





## **Underground Network for ArgonCube2x2 Demonstrator**

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## **Network Switch Locations Electrical Requirements:** Fiber separates grounds. Platform Rack Detector Power Cryostat No copper between racks. 48-port managed switch Detector Detector Detector Detector Server2 Detector Electronics Electronics Electronics Electronics Quiet power Electronics **Detector Power Detector Power** Detector Power **Detector Power Detector Power** AC2x2 DAQ 8-port managed 8-port managed 8-port managed 8-port managed servers 8-port managed switch switch switch switch 48-port switch switch 1/10 Gb copper 6x100Gb uplink catwalk Network Minerva Cryo Rack Minerva LI Server1 **EPP** power Readout EPP power Quiet power Quiet power Quiet power concentrator no network Computer Minerva DAQ no switch switch devices servers, copper from SFP+ ports gateways server 1 rack 24-port managed switch 1 Gb copper **☼** Fermilab

## **Concentrator Switch Ports**

- N9K-C93180YC-FX
  - 6 100Gb uplinks
  - 24 SFP+ ports
    - Switch has 48 ports, we buy license for 24 ports to start
  - This switch is more expensive to handle the 100Gb uplinks and license for network management (routing)
- Fiber ports needed (16)
  - Server 1 Rack (1)
  - Platform Rack (1)
  - Detector electronics racks (5?)
  - Cryo rack (1)
  - Light readout (8?)
    - From the beginning we selected a switch that could also accommodate data from the light readout system
    - We still need to evaluate the network interface speed on the daq servers
- Commentary From long experience we never install just enough network ports. Someone always has a great idea that requires more network connections.



## **Logical Diagram**



