



# DAQ and Computing for ArgonCube 2x2 Demonstrator

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ND-LAr DAQ/Computing Working Group



# News

- Searching for a 2x2 Run Coordination meeting time
  - Tuesdays at 10 am CT has been suggested
  - Please fill out poll Luis setup
    - <https://www.when2meet.com/?22413663-UqmsR>
- Communication
  - 2x2 operations Slack channel in DUNE workspace - 2x2\_operations
  - Email lists
- Next 2x2 DAQ/Computing meeting – Thurs 14 Dec 2023 @ 10 CT
  - Geoff is on vacation week of Dec 11
- Other 2x2 meetings continue
  - 2x2 Installation – Mondays at 11
  - 2x2 Electronics/Electrical – Thursdays at 2
    - Special topic this week – UPS for module 2

# 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:

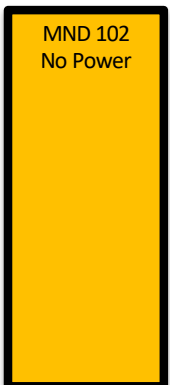
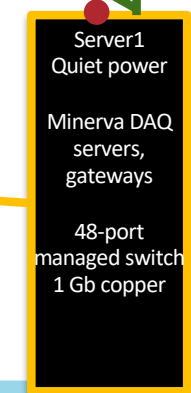
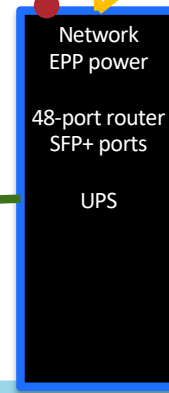
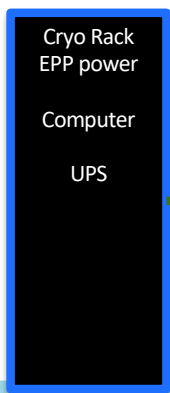
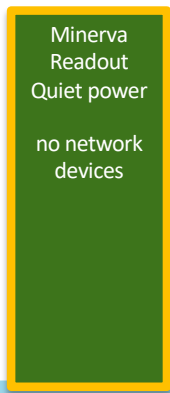
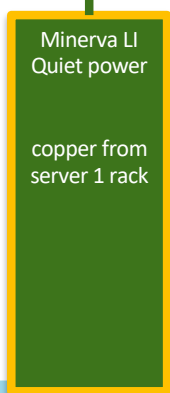
- 10Gb copper
- 1Gb copper
- - - fiber



x10 for light



Trunk  
Fiber



# Computing Installation Status

- Brief rack summary – all racks remain powered up
  - Network Rack – router on UPS
  - Server1 rack – Minerva readout servers
  - Server2 rack – 2x2 DAQ servers
  - Server3 rack – slow controls, operations
- Operating installation on new Linux servers expected next week
- Still a few network items to complete
  - Should be transparent to users
  - Server1 rack - move connections on old switch to new switch
    - We have done this before at other locations
    - The two switches are next to each other
  - Add switch in purity monitor rack once rack is in place
  - Connections to Cryo rack
    - Plan is to add the Minos private network on the cryo PC to support communication with RTD Raspberry Pi from Linux or from Cryo.
    - Cryo PC also has the public network connection for logins and the cryo private network managed by the Cryo group

# Additional DAQ/Computing Efforts

- Renzo setup temporary slow controls monitoring on acd-srv04
  - influxdb
  - grafana
  - scripts
- 2x2 DUNE integration
  - DUNEDAQ at 2x2 – Asher and Co.
  - 2x2 data formats – combine 2x2 data to process with DUNE code
  - DUNE timing – Armin Karcher, Dave Cussans, Geoff
- Resistive wall monitor
- Minerva readout
- 2x2 run control
- LArTF test stand
  - Current Linux version (SLF7) end of life in June 2024
  - Need newer servers to run next Linux version (AlmaLinux9)

# 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>