

Upstream DAQ firmware

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September 17th 2020



- Technology Review conclusion was to adopt option B as baseline for DUNE and ProtoDUNE-II
 - Hit Finding implemented in fw
 - Latency buffer and SNB store on host server
- Data buffering implementation in fw (option C) will be brought to an appropriate conclusion
- Working on a new schedule/agenda
 - Tasks that have to do with our current fw version pretty much identified
 - PDII task list requires a bit more thinking and discussions with other groups

New agenda & task list

- **Hit Finder code review**

- Review existing code: what is missing, improvements (Kostas, David, Alessandro, Will/Filiberto/Francesco, mid October)
- Re-christen fw/sw repos, rename fw blocks, update documentation (Alessandro, Jim, Kostas, 1st Oct)
- Test new patterns and verify agreement between fw vs tpg-sim (1st Oct)

- **PDII Hit Finder**

- Define baseline for PDII
- Collection vs induction wires
- Ped Sub alternatives
- Readout formats
- Update data processing framework
- Configuration Block (Will, beginning of 2021)

- **Verification tools** (Joel, Ivana, Raul, Kunal)
 - Provide support for existing v1 TPG fw and for future v2 TPG
- **Analysis of PDI captured data** (Joel, Ivana)
 - Understand findings in order to dig out fw bugs
 - Extract raw data, use them to duplicate & fix issues with eval boards
- **Core Felix** (Filiberto, Alessandro, 1st November)
 - Fw/sw rebase
 - Validate changes with eval/FLX boards

- **ZCU102 loopback test** (B'ham, 1st Nov)
 - Should try to identify the exact purpose and the goals of this exercise
- **Compression:** bring effort to an end (Pip, 1st Nov)
 - Fully validate design, documentation
- **10s/100s Buffer Management:** bring effort to an end (Erdem, 1st Dec)
 - integrate 10s buffer management with Block Formatter and NVME code on a KCU105
 - Write Python scripts that exercise functions of 10s buffer & trigger NVME writing
 - Port code to Versal-based Felix and test it

- **WIB2**

- Data format, Receiver block
- Not immediately a part of our fw meetings agenda. There will be reports on this in the main UDAQ meetings

- **DAPHNE**

- Add DAPHNE readout variant with 4.8 Gb/s links
- Define data format & data-ordering in output stream with PDS group
- Error handling in FLX board reader
- Not part of our current agenda. Could have regular reports from Will to track progress. Higher level discussions will be held in main UD meetings

Possible schedule (not fixed yet)

- v0.1 (1 Nov) – FLX re-base
- v0.1 (1 Nov) – data-replay
- v0.1 (1 Nov) – data processing v1
- v0.2 (1 Dec) – data processing v1
- v0.3 (1 Feb) – data processing v2
- v0.4 (1 Mar) – DAPHNE support
- v1.0 (1 April) – Production release