g-2 modified DAQ updates

- [Manual created for DAQ](#) usage hosted on github
  - Living document
- Meinberg card no longer needed
  - "Master" triggers replaced by FC7 internal trigger count
- Current rate limitations at UKY:
  - ~ 10kHz event rate
  - ~ 120 MB/s uncompressed data rate
  - Other programs can cause slowdown on some system
- CentOS7 reached EOL June 2024
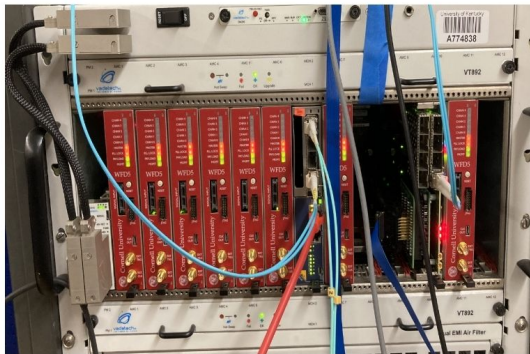 - Migrate to ALMA9 Linux when possible

PIONEER DAQ Updates

- Improvements in transfer speed with RAM change (Block RAM → DDR3)

- Working on C++ library for reading and writing via PCIe DMA
  - Will work for Xilinx XDMA IP core
  - May need adapting for PIONEER electronics
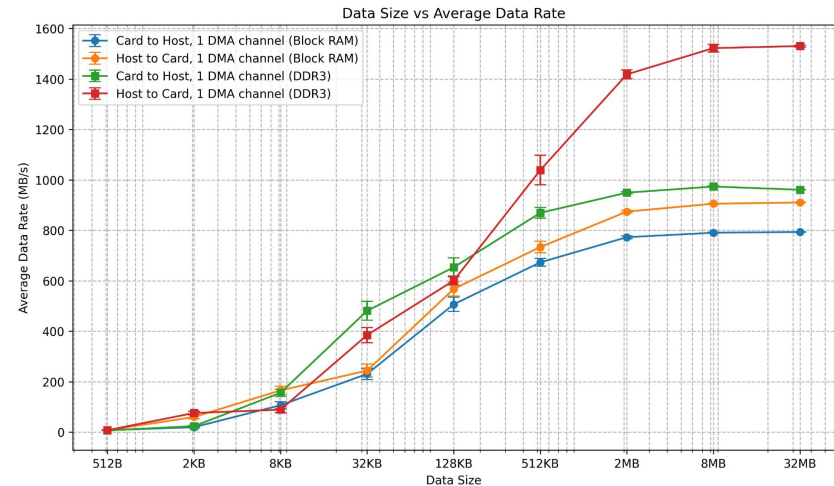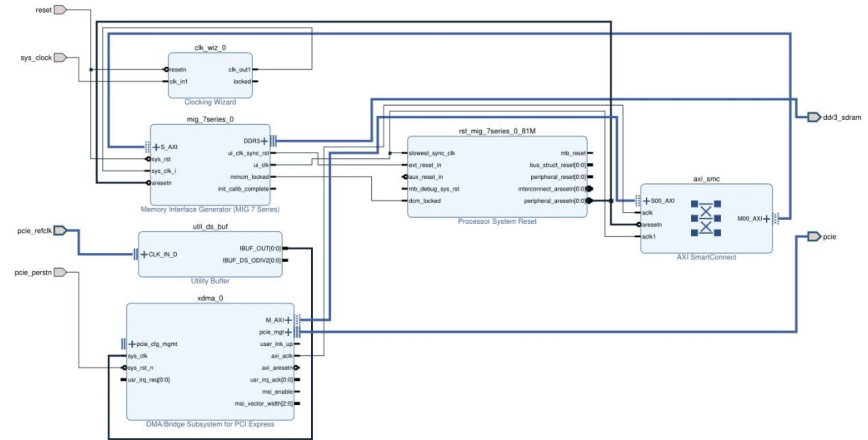
Nalu Scientific HDSoC chip DAQ (NaluDAQ)

- ATAR readout uses Nalu Scientific HDSoC chip
  - Have python package for readout already made
  - Examples here
- Integrate into midas with a python frontend
- Rate tested python frontends
  - Max data rate ~90MB/s (per frontend, not concurrent with max event rate)
  - Max event rate ~10kHz (per frontend, not concurrent with max data rate)