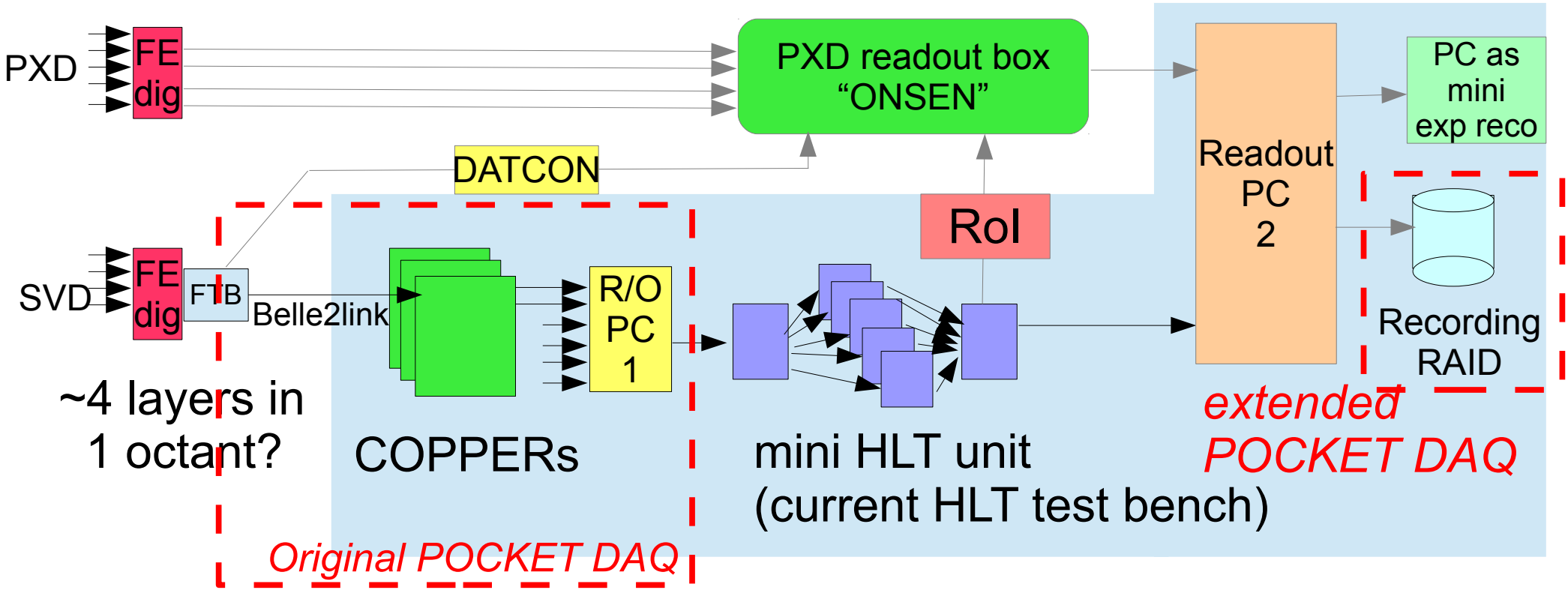
Issues to be discussed on DAQ for telescope test (recompiled from list assigned to me by Higuchi-san)

R.Itoh, KEK

1. Gereral layout of VXD-DAQ for telescope test
   * How to migrate EUDAQ (for Mimosa) in Pocket DAQ?
     - Data flow from Mimosa (and other beamline detectors)
     - Slow control
   * Network topology
2. Prospect for Pocket DAQ
3. DQM implementation
   * DQM for SVD (PocketDAQ)
   * DQM for Onsen
   * DQM at mini-express reco
4. HLT
5. Procurement of PC equipments for test
6. Dry-run test bench
   * At DESY
   * At KEK

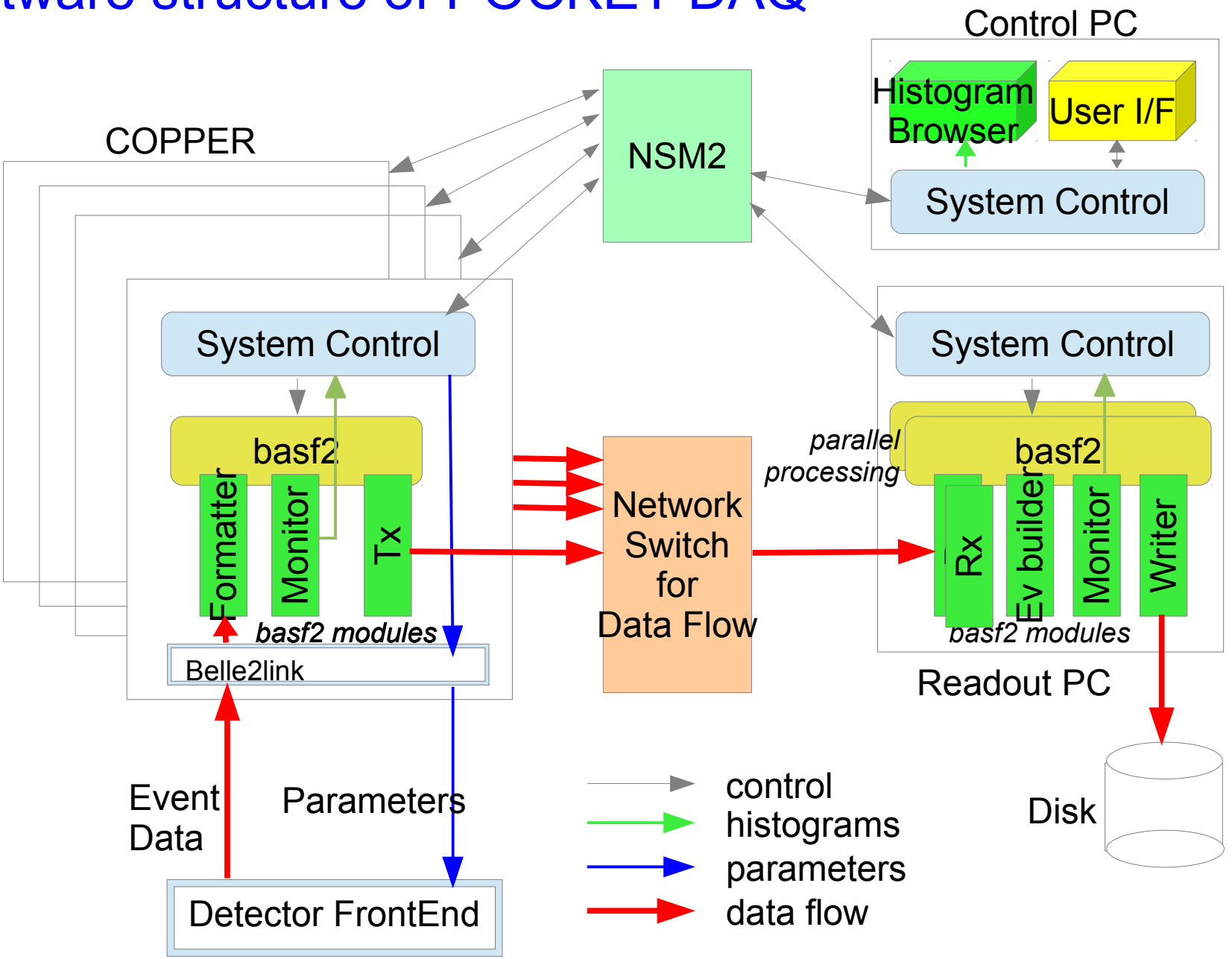
1. General layout of VXD-DAQ for telescope test



- Based on "POCKET DAQ" being developed for detector beam tests with Belle2link
- Additional components:
  * HLT
  * RoI distributor
  * Readout PC 2 as the event builder 2
  * Monitor PC as mini express reco

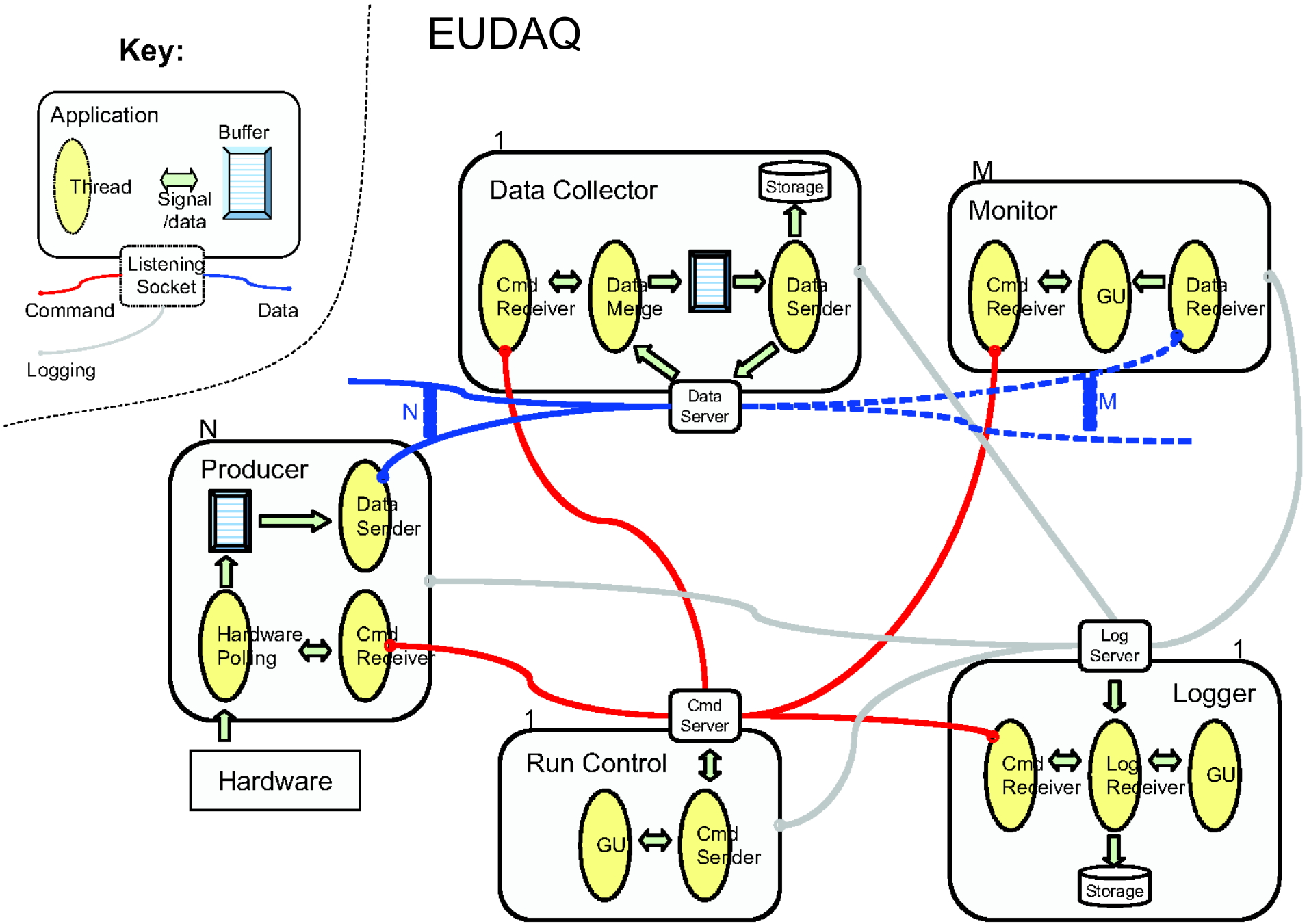
Issue: How to read out telescope detectors incl. Mimosa

Software structure of POCKET DAQ



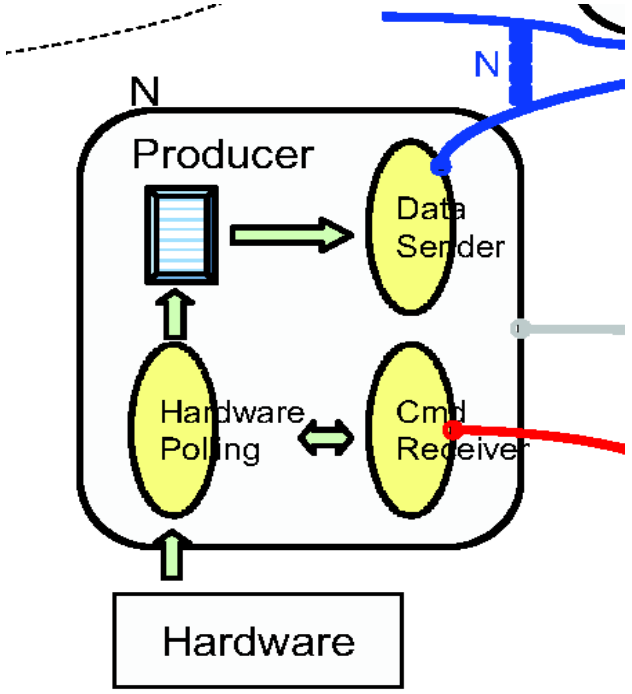
"mini" Belle II DAQ

EUDAQ

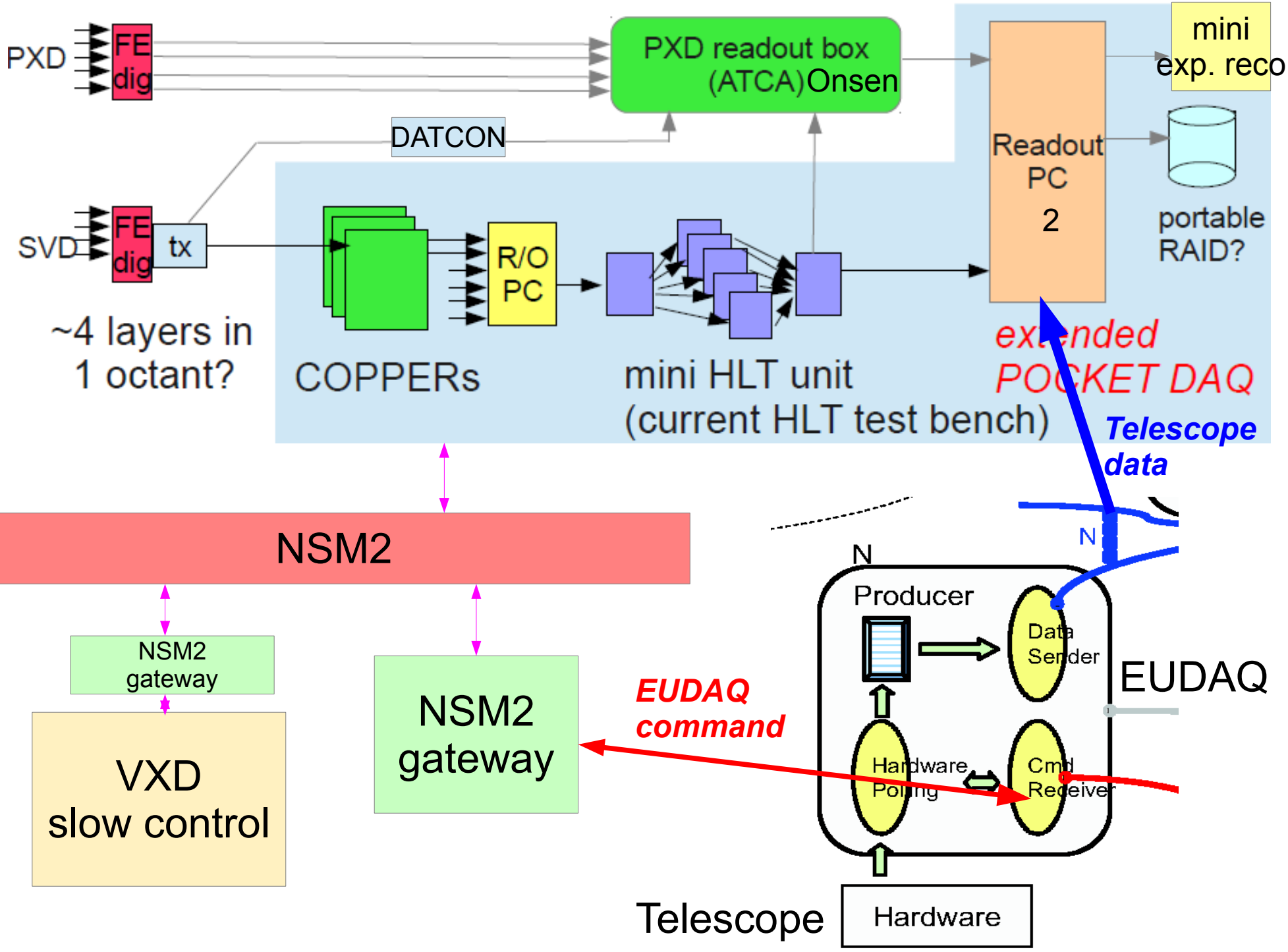

Key:
Application
Buffer
Thread
Signal
/data
Listening
Socket
Command
Data
Logging
1
Data Collector
Storage
Cmd
Receiver
Data
Merge
Data
Sender
Data
Server
N
M
Monitor
Cmd
Receiver
GU
Data
Receiver
N
Producer
Data
Sender
Hardware
Polling
Cmd
Receiver
Hardware
1
Run Control
GU
Cmd
Sender
Cmd
Server
Log
Server
1
Logger
Cmd
Receiver
Log
Receiver
GU
Storage

- EUDAQ is a complete standalone DAQ system and it assumes the other detector readout is integrated inside.

- It seems EUDAQ can send the data from producer through network, and also it can be controlled from outside by receiving “command” through network.



- Is it possible to run “Producer” only under the control of PocketDAQ?


PXD
FE dig
PXD readout box (ATCA)Onsen
mini exp. reco
DATCON
Readout PC 2
portable RAID?
SVD
FE dig
tx
R/O PC
~4 layers in 1 octant?
COPPERs
mini HLT unit (current HLT test bench)
extended POCKET DAQ
Telescope data
NSM2
N
N
Producer
Data Sender
EUDAQ
NSM2 gateway
NSM2 gateway
EUDAQ command
Hardware Polling
Cmd Receiver
VXD slow control
Telescope
Hardware

Network Topology