DUNE CCB Minutes
26th Jan 2022
Virtual meeting only
DRAFT MINUTES

Agenda https://indico.fnal.gov/event/52519/

CCB Mail list: DUNE-CCB@FNAL.GOV

Present:

Country/Lab	Name	Present or apologies
Chair	P.Clarke	Present
BR	E.Kemp	Apologies from Helio
CH	M.Weber	Present
CZ	M.Lokajicek	Present
ES	G.Merino	Present
FR	E.Pennacchio	Present
IT	S.Bertolucci	
NL	J.Templon	Present
UK	A.McNab	Present
USA	H.Schellman	Present
IN	M.Panyam	Present
RU	N.Balashov	Present
FNAL	S.Fuess	Present
BNL	P.Laycock	Present
CERN	Xavier Espinal	Present
Ex-officio	*M.Kirby*	*Present*
Ex-officio	*S.Timm*	*Present*
Ex-officio	*L.Sexton-Kennedy*	*Present*
Ex-officio	*T.Walton*	*Present*
Ex-officio	*K.Herner*	*Present*

1. Introductions

P.Clarke opened the meeting and welcomed members. SA short introduction was given to remind the CCB of its role.

2. Usage in 2021

M.Kirby presented the DUNE usage of capacity supplied in 2021.   Summary shown in next three snapshots.

There is clearly significant underuse of pledged resources. It is understood why this is, not least of which changes to the CERN schedule and other ramification of Covid. Nevertheless, the common theme was that it is difficult for CCB members to argue to be able to pledge the requested resources if they are not then used. This is because in general one is asking for an allocation from an underfunded computing facility, which is tensioned against many other VOs.

Pledged, deployed, and utilized resources (CPU cores)

CPU Cores	Site/Cluster	Pledged	Deployed	Utilized
FNAL	FermiGrid	4000	4000	3541
CERN	Tier-0	1650	1650	133
BNL	BNL	100	100	15
USA	OSG - opportunistic	1150	***	182
UK	GridPP	1000	1000	394
FR	CC-IN2P3	310	310	16
ES	PIC Tier-1	500	500	25
NL	NL/LHC Tier-1	696	696	81
CZ	CZ-Prague-T2	1560	1560	58
CH	Bern	200	200	—
BR	CBPF	100	100	8
IN	Tata	450	450	33
RU	JINR	N/A	N/A	7
Total		11716	10566	4685

"core" based on wall hours, year averaged, e.g. 8760 CPU Wall hour = 1 core

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Pledges taken from here: https://docs.google.com/spreadsheets/d/180JGdW4ezFfx9BEzMRlzTDPbYjjlk27U/edit#gid=1610319714

Pledged, deployed, and utilized resources (Disk in TB)

Disk	Pledged	Deployed in Rucio	Volume in Rucio
FNAL	2200	4800	4800
CERN	2200	0	975
BNL	500	0	0
USA	0	***	0
UK	4000	3136	2178
FR	500	0	0
ES	500	0	0
NL	1900	207	0
CZ	300	0	300
CH	0	0	0
BR	0	0	0
IN	750	0	0
RU	0	0	0
Total	12850	10343	8253

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Pledges taken from here: https://docs.google.com/spreadsheets/d/180JGdW4ezFfx9BEzMRlzTDPbYjjlk27U/edit#gid=1610319714

Pledged, deployed, and utilized resources (Tape in TB)

Tape	Pledged	Deployed in Rucio	New Volume in Rucio
FNAL	9000	19260	6300
CERN	9000	5100**	71
BNL	0	0	0
USA	0	0	0
UK	3000	0	0
FR	2000	0	0
ES	0	0	0
NL	0	0	0
CZ	0	0	0
CH	0	0	0
BR	0	0	0
IN	0	0	0
RU	0	0	0
Total	23000	24360	11300

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Pledges taken from here: https://docs.google.com/spreadsheets/d/180JGdW4ezFfx9BEzMRlzTDPbYjjlk27U/edit#gid=1610319714

3. DUNE Capacity requirements 2022

H.Schellman presented the current capacity requirement estimates (see slides).
The summary is in the snapshot below. These #'s are maintained in DUNE docdb 23419.

Requests from dune docdb-23419

Years	CPU (Mhrs)	Wall kSPEC06	Wall F/C kSPEC06	cores	Tape Total(PB)	Tape F/C/Collab	Disk Total(PB)	Disk F/C/Collab
2019	25	45	11/ 34	4121	8.9	5.5/ 2.3/ 1.1	10.0	2.9/ 0.8/ 6.3
2020	30	54	14/ 41	4915	14.2	9.1/ 3.0/ 2.1	15.4	4.0/ 0.4/ 10.9
2021	40	73	18/ 54	6594	21.1	14.1/ 3.6/ 3.5	20.4	5.3/ 0.4/ 14.7
2022	48	86	21/ 64	7779	33.4	21.8/ 6.5/ 5.1	27.3	7.6/ 1.6/ 18.1
2023	63	113	28/ 85	10286	49.4	31.7/ 10.7/ 7.0	33.0	9.4/ 2.4/ 21.2
2024	70	126	32/ 95	11455	62.2	40.2/ 12.9/ 9.1	35.2	9.5/ 1.4/ 24.3
2025	60	108	27/ 81	9824	69.8	45.9/ 12.9/ 11.0	32.2	8.1/ 0.2/ 23.9

Table 1: Assume present core is 11 SPEC06. CPU number is real CPU. Cores and SPEC06 are Walltime with CPU/Walltime = 0.70. F means FNAL, C means CERN. Assume CERN storage is only for ProtoDUNE. CPU should be divided 25% FNAL, 75% Collab

4. Pledges

P.Clarke presented the (still temporary) pledge spreadsheet. This is at the link below. A snapshot at 26-9-2022 is shown below.

https://docs.google.com/spreadsheets/d/180JGdW4ezFfx9BEzMRlzTDPbYjjlk27U/edit?usp=sharing&ouid=10638308938409751551&rtpof=true&sd=true

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A	B		2021				2022					
			CPU Cores)	Disk (PB)	Tape (PB)		CPU Cores)	Disk (PB) [2]	Tape (PB)			
Total DUNE Requrements [1]			6594	6	9							
DUNE			6594	2.2	24.2		7780	27.3	33.4			
							7780	28.7	36.9			
DUNE Requirements at FNAL			1650	6	9							
FNAL			3310	2.2	24.2		1945	7.6	21.8			
DUNE Requirments at CERN			1650	6	9							
CERN			3310	2.2	24.2		950	3	10			Updated after
DUNE Requirments other sites												
Request "others"			4950	15	12		4885	18.1	5.1			
Actual Pledges:												
BNL	BNL		100	0.5			100	0.5				Firm
USA - other	(OSG opportunistic)		1150				1150	0	0			The OSG canno
UK	GridPP		1000	4	3		1000	4	3.1			Firm
FR	CC-IN2P3		310	0.5	2		250	0.5	2			Firm
ES	PIC Tier-1		500	0.5			512	0.72				Firm
NL	NL/LHC Tier-1		696	1.9			788	1.8		[3]		Indicative
CZ	CZ-Prague-T2		1560	0.3			2400	1		[4]		Firm
IT												
CH			200	0.2			200	0.2				
BR	CBPF		100	0								
IN	Tata		450	0.75			450	0.75				Firm
RU	JINR						1000	0.5				Firm
Total pledge "others"							7850	9.97	5.1			
Shortfall "others"							-2965	8.13	0			
Overall Total pledge							10745	20.57	36.9			
Overall shortfall							-2965	6.73	-3.5			

Notes:
1. DUNE resource request taken from https://docs.dunescience.org/cgi-bin/sso/ShowDocument?docid=23419
2. For now DISK means real spinning DISK. Not virtual DISK in front of a small cache in front of a tape store
3. [NL] 2022 is a factor of six increase wrt 2021; to follow this will likely require additional funding. Until that funding is secured, we keep the 2022 pledge indication at the 2021 level.
4. [CZ] We show the capacities for DUNE + NOvA available in CZ, capacities for 2021 and 2022 will be upgraded under flat budget
5. [FNAL] Current core allocation is 4000, so above 25% level.

There was some discussion

- Fermilab has pledged what was asked.
- CERN pledged more than asked
- CPU is over pledged
- Liz-SK: The FCRSG was very Fermilab-centric. Had advice from many corners including ICAC that we should take on the governing of Experiment's international requests.
- FR—lowered request in terms of CPU and can't ask more for storage space. If the 0.5PB gets filled they can ask for more
- ES : all fine
- UK: Pledges fine. But we also have a problem arguing for more unless pledge is used.
- NL—wants canonical 10%—Jeff tried to compute. Requests are for 2 years, will be hard to change in 2023. Which may be high.
- CZ—already pledged far more than number of people participating
- IT asked to be in the CCB but no pledge yet, Peter will contact.
- CH— Michele Weber: Still don't have a dedicated funding line for DUNE computing. Taking from existing Bern installation
- BR — not present
- Heidi: Can we get more disk in the US…arguably it should be more.
- Stu—can get compute quota from DOE (NERSC) and NSF (XSEDE) sites.

- Xavier Espinal : Compute quota is split between np02 and np04 1500 cores on the floor. Can up the disk space if necessary
- Stu—want to make sure that we understand all space in use, tape persistent, etc. Is it Rucio-managed space or all space that any user can use.

One outcome of the discussion was the request that management identify an add explicit statement re. Persistent resources -vs- scratch resources required at sites.

4. CRIC

A. Mcnab stated that it was unlikely that the effort to adapt CRIC would be forthcoming soon. As a result is unlikely we will be using CRIC for pledges any time soon. This means we only have the spreadsheet maintained on P.Clarke's google drive.

5. AoB

There was no AoB at the meeting

6. Next meeting

No next meeting was set at the time.
It has now been arranged for 19th October.