

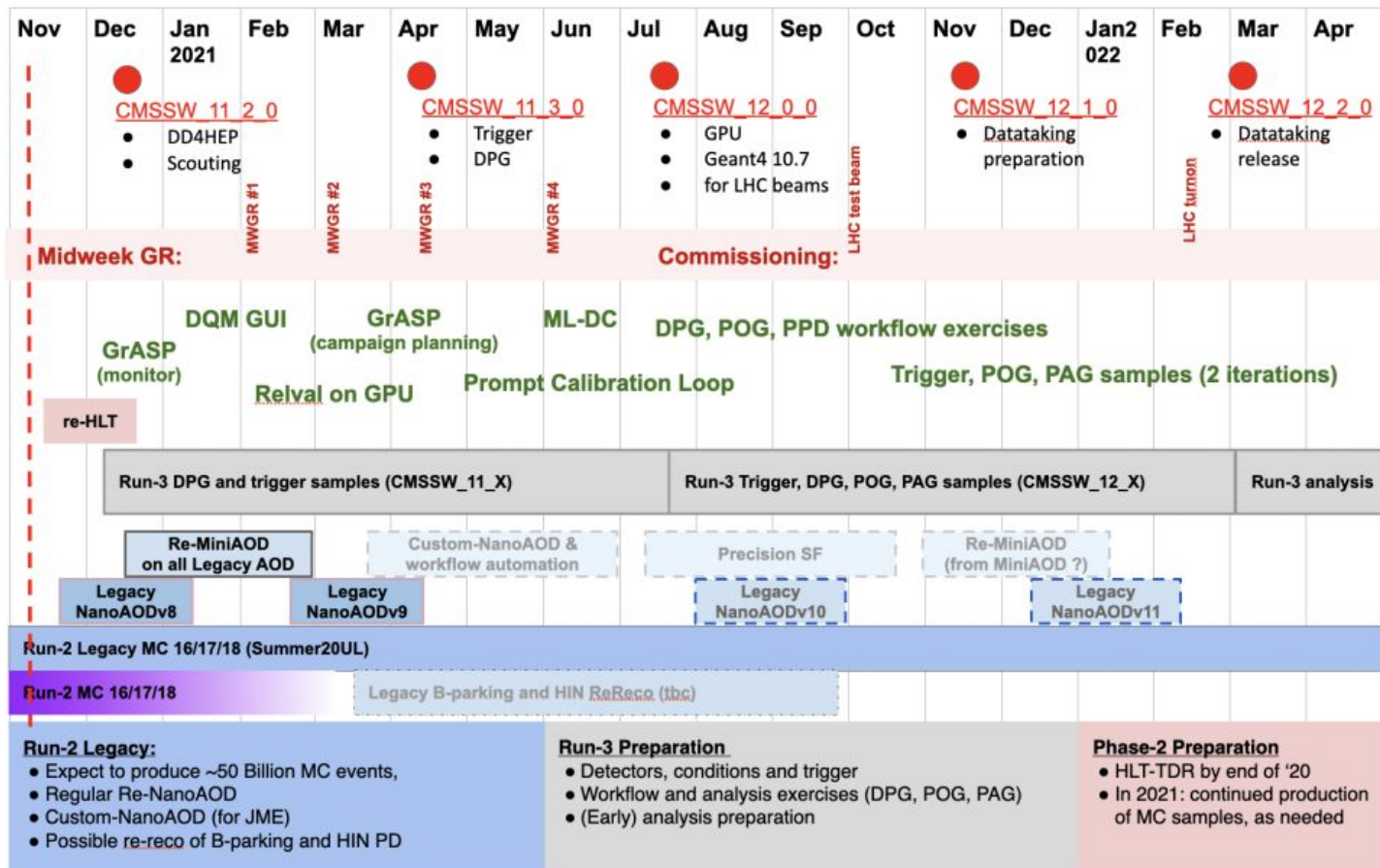
CMS - CDG Tier1

Nuovo Rappresentante Nazionale del calcolo di CMS

Daniele Spiga (che non ha bisogno di presentazioni) sarà il prossimo Rappresentante Nazionale del Calcolo di CMS per il triennio 2021-23

BENVENUTO DANIELE !!

CMS Software & Computing planning fino al 2022



Transizione PhEDEx → Rucio

Rucio

This partial migration helped gain experience for full transition

Jun
Manage NanoAOD with Rucio

Sep-Oct
Sync all data in PhEDEx to Rucio, CRAB locates data with Rucio. Turn off most Dynamo functionality.
Switch production system to writing output directly

Nov 11
CMS Cosmic Run, first test for the Tier-0!

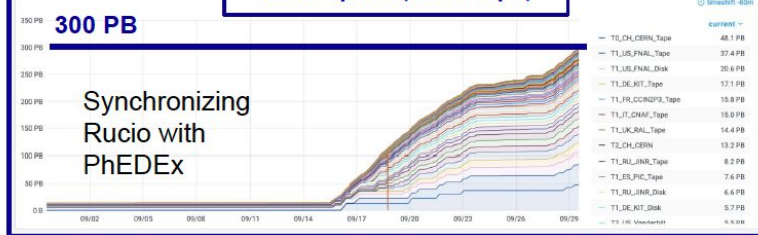
Nov 10
Tier-0 switched to Rucio+CASTOR

Today
Nov 18
Turn off PhEDEx+Dynamo

Dec 7
Tier-0 using Rucio+CTA



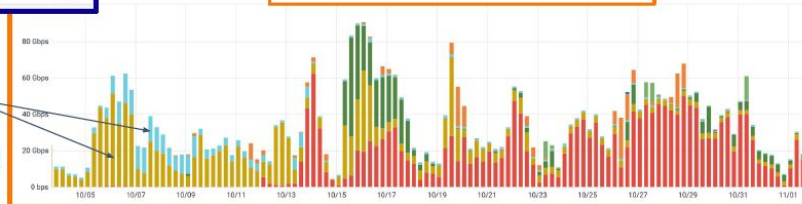
Used Space (Disk+Tape)



Transition succeeded with no production system downtime!

Transfer throughput in October

PhEDEx: **Cyan+Mustard**
Remaining colours are Rucio!



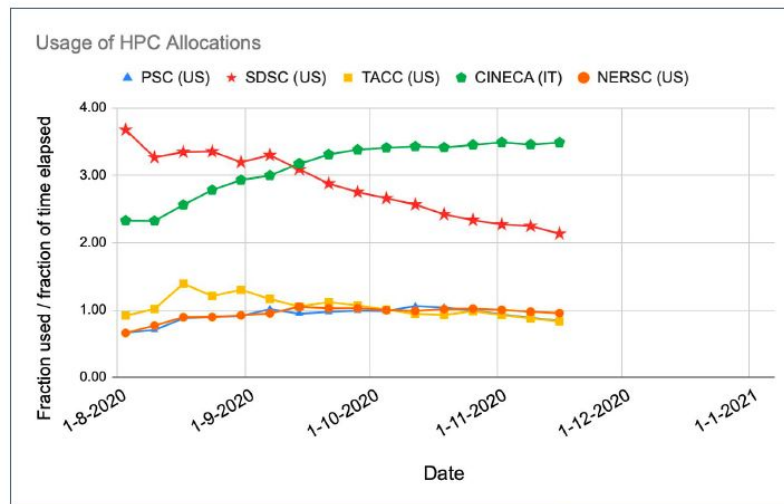
Dopo 16 anni di onorato servizio PhEDEx e i suoi agenti (!) vanno in pensione!

USO di CINECA (e HPC)

HPC Usage



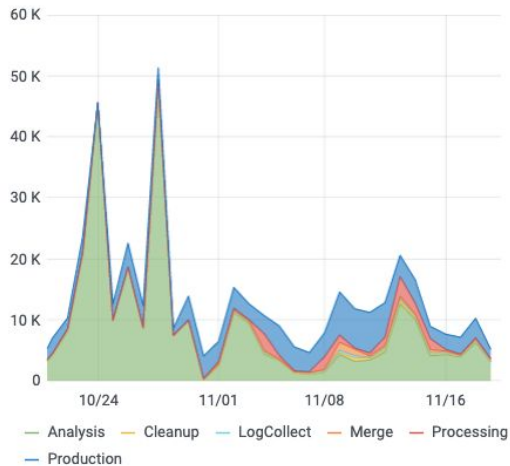
- Fraction of allocation used / Fraction of time elapsed
 - ≥ 1 : we are on time to use the allocation
 - < 1 we are late
- Goal is to use efficiently all of the resources available to us
- All US HPCs below 1.0, except SDSC
 - NERSC is at 0.96, allocation expires in six weeks.
 - **We need to hurry up**
- ALCF Theta
 - New under the HEPCloud umbrella
 - Plans forming to submit Phase-2 work
 - Discussions ongoing



Job al CNAF ultimo mese

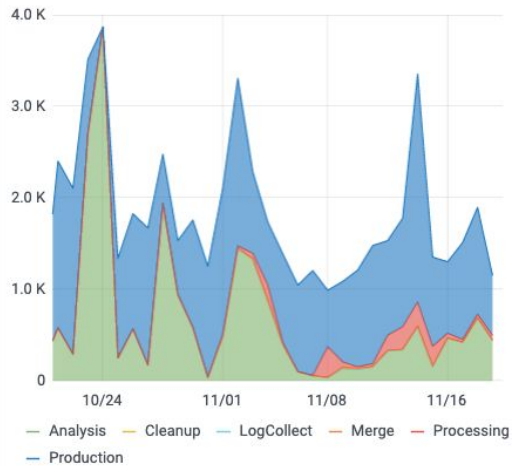
413108 completed

Completed jobs



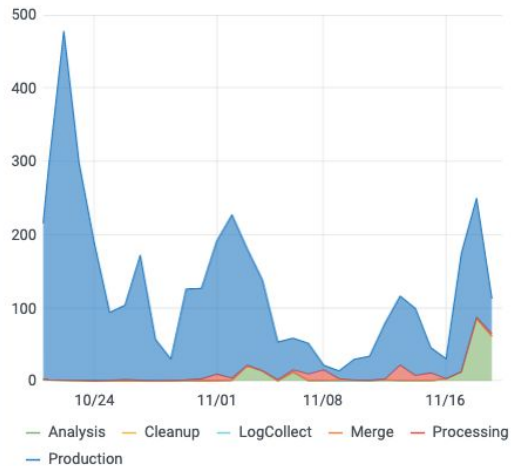
1254 running jobs

Running jobs



182 pending jobs

Pending jobs



Total completed jobs



Currently running jobs



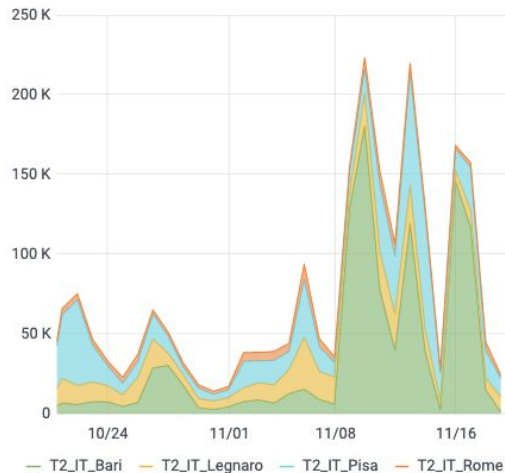
Currently pending jobs



Job siti italiani ultimo mese

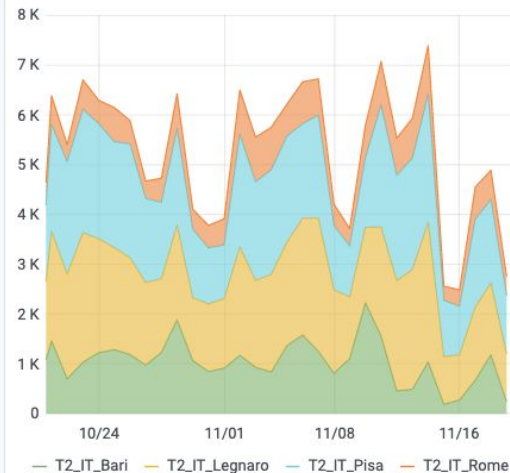
2230563 completed

Completed jobs



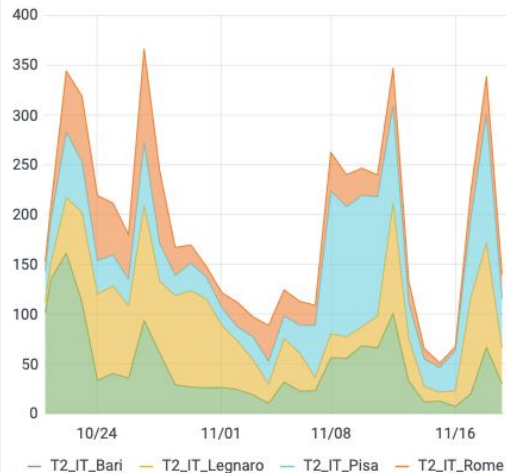
3488 running jobs

Running jobs



271 pending jobs

Pending jobs



Total completed jobs



	total	percentage
T2_IT_Bari	1063355	47.7%
T2_IT_Pisa	649929	29.1%
T2_IT_Legnaro	391793	17.6%
T2_IT_Rome	125486	5.6%

Currently running jobs



	current	percentage
T2_IT_Pisa	167	42.4%
T2_IT_Legnaro	137	34.7%
T2_IT_Rome	56	14.2%
T2_IT_Bari	35	8.8%

Currently pending jobs



	current	percentage
T2_IT_Pisa	7	35%
T2_IT_Legnaro	5.1	26%
T2_IT_Bari	4	22%
T2_IT_Rome	3	17%

Readiness Tier2

T2_IT_Bari

GGUS Tickets:	148735																	
Downtimes:																		
SAM Status:	100%	99%	100%	99%	99%	100%	94%	100%	95%	100%	97%	100%	96%	88%	99%	100%		
Hammer Cloud:	100%	100%	100%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	100%	100%	100%		
FTS Status:	96%	96%	98%	98%	96%	96%	92%	98%	98%	93%	98%	94%	93%	97%	96%	97%		
Site Readiness:	99%	89%	89%	84%	92%	62%	71%	76%	82%	75%	77%	90%	83%	77%	86%	86%		
Life Status:																		
Prod Status:																		
CRAB Status:																		
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	Nov																	

T2_IT_Legnaro

GGUS Tickets:	149019																	
Downtimes:																		
SAM Status:	99%	100%	100%	100%	100%	100%	99%	100%	99%	100%	100%	100%	100%	100%	99%	100%		
Hammer Cloud:	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%		
FTS Status:	98%	98%	99%	100%	100%	100%	100%	100%	98%	98%	97%	100%	100%	95%	98%	98%		
Site Readiness:	95%	61%	84%	67%	64%	55%	66%	69%	88%	79%	78%	79%	77%	86%	93%	80%		
Life Status:																		
Prod Status:																		
CRAB Status:																		
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	Nov																	

T2_IT_Pisa

GGUS Tickets:	149184																	
Downtimes:																		
SAM Status:	100%	100%	100%	77%	87%	94%	97%	100%	86%	90%	82%	94%	89%	89%	93%	90%		
Hammer Cloud:	99%	99%	100%	100%	96%	94%	96%	100%	99%	96%	86%	75%	92%	92%	93%	100%		
FTS Status:	94%	95%	98%	97%	92%	95%	95%	96%	94%	94%	94%	94%	94%	94%	94%	96%		
Site Readiness:	74%	62%	66%	59%	75%	71%	60%	82%	54%	63%	60%	52%	59%	51%	67%	64%		
Life Status:																		
Prod Status:																		
CRAB Status:																		
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	Nov																	

T2_IT_Rome

GGUS Tickets:																		
Downtimes:																		
SAM Status:	95%	100%	100%	97%	93%	100%	100%	100%	100%	100%	100%	100%	100%	100%	?	100%	100%	
Hammer Cloud:	99%	95%	100%	99%	100%	100%	100%	100%	99%	99%	100%	99%	100%	100%	100%	100%		
FTS Status:	98%	98%	100%	97%	96%	100%	97%	97%	97%	97%	97%	97%	97%	98%	96%	98%		
Site Readiness:	63%	80%	80%	51%	69%	46%	42%	46%	34%	55%	71%	43%	26%	0%	51%	75%		
Life Status:																		
Prod Status:																		
CRAB Status:																		
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	Nov																	

- Pisa problemi storage, CE e LAN: riconfigurazione in corso per ottenere miglioramenti strutturali

Passaggio tier2 a HT-condor

- CMS non supporta piu' cream-CE dal primo settembre
 - Job arriveranno ancora ai siti creamCE finche' non verranno updatate tutte le glidein WMS factories a OSG 3.5 (~fine novembre)
- Situazione tier2 italiani per HTcondor
 - Bari OK
 - LNL OK
 - Pisa quasi OK (
 - nuovo CE HTcondor ok installato tramite OSG,
 - vanno ancora dismessi i vecchi gridCE, a breve
 - Preservato LSF come batch system
 - Roma deve iniziare migrazione (insieme ad Atlas)
 - Probabilmente usera' arcCE

BACKUP

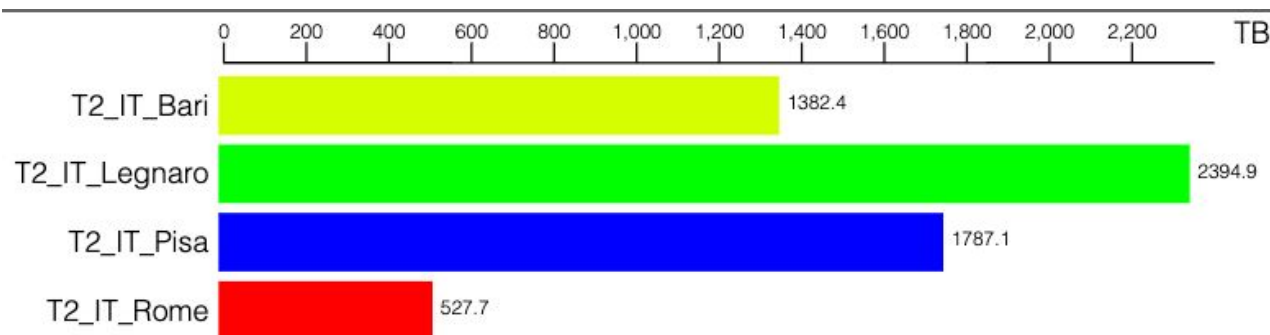
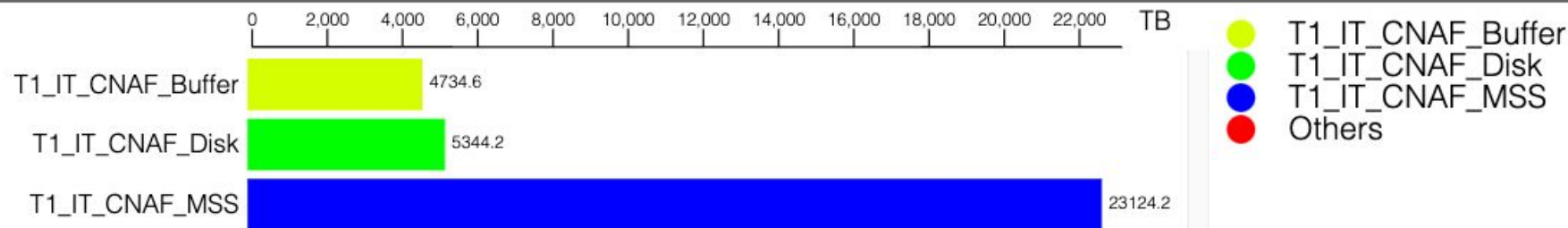
Richieste 2021 CMS: approvate da CRSG

Resource	Site	2020 CMS Approved Request (Spring 19)	2021 CMS Request (Fall 19)	2021 CMS Request (Spring 20)	Increase from 2020 request
CPU (kHS06)	T0+CAF	423	517	500	18%
	T1	650	650	670	3%
	T2	1000	1200	1070	7%
	<i>Total</i>	<i>2073</i>	<i>2367</i>	<i>2240</i>	<i>8%</i>
Disk (PB)	T0+CAF	26.1	31	30	15%
	T1	68.0	77	77	13%
	T2	78.0	93	92	18%
	<i>Total</i>	<i>172.1</i>	<i>201</i>	<i>199</i>	<i>15%</i>
Tape (PB)	T0+CAF	99	144	120	21%
	T1	220	245	230	5%
	<i>Total</i>	<i>319</i>	<i>389</i>	<i>350</i>	<i>10%</i>

- Aumento moderato CPU/tapes
- Aumento piu' sostanzioso del disco
- Italia → 13.5% del totale

CMS-2 C-RSG applauds the CMS collaboration's progress on using heterogeneous computing architectures with CMSSW and the continuation of establishing increasing wide use of the new nanoAOD format for physics analyses.

Storage utilizzato centralmente da CMS in italia (dynamo)



Niente da segnalare
rispetto al mese scorso

Preliminary: Computing requests 2022

- CMS input given to C-RSG, final document due in Spring 2021

- Based on parameters communicated by the LPC

- 70 fb⁻¹
- Average pileup 35
- Running 6·10⁶ s pp / 1.2·10⁶ s heavy ions
- 50% stable beams, fast ramp up to 2018-like conditions

- CMS assumes 14 TeV c.e.m. energy

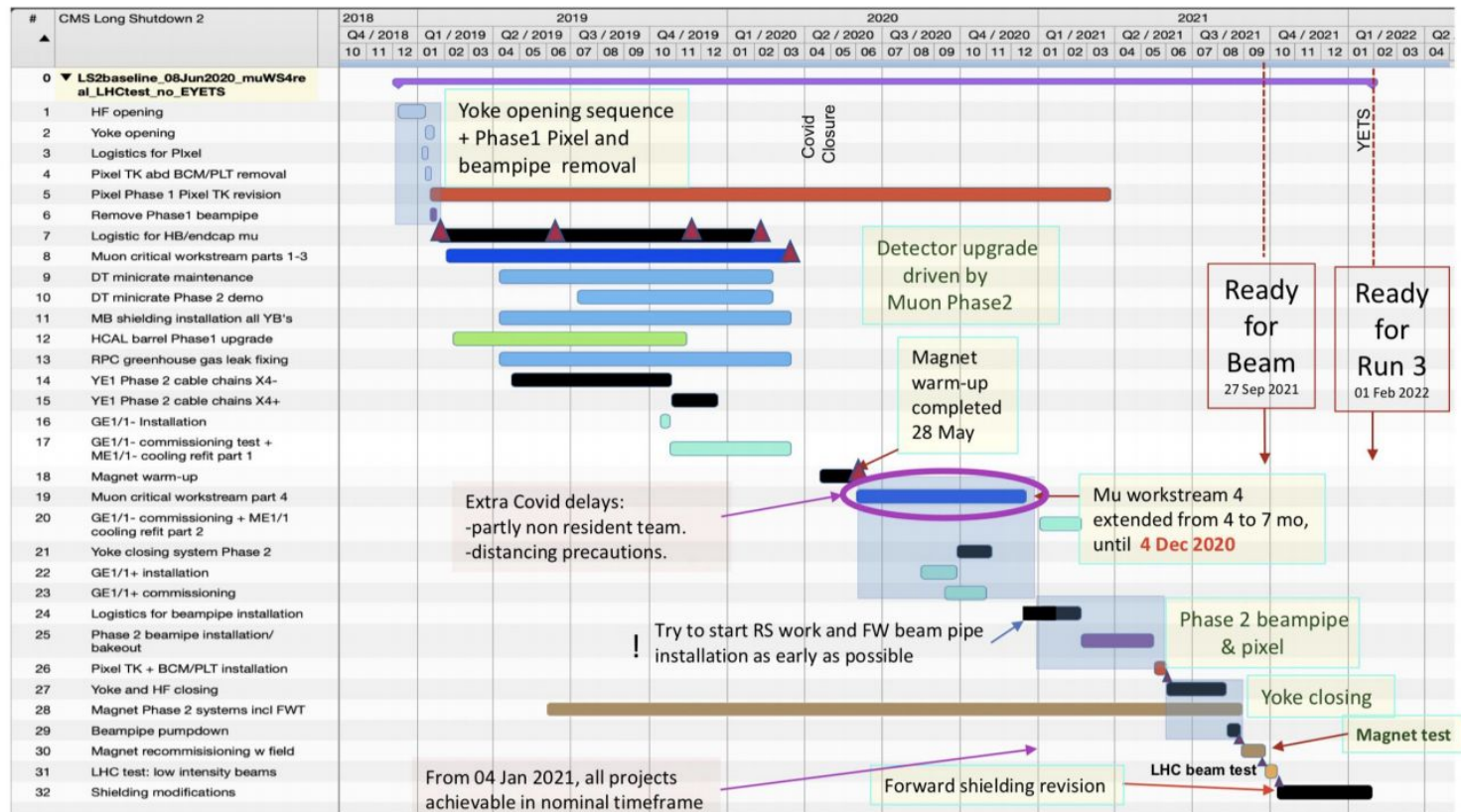
- HI run similar to 2018

- Potential feedback by the C-RSG as well as additional available information can be accommodated before Spring 2021

Resource	Site	'20 Approved Request Spring 19	'21 Approved Request Spring 20	'22 Preliminary Request Fall 20	Increase wrt 2021
CPU (kHS06)	T0+CAF	423	500	520	4%
	T1	650	670	720	7%
	T2	1000	1070	1190	11%
	<i>Total</i>	<i>2073</i>	<i>2240</i>	<i>2430</i>	<i>8%</i>
Disk (PB)	T0+CAF	26.1	30	35	17%
	T1	68	77	83	8%
	T2	78	92	98	7%
	<i>Total</i>	<i>172.1</i>	<i>199</i>	<i>216</i>	<i>9%</i>
Tape (PB)	T0+CAF	99	120	149	24%
	T1	220	230	250	9%
	<i>Total</i>	<i>319</i>	<i>350</i>	<i>399</i>	<i>14%</i>

Schedule LHC

no EYETS 21-22, ready for Beam 1 Feb 2022



STORM WebDav endpoint per CMS

Informazioni da
Lucia Morganti
Brian Bockelman

- “GridFTP should be phased out as WAN transfer protocol to be replaced by HTTP/WebDAV”
- Test al CNAF
 - storm webdav endpoint xs-404.cr.cnaf.infn.it
 - Due aree
 - /storage/gpfs_tsm_cms/escape
 - /storage/gpfs_tsm_cms/wlwg
 - GGUS:148379 → attualmente non funziona ancora con PhEDEx
- Richiesta da Brian (ho chiesto chiarimenti...)
 - Accedere l'area /store/... tramite webdav con PhEDEx e VOMS proxy authentication
 - Fase di test
 - “However, once confirmed, we are quite interested in moving as soon as possible to production-scale infrastructure...”
- Implica fare una modifica a
 - storage.xml → introdurre una nuova rule LFN → PFN (tipo questa)...
 - `<lfn-to-pfn protocol="davs" destination-match="*" chain="direct" path-match="(*)" result="davs://xs-404.cr.cnaf.infn.it:1094/$1"/>`
 - FileDownload agent → configurazione in PhEDEx
 - Aggiungere: `-protocols 'srmv2,direct,davs'`
- Prevedere incremento utilizzo...