News on Data Format and Software

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Unpacker, Packer, Data Formats

- Change of Data Format proposed (and accepted)
  - Important for event building (on the Event Builder) and HLT ↔ DHH matching on ONSEN esp. on run start after a “crash”.
  - Unpacker changes (besides the firmware)
  - → pxdUnpacker renamed to pxdUnpackerDesy1314 for test beam data
  - Overhaul of unpacker code started (conventions, naming, documentation etc)
  - pxdPacker has to change accordingly
- Clustered data
  - Unpacking of FPGA based Clusterizer not started.
  - Data format not finalized yet(?)
  - Unclear how to interface with the cluster objects in basf2

Data Formats - in Details

- (Major) Changes:
  - HLT frame in front of DHHC Start frame; contains trigger nr and run nr (for "HLT trigger without DHH data")
  - Adding run nr and subrun nr to DHHC frames (needed for matching when run nr changes)
  - Adding run nr and subrun nr to HLT and DATCON data (needed for matching when run nr changes)
- Small changes not discussed here...

“Homework” for Discussion

- DQM for RAW data
  - What to monitor? (in addition to what we have)
  - Anything we want to monitor needs to be unpacked from RAW data first (and stored in basf2 tree)
- Full frames → pedestal calculation
  - Where, How, Who?

Backups

Full Frames

- Full Frames needed for pedestal calculation
- Will be written within the normal data stream
  - DHHC → ONSEN → Event Builder
- But where to calculate the pedestals?
  - Express Reco (DQM) is not getting all events
  - Will by chance get or miss the event with the Full Frames
- Solution?
  - Flag the event. (Trigger Bits?)
  - Tell the event builder to always send it to Express Reco? Or better somewhere else?
  - **Who contributes the code?**
  - **Comments?**