

Upstream DAQ for v2.3 & v2.4

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CERN

DUNE DAQ/SC Meeting
1st March 2022



Timing system

v2.3 objectives and achievements

- Timing Board Software moved to DUNE-DAQ
- Timing software DAQModules
 - Configure timing HW (TLU)
 - Tested on PDTS in NP04
 - Start/stop/reset timing partition
 - OpMon structures generated with new opmonlib
 - Python configuration generator

v2.4 objectives

- Improve documentation
- Timing application configuration generated for PDTS

Lot of work from timing developers also on commissioning and integration!

Readout firmware

v2.3 objectives and achievements

- ATLAS Phase2 FELIX firmware build is used as baseline. [Details here.](#)
 - WIB2 data to this firmware!
(CRC errors under investigation)
- TP firmware release v1.0.0
 - To establish and define a release procedure and related tasks
 - ZCU ev.board standalone

v2.4 objectives

- Release TP firmware v1.1.0
 - Code style consistency
 - Bringing more order to testbenches
 - Consolidation of projects
 - Review status/missing features of components

(after v2.4 -> 1st of April

- v2.0.0 fw: integration within FELIX
- WIB2 formats)

Readout software - flxlibs

v2.3 objectives and achievements

- DAQModule that controls and reads DMA buffers of FELIX cards
- Wiki contains FELIX Assets (firmware and config files)
- Scripts are shipped to do basic CCM steps on card, ONCE before using the CardReader DAQModule
- *Thanks for SW coordination proceduralizing the package's dependency: "felix v1_1_0" !*

v2.4 objectives

- Adapt fake "t0" & TS override from readout
- OpMon structs integration
- Python application configuration generator

(Towards v2.5:

- CardController DAQModule

)

Readout software - readout

Thanks for every PR author!

v2.3 objectives and achievements

- Aligned with v2.3
- OpMon integration
- Python app conf
- Fake TP chain
- Fixes

first attempt at fixing stop/start ...

readout#35 opened by glehmannmiotto
🔗 DUNE DAQ Release v2.4.0

👁 Changes approved

sbhuller/FakeCardReaderErrors ...

readout#37 opened by ShyamB97
🔗 DUNE DAQ Release v2.4.0

👁 Changes approved

Code style overhaul on the package ...

readout#34 opened by roland-sipos

code style good first issue

🔗 DUNE DAQ Release v2.4.0

Added configurable first DAQ timestamp. ...

readout#41 opened by ShyamB97
🔗 DUNE DAQ Release v2.4.0

👁 Changes requested

ReadoutModel creates queues in conf instead of init ...

readout#39 opened by alessandrothea

invalid

🔗 DUNE DAQ Release v2.4.0

Feature branch for raw WIB TP fake readout integration ...

readout#40 opened by hristovaivana
🔗 DUNE DAQ Release v2.4.0

👁 Changes requested

v2.4 objectives

- Fake TP chain needs finalization!
- Pending critical BUGs still!

RawProcessor attempts to read invalid memory locations bug

#22 opened on Jan 18 by roland-sipos 🔗 DUNE DAQ Rel...

Safe-margin for TPC Fragment data bug

#15 opened on Jan 14 by roland-sipos

Extraction limits & TRM crashes bug invalid

#14 opened on Jan 13 by roland-sipos

- Other minor items

Disable stats threads enhancement

#49 opened 19 hours ago by glehmannmiotto

Exercise "Debug streaming" domain enhancement

#21 opened on Jan 18 by roland-sipos 🔗 DUNE DAQ Rel...

Remove excessive DEBUG/INFO statements enhancement

#16 opened on Jan 14 by roland-sipos 🔗 DUNE DAQ Rel...

Towards v2.4

UDAQ aims for the setup of multiple v2.4 release based work areas with FELIX presence in order to provide integration testbeds and to test the readout chain from WIB to FELIX:

- ProtoDUNE-SP servers (with help from DAQ Integration):
 - Np04-srv-028 - 2 FELIX cards
 - Np04-srv-029
 - Np04-srv-030
- Bristol testbed
 - WIB integration
 - TP integration
- EP-DT-DI lab
 - Performance improvements