TDR/TP Preparation

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Introduction

- DP-electronics Consortium is responsible for TDR Volume 4C
  - Editors: Jaime Dawson (APC), VG (IPNL)
- Technical Proposal (TP) is basically the short version of TDR
  - Rescaling TDR to TP
    - Volume (150 – 200 page) → Chapter (30 – 40 pages)
    - Chapters → Sections
- TP should have the same structure in terms of sections as TDR
- The TeX source of the entire TP (also TDR) is publically available on DUNE github (https://github.com/DUNE/Technical-Proposal)

Dates

From TDR planning document

4. Timeline and Milestones

There are number of assumed dates that frame the programme of work:

- Oct-17: Editors of TDR volumes appointed
- Nov-17: TP/TDR Kick-off meeting – outline of contents
- Dec-17: Complete tables of contents of TDR and TP (section heading level)
- Apr-18: Complete drafts of the TP volumes — *Next milestone*
- May-18: Final version of the TP submitted to the LBNC
- Jul-18: LBNC review of the TP
- Feb-19: First drafts of all TDR volumes — *Draft of TDR*
- Mar-19: TDR internal review
- Apr-19: Final version of TDR submitted to the LBNC
- May-19: Cost appendix submitted to RRB Cost Scrutiny Group
- Jun-19: Finalize response to questions from LBNC
- Jul-19: LBNC review of TDR

Planning for Technical Proposal

Dates from T. Bolton and S. Zeller
the overall editors of the TP volumes appointed by the spokespersons

- **January 12**: Finalize table of contents (section heading level)
- **February 23**: First rough draft of TP due
- **March 16**: Second rough draft of TP due
  - Drafts will be sent to external reviewers for comment
- **April 13**: Final version of TP due
- **May 11**: TP submitted to LBNC

Start filling sections as much as possible from the existing material

- DUNE CDR
- Document prepared for DAQ workshop
- Interface document for DP-Electronics – DAQ
- Material prepared for the LAr-Proto paper

TP Outline

Total should be ~30 pages

Most of the material already exists in various documents

Sections that require most new writing:

- Production and Assembly
- Interfaces
  - There is a DAQ Interface document written already
- Installation, Integration and Commissioning

Most of the material also exists: [WBS document]

Basic numbers are well defined (caveat: number of ch for LRO)

→ baseline cost model

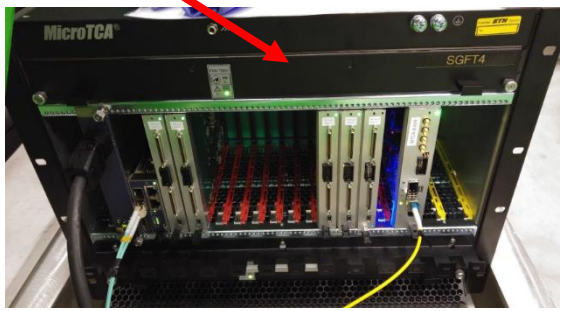
Components for a 10 kton dual-phase module
(list based on current 6x6x6 design, possible optimizations on channels density increase)

Total number of charge readout channels: 153600

- Cryogenic ASICs (16 ch): 9600
- Cryogenic FE cards (64 ch): 2400

- AMC cards (64 ch): 2400
- uTCA White-Rabbit cards: 240
- uTCA crates (including MCH,PU,FU): 240
- 10 Gbe optical links to backend: 240
- VHDCI cables (32 ch) 4800

White-Rabbit switches (18 ports): 16



Conclusions

- Produce the first draft of the TP document by the end of Feb
- Final version of TP is to be submitted to LBNC in May
- Structure adopted for TP should be extendable to TDR