



# DAQ and Computing for ArgonCube 2x2 Demonstrator

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16 November 2023

ND-LAr DAQ/Computing Working Group



# News

- Other Meetings
  - 2x2 Data Formats – led by Asher Kaboth
    - Friday at 8:00 PT/10:00 CT/16:00 UK/17:00 CET.
    - <https://cern.zoom.us/j/69627437195?pwd=ZWFTREhoQkRxOXFEYzNOWmtTQXpTdz09>
    - Translation software for the 2x2 so that data taken in the current format can be transformed to the DUNE DAQ format.
  - ND prototypes first analysis subgroup meeting this Friday, October 20th at 12pm CT.
    - Indico agenda: <https://indico.fnal.gov/event/62135/>
    - <https://unibe-ch.zoom.us/j/61120021726?pwd=U2RsdUozNEovYVNTaWVNUzI5R2hYQT09>
- Searching for a 2x2 Run Coordination meeting time
  - Tuesdays at 10 am CT has been suggested
- 2x2 DUNE integration
  - DUNEDAQ at 2x2 – Asher and Co.
  - 2x2 data formats
  - DUNE timing – Armin Karcher, Dave Cussans, Geoff
- Next 2x2 DAQ/Computing meeting – Thurs 30 Nov 2023 @ 10 CT

# Computing Installation Status

- Yesterday the Network, Server2, and Server3 racks were powered on and will remain powered
  - Still a few small items to address in these racks
    - Ground to PDUs
    - Cover up open spaces
- Brief rack summary
  - Network Rack – router on UPS
  - Server1 rack – Minerva readout servers
  - Server2 rack – 2x2 DAQ servers
  - Server3 rack – slow controls, operations
- Can now have servers installed with latest linux version (AL9)
- Still a few network items to complete
  - Should be transparent to users

# Cabling (not to scale)

Fibers from racks go back to Network Rack. Within each rack copper from 12-port switch to each device.

## Electrical Requirements:

- Fiber separates grounds.
- No copper between racks on different power.



Light ADC has independent network.

### Key:

- 10Gb copper
- 1Gb copper
- - - fiber



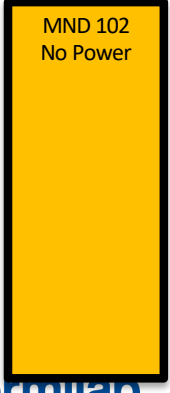
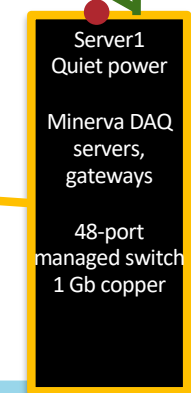
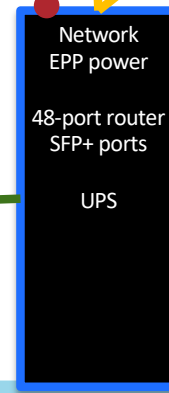
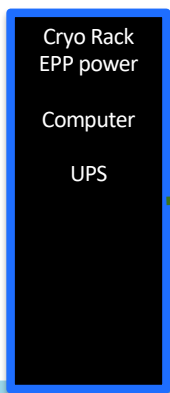
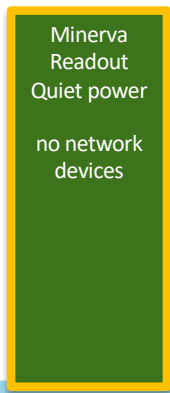
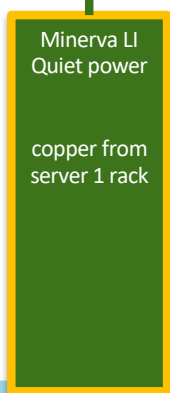
x10 for light



x4 for light



Trunk  
Fiber



# Computing for Commissioning

- Minerva Linux servers underground can be used for noise assessment
  - Need electronics racks powered for network access
- Minerva readout being exercised (SLF7)
  - Update Minerva code to produce metadata files in new format
  - Working on reliability (Akeem, Geoff)
    - Test stand at LabF working now
    - Jack and Akeem replaced VME crate
  - Port Minerva DAQ to AL9
- Work at LArTF continues
  - Computing at LArTF remains in place
  - Trigger testing
  - DUNE timing

# References

- 2x2 Computing Summary
  - <https://docs.dunescience.org/cgi-bin/sso/ShowDocument?docid=29368>
  - Presented at the 05 October DAQ/Comp Meeting
- pORC for computing racks
  - <https://docs.dunescience.org/cgi-bin/sso/ShowDocument?docid=29419>