DAQ News, Plans and Other Things

05.08.24

Alessandro Thea



Where we are

NP04 in steady state

- Beam until Sep 4, followed by ~4 weeks of integration tests
- No extra major feature expected
- Level of activity on v4.x production line expected to wind down
- NP02 activities expected to ramp up
 - TCO closure expected to start soon (when?)
 - LAr transfer in week 42 (October 7)

Development for DUNE

- Time to re-focus on the developments for DUNE and the critical path tasks
 - ◆ Shift the focus on v5 as main development line
 - Include long-frozen developments in the upcoming development cycle





Management Highlights

DUNE Management

- Anselmo Cervera Villanueva and Filippo Resnati have been appointed by the Executive Board as Deputy Technical Coordinators for the FD HD and VD respectively.
- The EB has also instituted a FDC Construction Executive Board ,which will steer and monitor the construction and installation of the far detectors (phase 1) and related cryogenics, up to delivery for physics.

The goal is to merge the DUNE detector leadership and the US-FDC project leadership into a common structure with strong representation.



Management Highlights

FDC-EB mandate Typical FDC-EB will cover these

Typical FDC-EB will cover these items (not yet an exaustive list):

- Component construction schedule updates
- Components performance Q&A and any as a result of non-conformity
- Integration and Interfaces issues that are unresolved or problematic
- Milestones analysis (semi-annually) and re-baselining if necessary
- Labor problems, in particular related to the installation process
- Change of responsibility at the MOU level
- Resources problem which will affect the agreed schedule
- Technical problems which could not be resolved at the consortia level or which involve multiple consortia that might need the creation of an ad hoc task force
- Technical or schedule problems which might affect the physics and will need to be escalated to the overall DUNE EB
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The FDC-EB reports to the FDC project management (FDC DPD and FDC PM) and DUNE Spokespersons.

Important unsolved issues will be escalated to the DUNE Collaboration Management and Executive Boards, LBNF/DUNE-US Project Director, FNAL DUNE Coordination Officer, DOE HEP Associate Director and DUNE RRB.



Management Highlights

FDC-EB composition

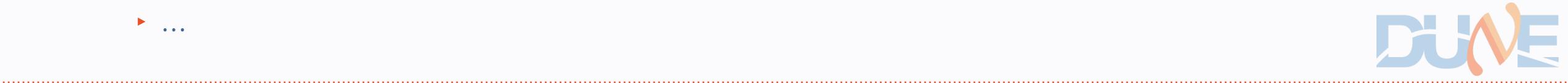
This is the list of people who will participate in the FDC-EB:

- US FDC DPD
- DUNE TC FD1 and deputy
- DUNE TC FD2 and deputy
- US FDC PM
- US FDC DPM in charge of the relations with DOE and managing the US DOE FDC allocated resources
- US FDC DPM in charge of Cryogenics
- CERN manager of the cryostats in-kind contribution
- The scientific leader or the technical leader of each consortium (just one of the two)
- The leaders of the new constituted APA Factory Production Board-AFPB
- The 2 detector installation coordinators, one for FD1 and one for FD2
- The mechanical leader of the compliance office
- The electrical leader of the compliance office
- The DUNE resources coordinator, ex-officio
- The DUNE co-spokespersons, ex-officio (one of the co-spokes will co-chair the meeting and the other will attend as ex-officio)
- The LBNF/DUNE-US Project Director and LBNF/DUNE-US Project Manager, exofficio
- A representative from Physics Co-ordination, ex-officio



2025 FD I&I Workshop at SURF

- September 16-20, SURF, SD
- Invitation only
 - Alessandro, Roland, Wes for the DAQ Consortium
- Probably the best venue to tackle installation related topics with FNAL/SURF experts and other consortia
 - Power load and distribution
 - Installation schedule
 - Networking and services
- • •
- We need to be prepared to have those discussions
 - Network Requirements document completed Alec
 - DAQ infrastructure model defined Alec, Bonnie
 - Power estimates updated (underground) Adam, Roland





Collaboration Week in Santa Fe

- Thank you for having filled the poll
 - Likely (very) small DAQ presence in Santa Fe
- Time to start thinking about our DAQ session(s)
 - One or two, organised as remote sessions
- Ideas about contributions
 - Consortium update/Planning
 - New configuration system/DAQ model in fddaq v5.x
 - Readout Network performance
 - Readout Servers performance
 - Timing status
 - ► NP02 readiness
 - NP04 lessons learned





WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION	PCT OF TASK COMPLETE	2023	2024	2025	2026	2027	2028	2029	2030
							Q1 Q2 Q3 Q	Q4 Q1 Q2 Q3 Q4	4 Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q	4 Q1 Q2 Q3 Q4	4 Q1 Q2 Q3 Q4	Q1 Q2 Q3	Q4 Q1 Q2 Q3 Q4
1	Development/testing													
1	dunedaq-v4.0.0	K. Biery	10/02/23	17/04/23	67	100%								
2	O	J. Freeman/A.	19/04/23	01/09/23	132	100%								
2	Separation of FD/ND software releases complete	Kaboth	20/04/23	29/09/23	159	100%								
3	Transition to ethernet readout for all WIBs complete	R. Sipos	15/05/23	29/09/23	134	80%								
4	DAQ in Kubernetes systematically in use at EHN1	A. Thea A. Habig	15/05/23	15/12/23	210	30%		3						
6	Network requirements complete (incl any flow control, protocols, buffer req)	 	01/04/23	15/12/23	254	85%								
7	Configuration framework and application interface (schema, data distribution, API) complete	M. Roda	15/05/23	29/03/24	314	40%								
, 8	Op Monitoring complete incl code review	E. Flumerfelt	03/07/23	28/06/24	355	5%		2						
<u>0</u>	Review and revision of appfwk complete (cmdlib,appfwk, iomanager, conf I/F, opmon I/F)	D. Cussans	01/05/23	27/09/24	506	50%								
10	Timing SW/FW complete including code reviews DAG Deployment model demonstrated at EUN1	B. King	20/05/23	30/09/24	490	30%								
11	DAQ Deployment model demonstrated at EHN1	b. King	20/03/23	20/12/24	44990	0%								
12	Database editors complete			20/12/24	44990	0%		2						
12	Resources management complete incl code review			31/03/25	45090	0%								
1.0	Readout (except TP algos) complete incl code reviews			31/03/25	45090	0%								
15	Process management complete incl review													
15	Access management complete incl review			30/06/25	45180 45180	0%	-							
17	Trigger infrastructure complete incl code review					0%								
17	Run control complete incl code review			30/09/25	45270	0%								
18	Operator/expert UI complete			19/12/25	45349	0%								
19	Dataflow complete (excl data filter) incl reviews			19/12/25	45349	0%								
20	Cluster and network monitoring in production at SURF			30/03/26	45450	0%								
	Configuration archiving, versioning, comparisons complete			31/03/26	45450	0%								
22	Data quality monitoring infrastructure sampling from files (and basic checks) complete			30/06/26	45540	0%								
23	Trigger menu (configuration) complete incl code review			30/06/27	45900	0%								
24	Data quality monitoring complete			30/09/27	45990	0%								
25	Conditions DB interface complete			30/09/27	45990	0%								
26	Dataflow-data filter interface complete			17/12/27	46067	0%								
27	Data filter infrastructure complete			31/03/28	46170	0%								
28	Expert system complete			29/09/28	46349	0%								
29	Trigger algorithms commissioning/optimization complete (no beam)			30/06/29	46620	0%								
30	Data Filter algorithms in production			21/12/29	46791	0%								
2	Procurement/installation/integration													
100	ProtoDUNEs	W. Ketchum	01/01/23	31/03/25	810	0%								
101	FNAL networking procurement			31/12/25	0	0%								
102	Infrastructure, CCM servers procurement (from market survey to first deliveries)			01/03/26	0	0%								
103	Readout servers produrement (from market survey to first deliveries)			01/03/26	0	0%								
104	Installation of minimal DAQ infrastructure on surface			01/03/26	0	0%								
105	Storage Servers procurement (from market survey to first deliveries)			01/03/26										
106	FD1 Trigger servers procurement			01/09/27										
107	DQM servers procurement 01/09/27													
108	Installation of FD1 timing, network and minimal DAQ readout underground			30/06/26										
109	Support FD1 installation and checkout			30/09/27										
110	Complete FD1 DAQ installation			15/12/27										
111	FD1 cooling and filling			15/12/28										
112	Commissioning and Physics			30/03/29										
113				00/07/2=										
114	Installation of FD2 timing, network and minimal DAQ readout underground			30/06/27			_							
115	Support FD2 installation and checkout			29/09/28										
116 FD2 Trigger, DC	FD2 Trigger, DQM, storage servers procurement			30/03/29										
117	Complete FD2 DAQ installation			29/06/29										
118	FD2 purge			29/06/29			_							
 119	FD2 fill			30/09/30			1 1 1 1 1							





Next development cycle

- Hopefully everyone had the time to look at Giovanna's slide
- Today we start discussing goals and extensions
- A balance will have to be found between
 - Completeness vs consolidation
 - NP02 support for purge/cooldown/fill vs longer developments





Planning Workshop follow-up

- We haven't had a regular follow up on the plans presented at the workshop in May
 - Not a surprise, this is what operations do to planning
- Now that NP04 is in a steady state it is a good time to go back to those plans, fold them into the next release cycle (where appropriate) and track them regularly
 - ► I propose to have regular updates on key tasks presented at CT or general meetings
- Readout Network, Readout Server PRR and Timing are good candidates for a first update in 1 or 2 weeks time
 - Volunteers?





People's availability in August/September

- We are in a period of reduced activity due to people taking well-deserved holidays
- Useful to know who is around for the planning of the next two months
- Prepared a spreadsheet to add people's availability
 - https://docs.google.com/spreadsheets/d/1ATIsN9C1O2q_7I4DJZTcO6myCN4ETldOtSgH1VWQZm0/edit?gid=0#gid=0
- Please fill yours and share it with the WGs

	A	В	С	D	Е	F	G	Н	I	J	
1	\Who		A	ug		Sep					
2	Who	5	12	19	26	2	9	16	23	30	
3	Alessandro										
4											
5											
6											
7											
8											



