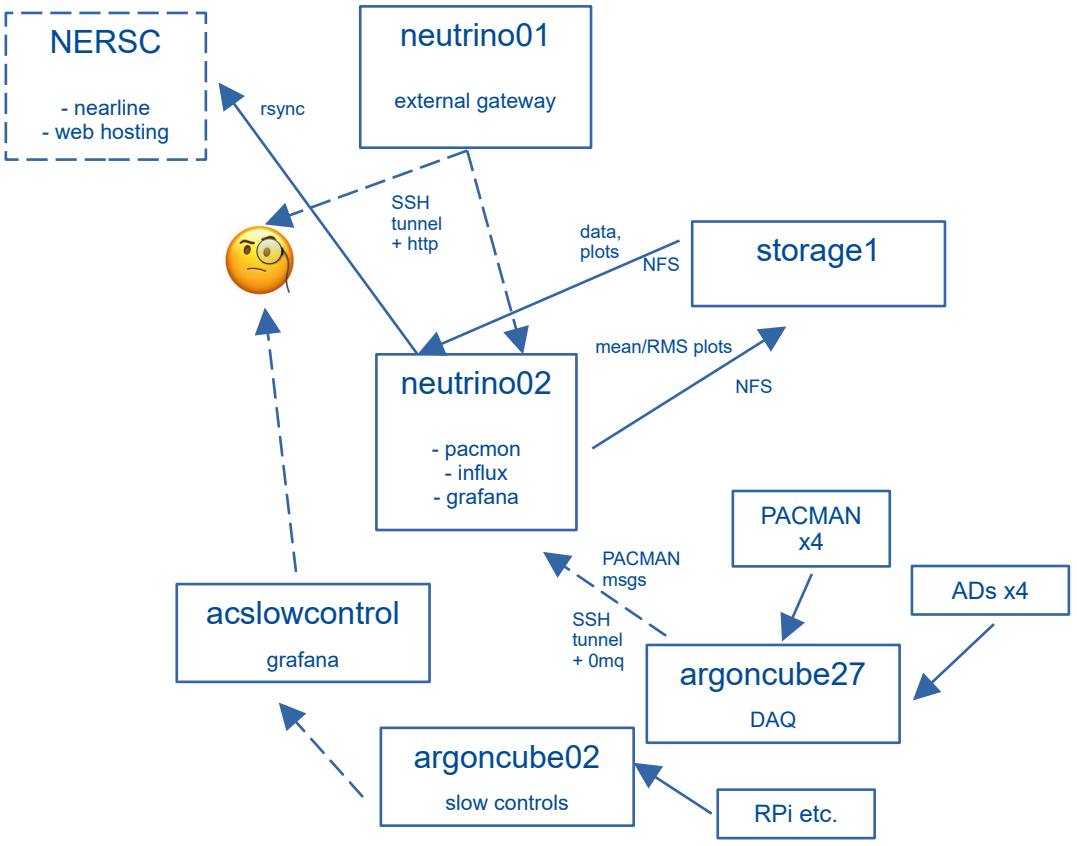
Computing resources

- argoncube27,02
  - DAQ + run control (27), slow controls (02)
- acslowcontrol
  - Grafana for slow controls, LRS DQM, server monitor
- neutrino02
  - CRS DQM (pacmon, influx, grafana)
  - Data transfer (rsync) to NERSC DTN
- neutrino01
  - Gateway for inbound SSH
- storage1
  - Large NFS space (/storage)
- NERSC (Perlmutter)
  - Data storage
  - Nearline processing
  - Web portal
  - Data processing (“reflowing”)



Capacity, bottlenecks

- Data transfer rate to NERSC: ~1 GB/min
  - Normally (barely) keeps up, but not during LRS low-thresh runs (~4 GB/min)
  - For LRS data rate >1 GB/min, prompt nearline is not possible at NERSC; will need to run local nearline
    - Can rsync the plots to NERSC in order to continue using web portal
  - Transfer of some earlier low-threshold data is paused; will resume after end of running (otherwise will cause nearline to fall behind)
- CRS DQM data consumption rate
  - pacmon + influx were unable to keep up with the PACMAN data server, resulting in loss of data in CRS DQM
  - Mitigated by further trimming and splitting of pacmon (thx to Jaafar)

Run database; data cataloging

- 2x2 RunDB machinery ported to FSD
  - Sqlite format, + spreadsheet for convenience
  - Pinned to #fsd_operations
  - Will continue updating
  - Next update will have CRS config info, NERSC paths, HV settings
- Have metadata json files from CRS and LRS DAQs
  - To be provided to DUNE Data Mgmt for cataloging/replication with MetaCat and Rucio
  - “Good” reflows will also be cataloged

Data processing

- Reflow machinery updated for charge/light merging:
  - 1 output per charge file, containing all matched light data
  - Uses RunDB to prepare list of inputs
    - Each input = 1 charge file and all (1 or 2) overlapping light files
    - RunDB also used to prepare ndlar_flow's runlist.txt (drift field, etc.)
- Remaining items:
  - Finish script to generate runlist.txt
  - Finish script to remove unmatched light data
  - Check inputs: light geometry, waveform processing