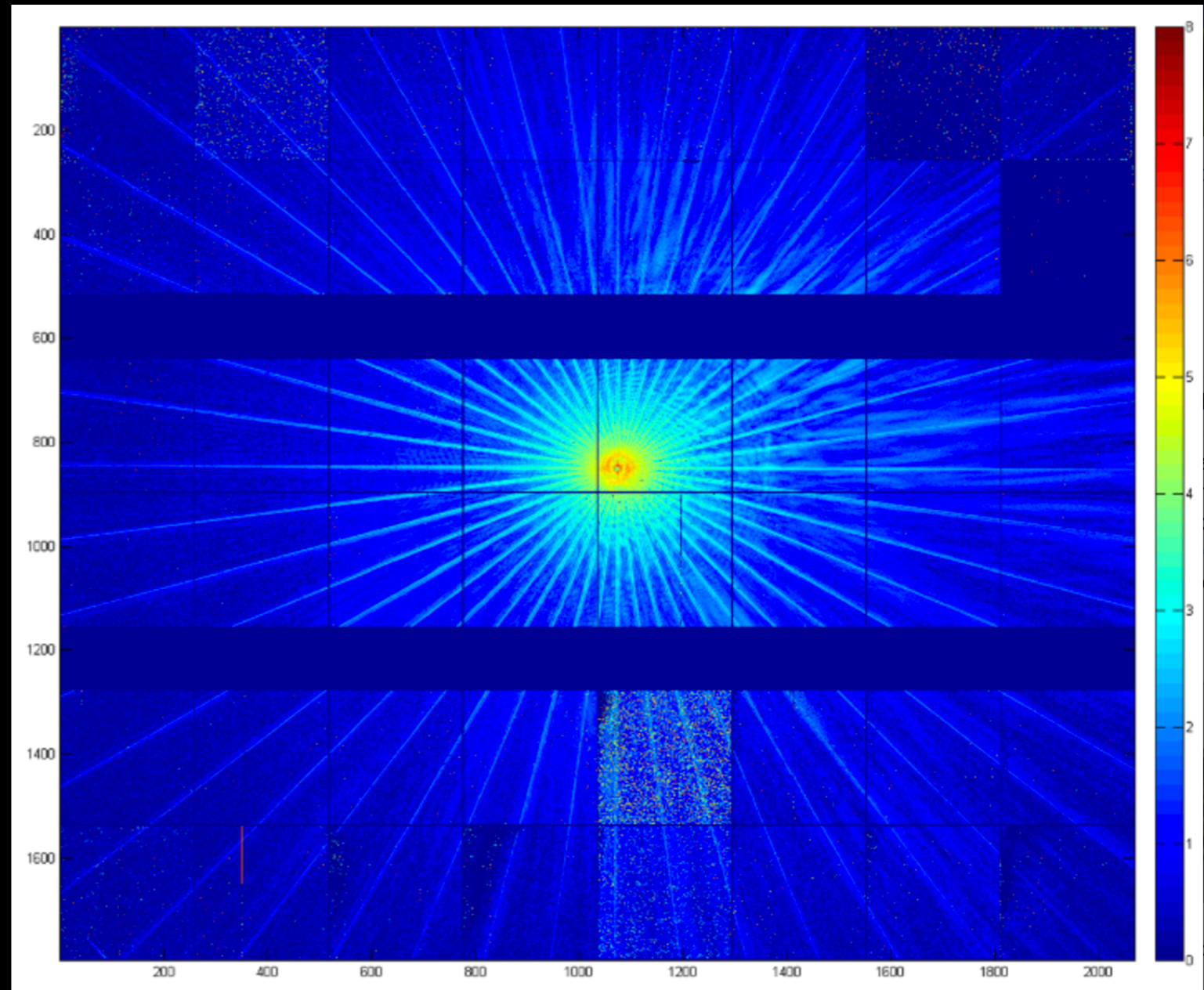# DLS Eiger Architecture

Graeme Winter on behalf of Ulrik Pederson
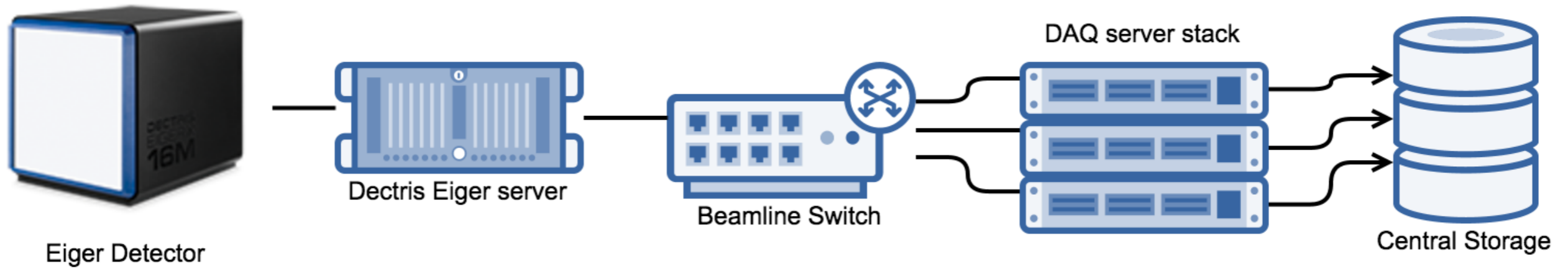
Diamond HDR detectors

- In house designs - Percival, Excalibur - derived from MediPix3

- Data handling already implemented
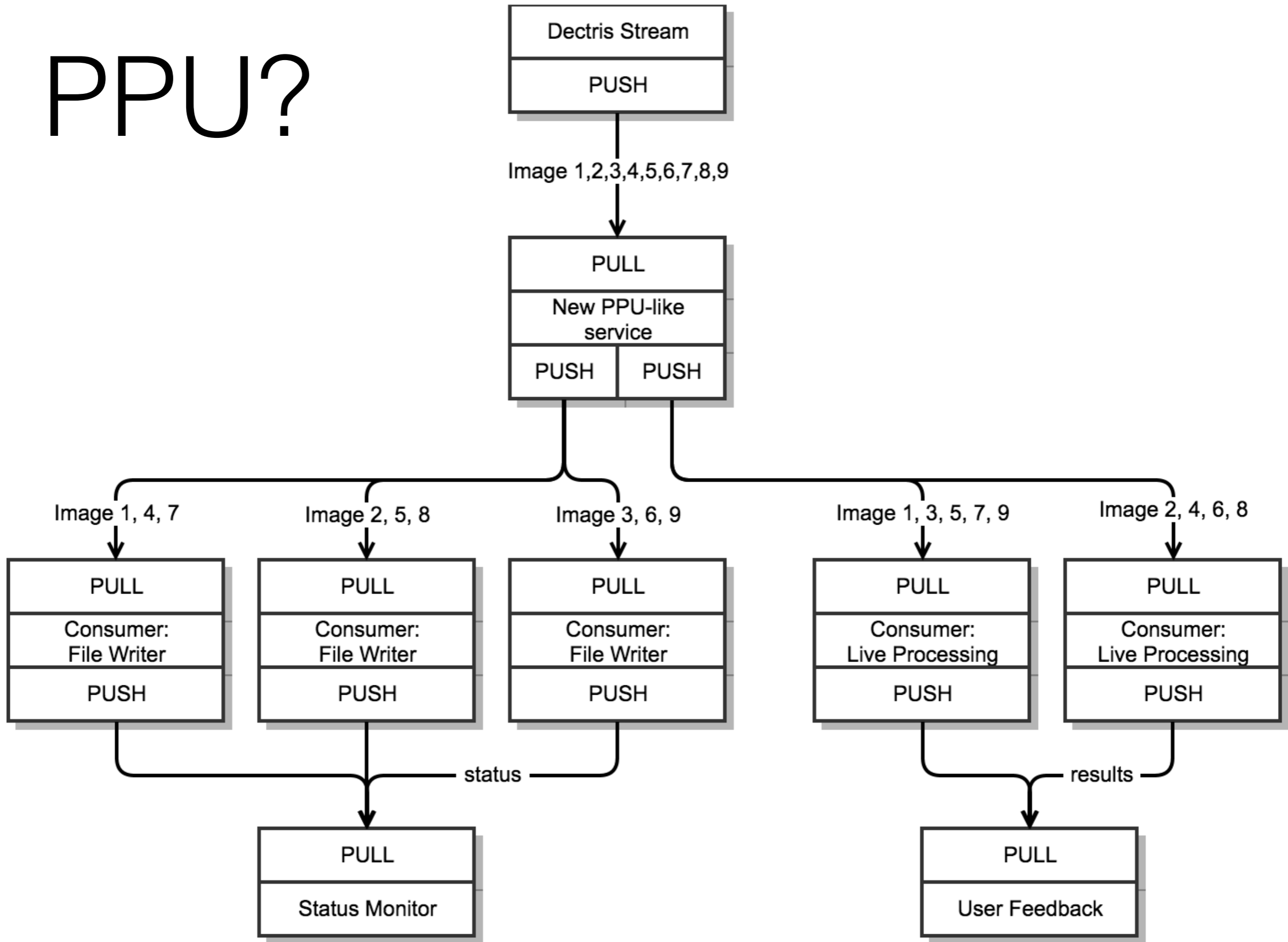
- HDF5 / SWMR / VDS

DLS file writer for high performance detectors

- Scalable: multiple processes can run independently in parallel

- The HDF5 Virtual Dataset: single view of one coherent dataset

- File writer designed be extendible to support a 0mq push/pull incoming stream of images

- Percival model: data distribution - simple round-robin pattern - matches the Dectris zeromq push/pull stream

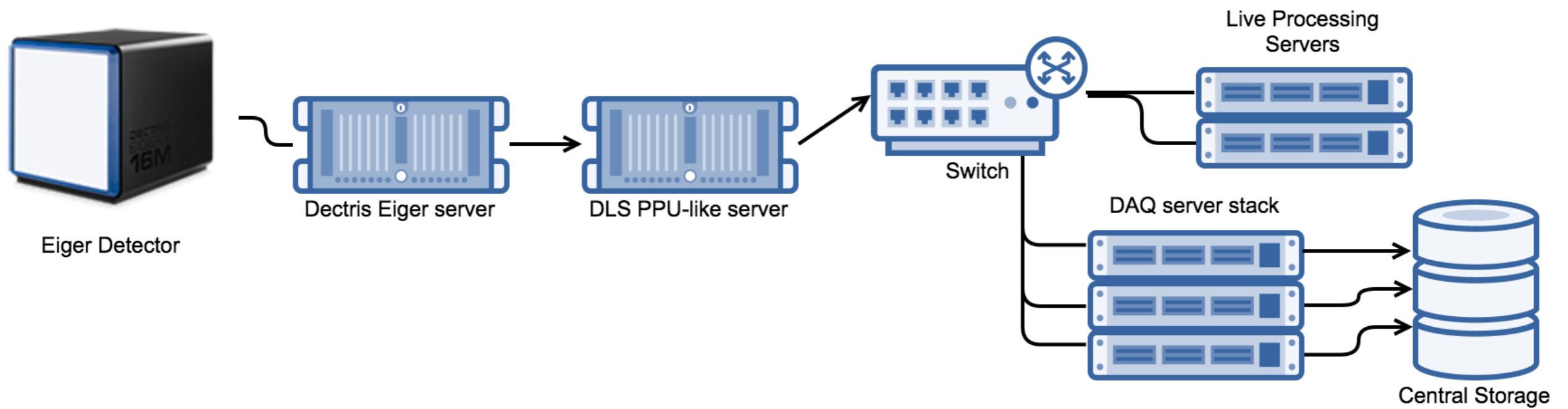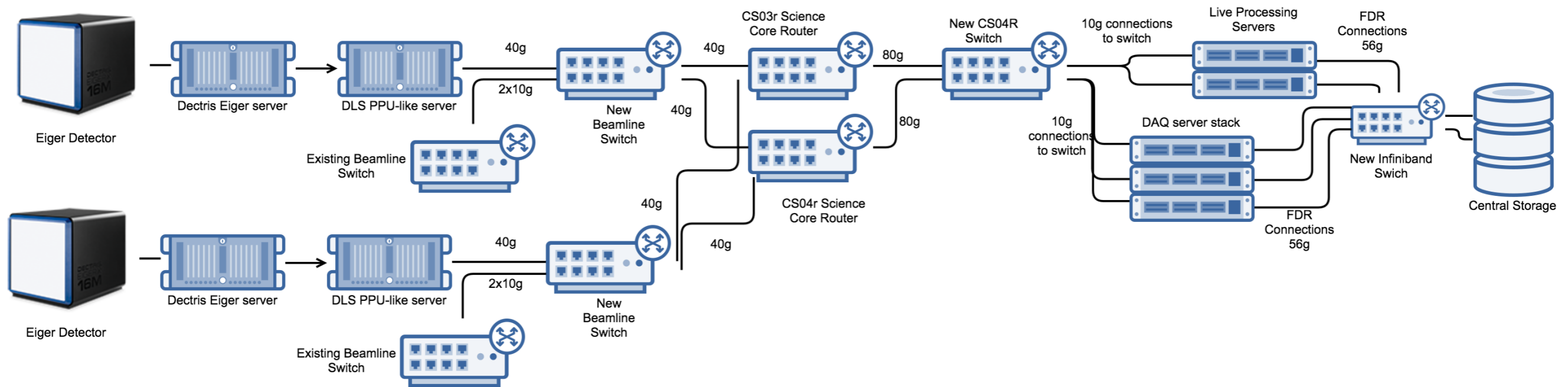- HDF5 library: Direct Chunk Write and SWMR

Infrastructure

Eiger Detector — Dectris Eiger server — Beamline Switch — DAQ server stack — Central Storage

PPU?

Infrastructure

> 1 Eiger

Conclusion

- DLS file writer to take advantage of SWMR, VDS - will be open sourced

- 40G interconnect already planned

- Aiming for system for multiple detectors

- PPU-like buffer potentially big help