



Status of Computing

Dott. Silvio Pardi

INFN-Napoli

3th Meeting dei siti italiani di Belle II

16/04/2021

Belle II Status and Plan

Around 2PB of RAW Data Collected at KEK and replicated at BNL (RAW+hRAW)

In 2021 we plan to collect around 1.2PB new RAW Data to replicate in multiple RAW DCs.

In 2022 a Long Shutdown scheduled in July

Migration to DIRAC v7r0

Migrazione in corso del framework di data production DIRAC

Major review del sistema con introduzione di pilot3

Attualmente in corso la validazione di tutte le componenti.

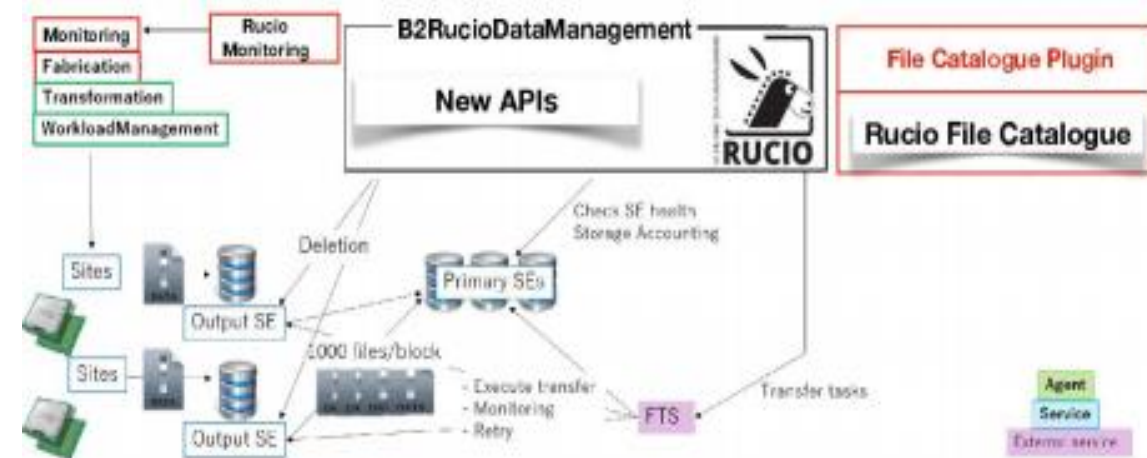
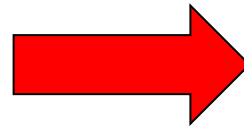
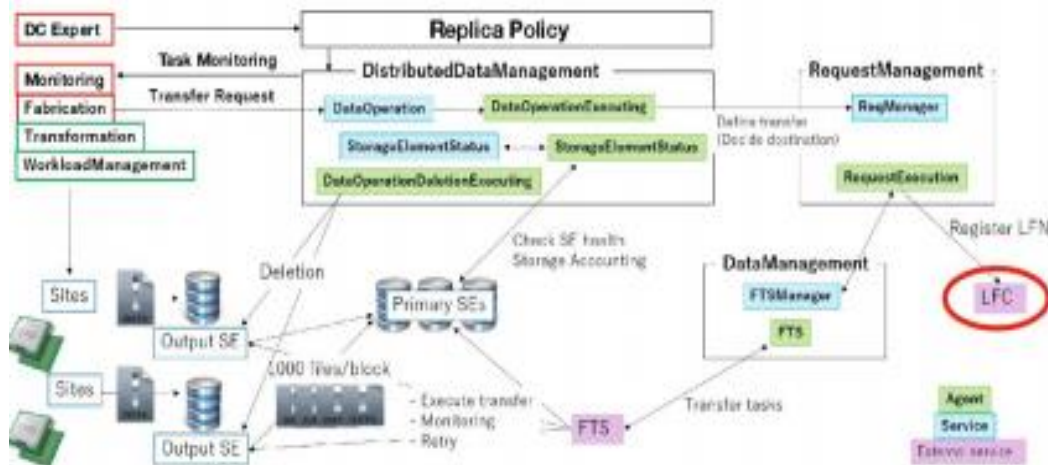
Tuning dell'utilizzo delle risorse da parte dei siti.

- Numero di MaxJobType Montecarlo/User/Merge per sito
- SubmissionDelay
- JobPerPilot

Migration to Rucio

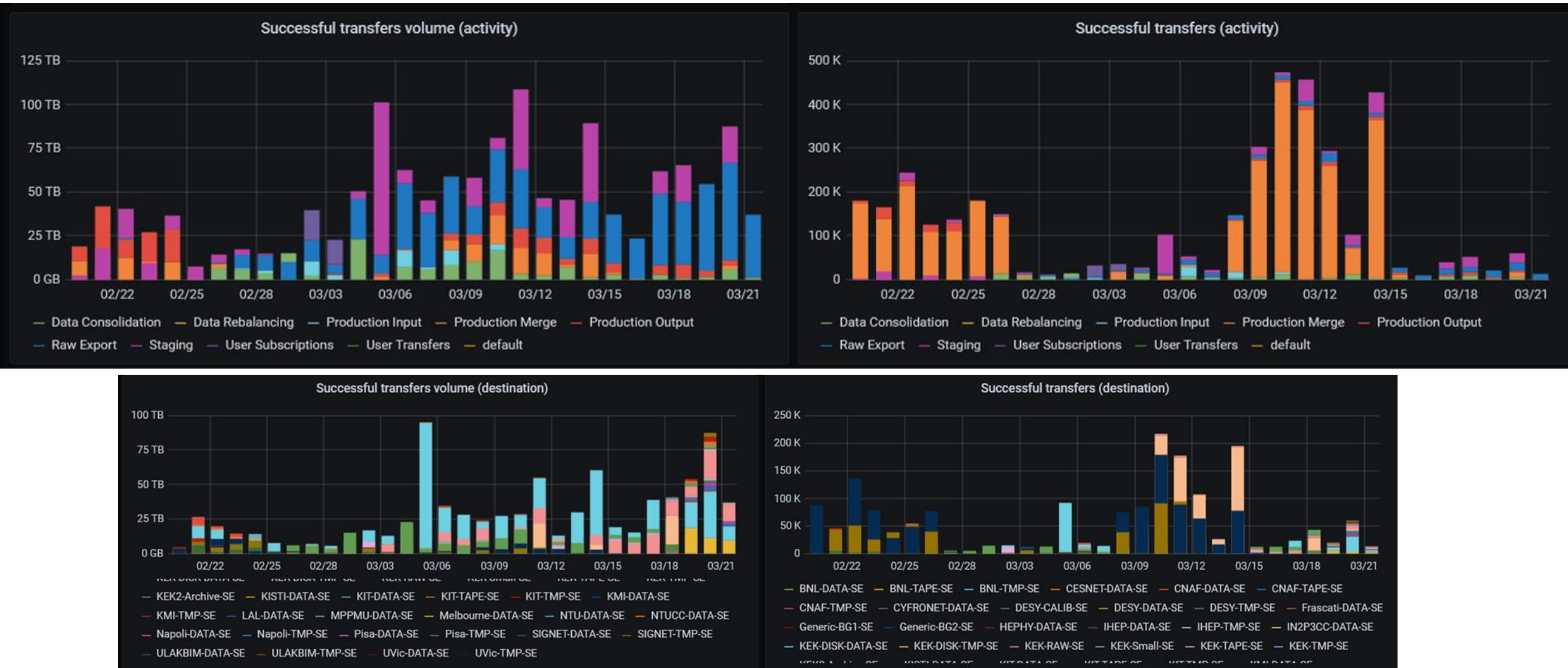
Early 2020 the Distributed Data Management system has been migrate to Rucio, replacing a lot of components:

- Belle II Distributed Data Management
- LFC (replica catalog)



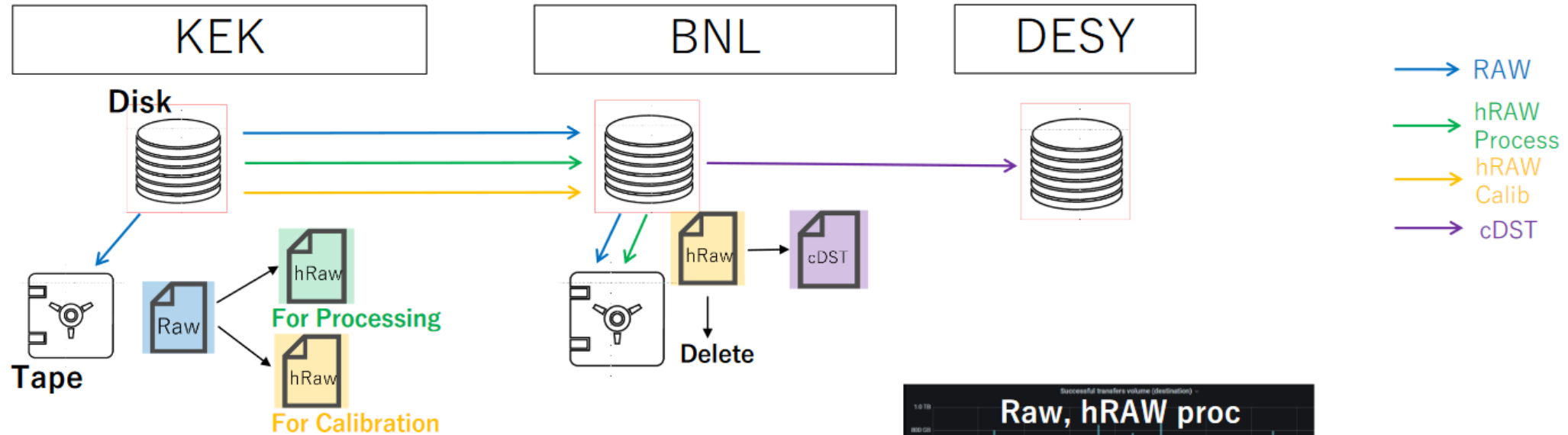
NEW Rucio monitoring system with activity view

<https://monitoring.sdcc.bnl.gov/pub/grafana/d/belle2xfers/belle-ii-transfers-and-deletions?orgId=1>

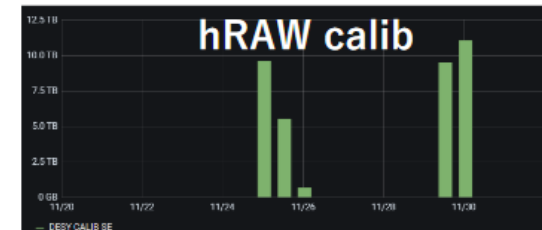
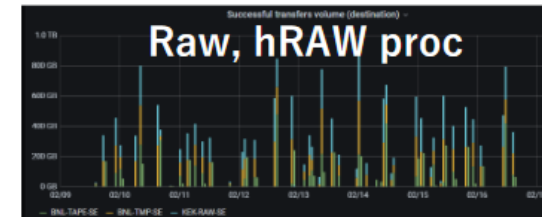


Raw data flow summary up to march 2021

** hRAW: Raw data after filtering by HLT



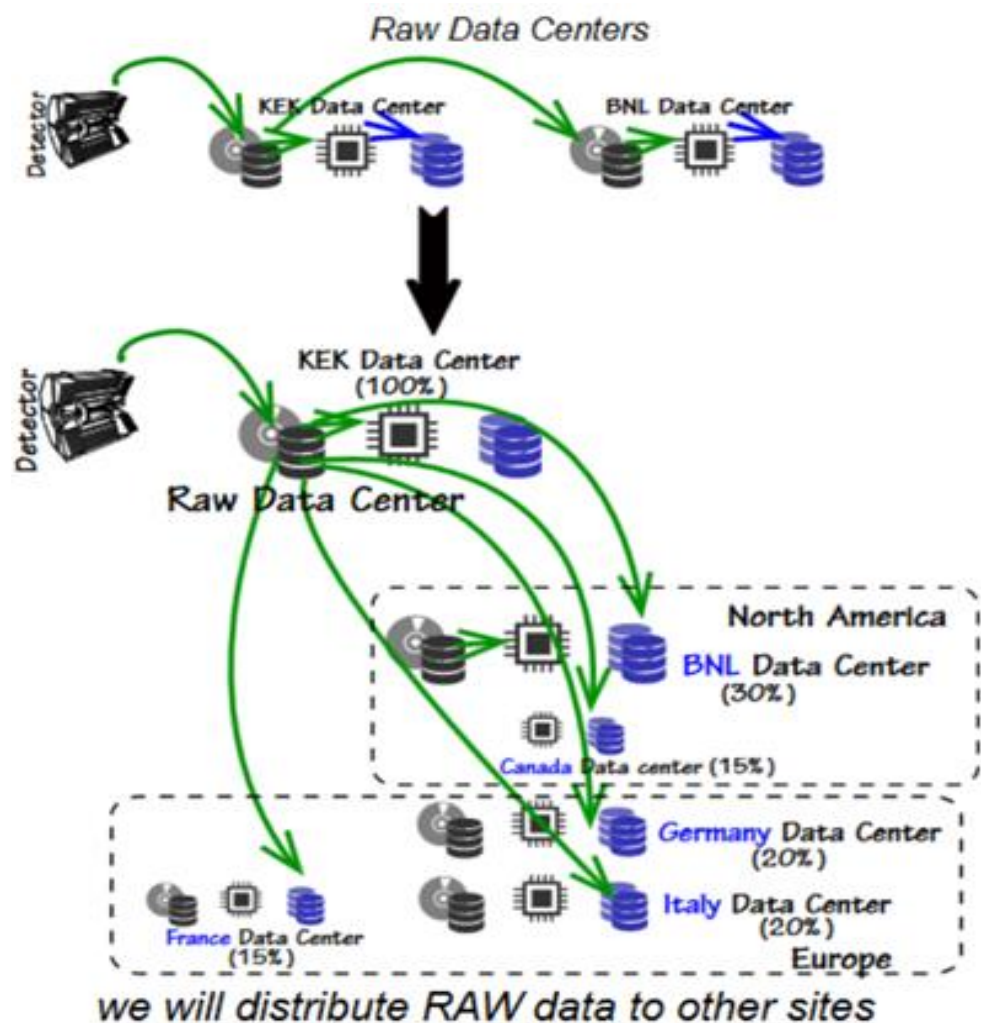
- hRaw
 - Processing: Copy to BNL as raw data center
 - Calib: Copy BNL as prompt calibration center
- cDST
 - Prompt calibration at BNL
 - Recalibration at DESY



All transfers handled by Rucio

NEW RAW Data distribution under implementation

We are gradually implementing the new RAW Data distribution schema. (from 2021 JFY)



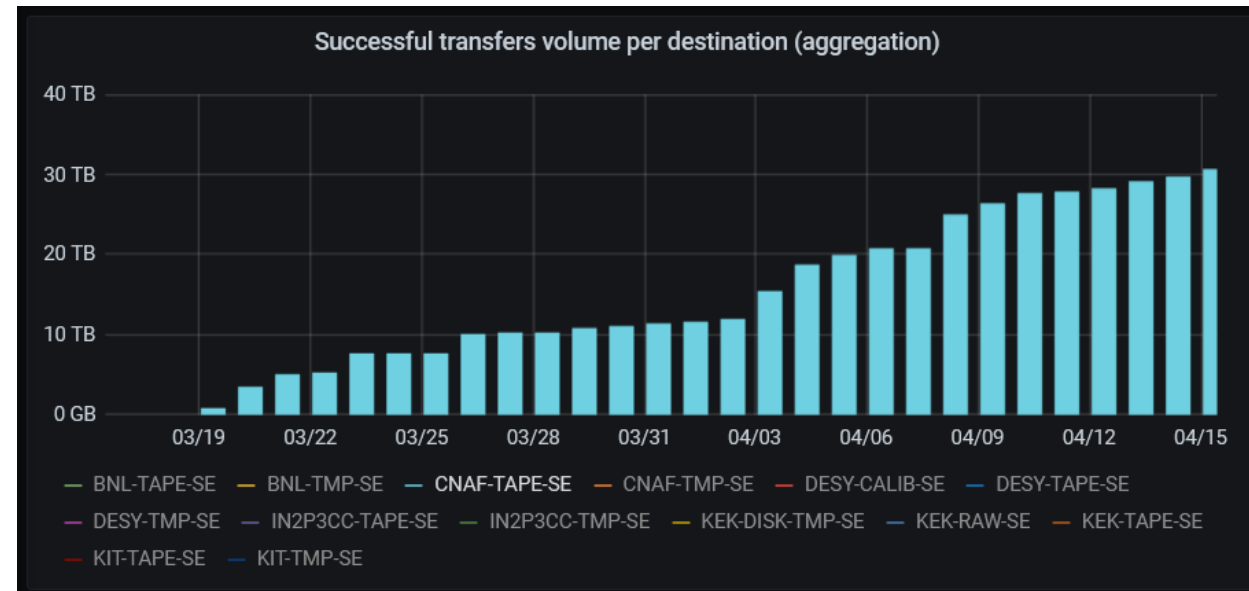
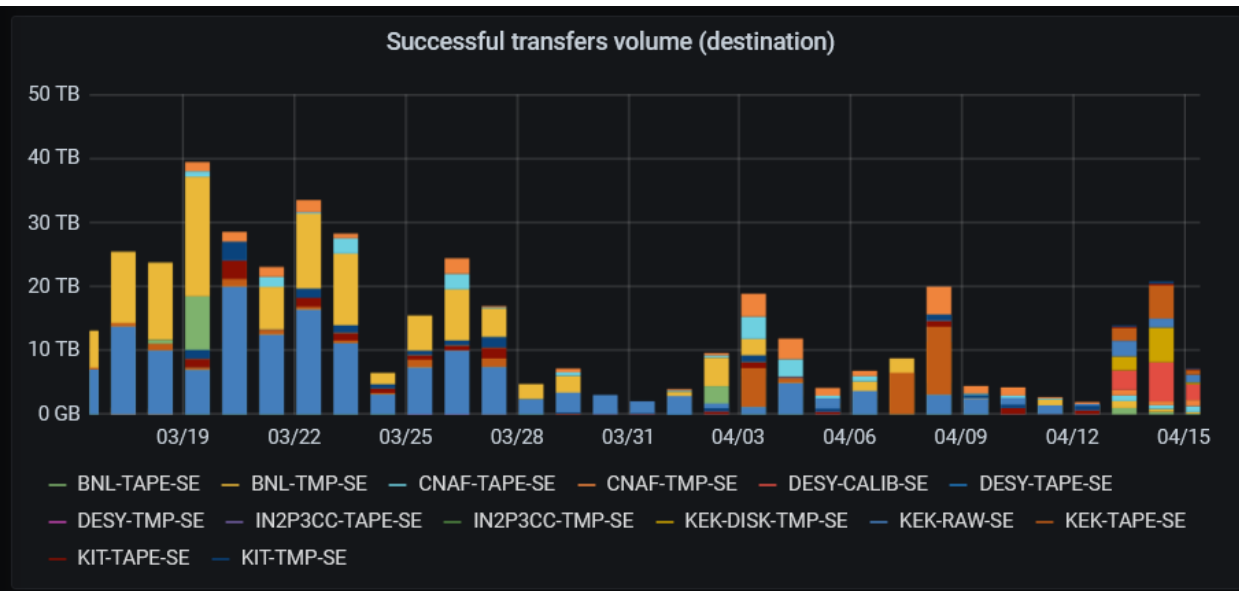
SITE	2019-2020	2021-2024
BNL - USA	100%	30%
CNAF - Italy	0%	20%
DESY - Germany	0%	10%
KIT - Germany	0%	10%
IN2P3CC - France	0%	15%
UVIC - Canada	0%	15%

RAW Data Center

E' iniziata la distribuzione dei RAW Data negli altri datacenter oltre BNL:

- CNAF, KIT Stabilmente
- DESY in tuning
- IN2P3CC in attesa della configurazione del sistema di accounting
- UVIC risulta in ritardo.

CNAF sito pilota della nuova strategia di data distribution. Ottime performance

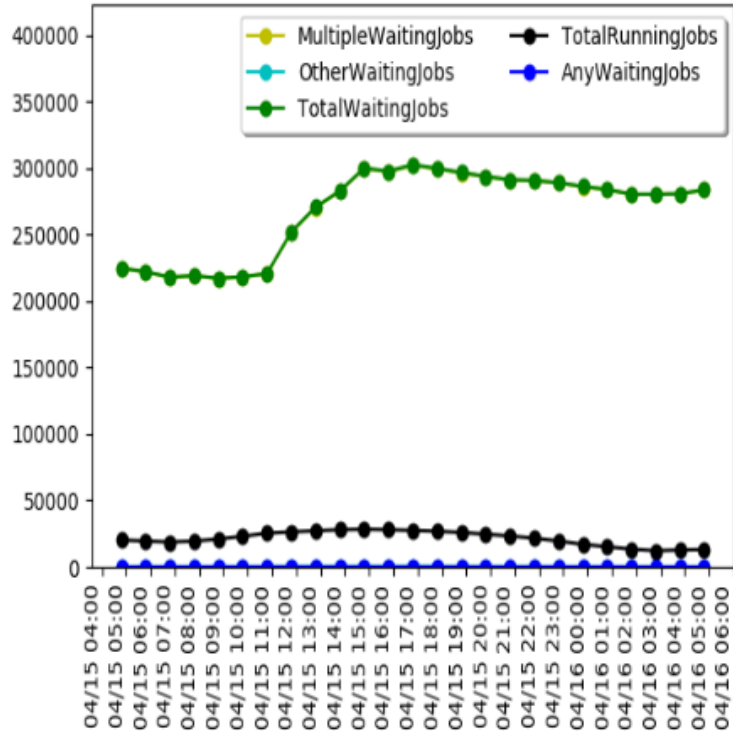


CEAM-CE Migration

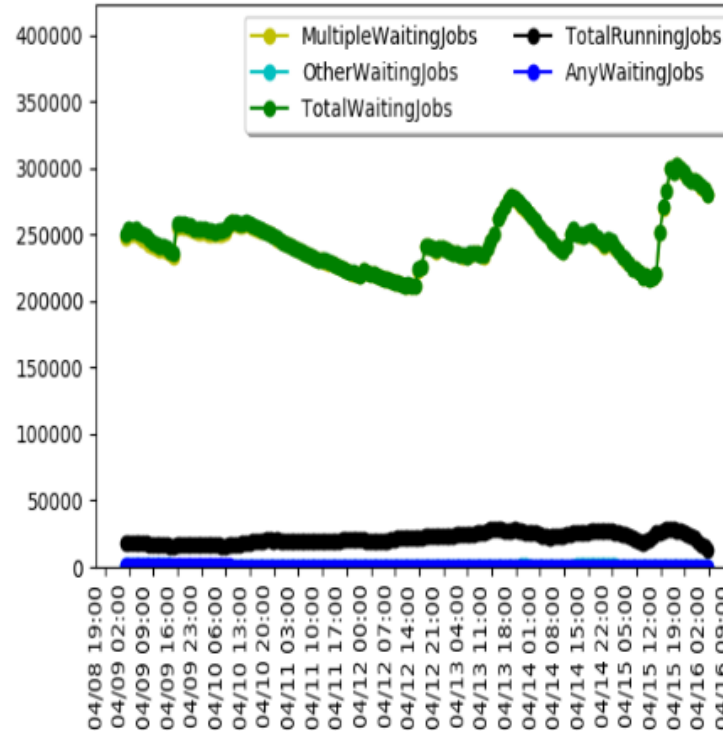
SITE	MIGRATION TO	STATUS	NOTE
LCG.CNAF.it	HTCondorCE	Completed	
LCG.Roma3.it	HTCondorCE	Completed	
LCG.Pisa.it	HTCondorCE	Completed	
LCG.LNL.it	ARC	Completed	
LCG.Napoli.it	HTCondorCE	Completed	
LCG.Frascati.it	HTCondorCE	Completed	
LCG.Torino.it	HTCondorCE	Ongoing	CE Certification completed
LCG.Cosenza.it	HTCondorCE	Ongoing	CE Certification not completed

Attività sull'infrastruttura

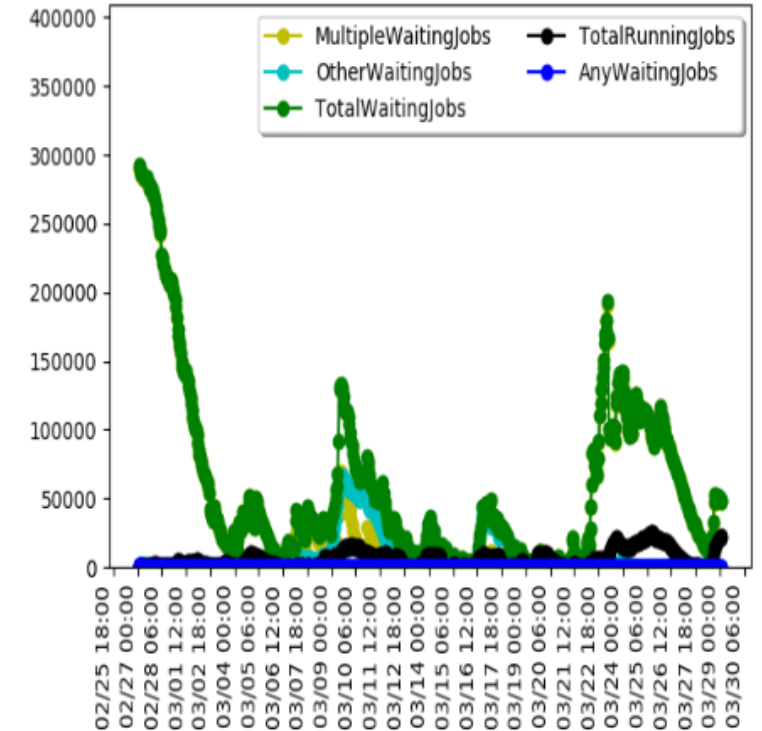
Total Running/Waiting jobs (1 day)



Total Running/Waiting jobs (7 day)

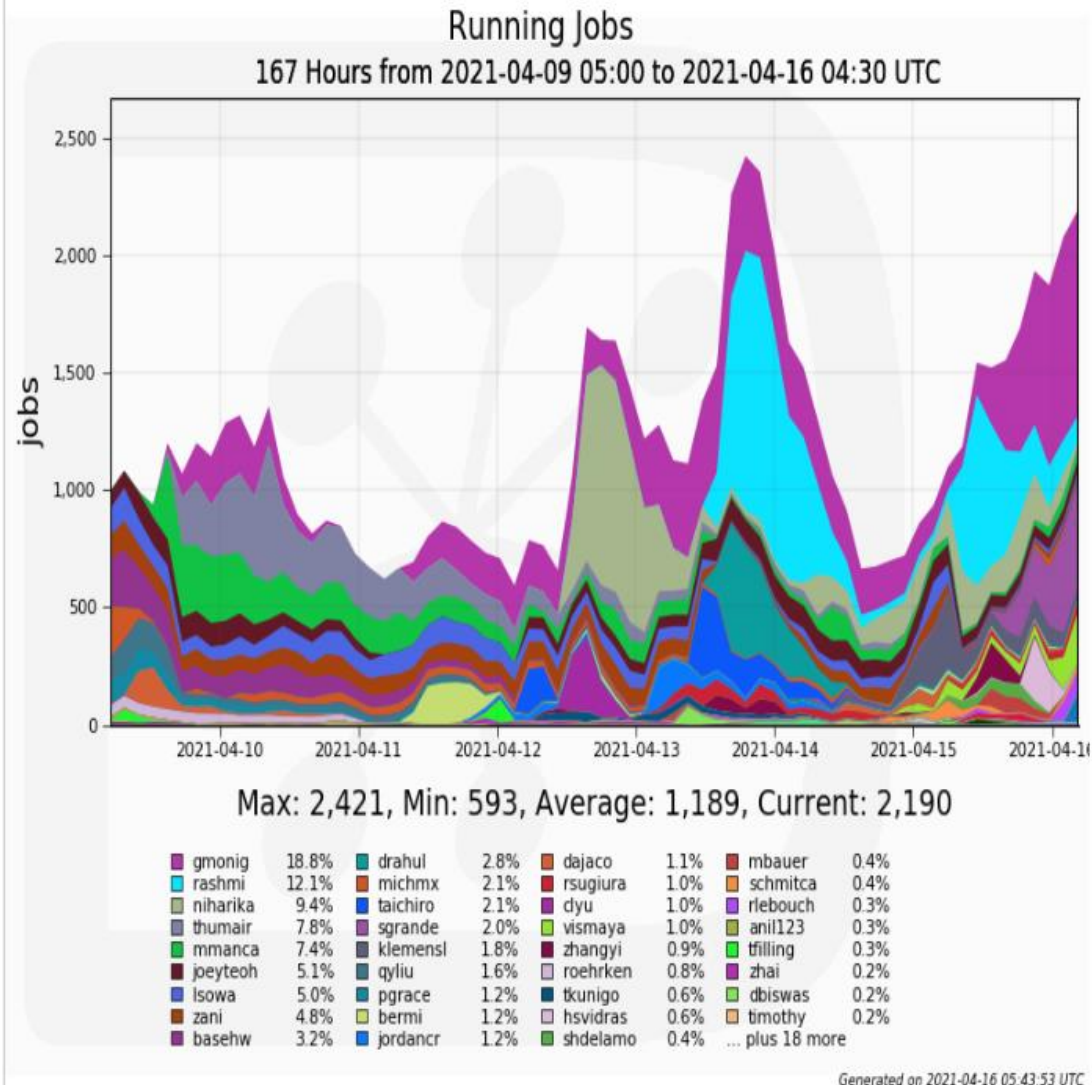


Total Running/Waiting jobs (30 day)

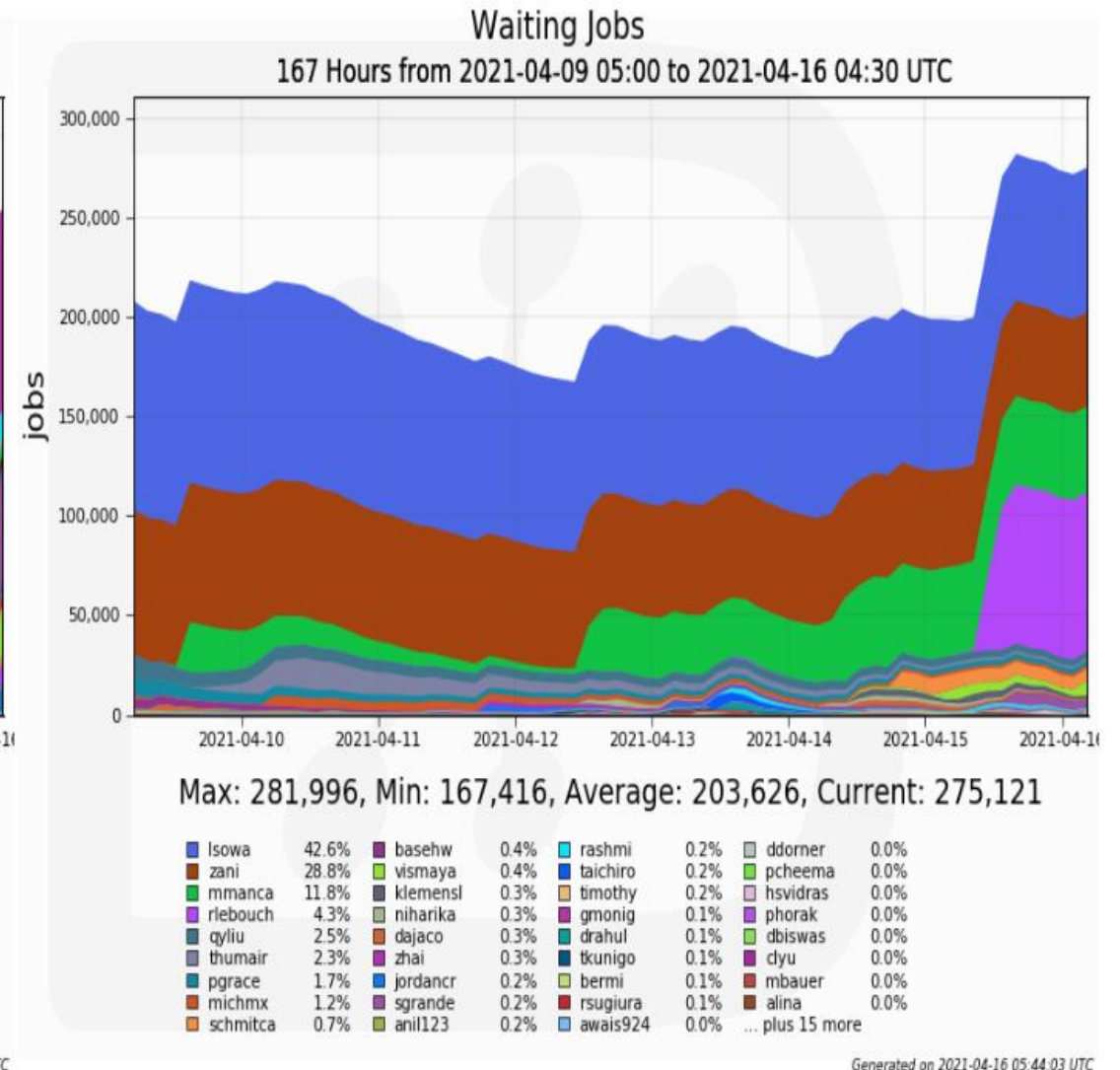


In processing fino a 300kJobs

USER Analysis



Generated on 2021-04-16 05:43:53 UTC



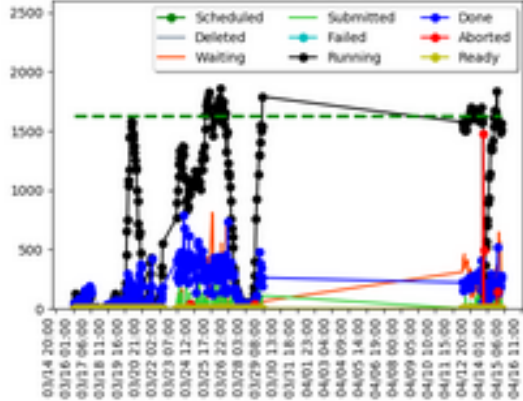
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Pledged 2021

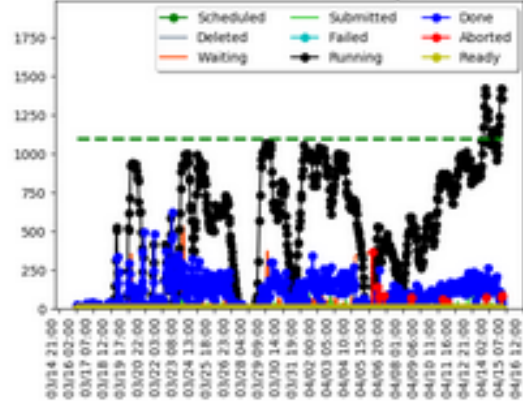
	2020			RICHIESTE 2021			TOALE 2021		
SITE	TAPE	Storage	CPU	TAPE	Storage	CPU	TAPE	Storage	CPU
CNAF		650	16,3	350		+13	350	650	29,3
NAPOLI/ COSENZA		300	13		300 to renew	9.5 to renew		300	13
PISA		200	4			+4		200	8
TORINO		200	6					200	6
TOTALE	0 TB	1.400TB	39,3kHS06	350 TB	300 TB	30 kHS06	350 TB	1.400TB	56,3kHS06

MON ultimi 30 Giorni – Pledged 2020

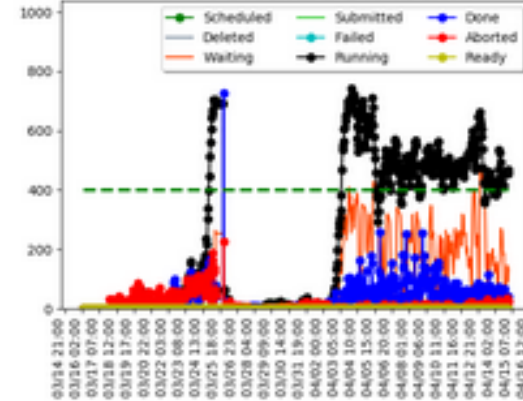
PilotTrend:LCG.CNAF.it



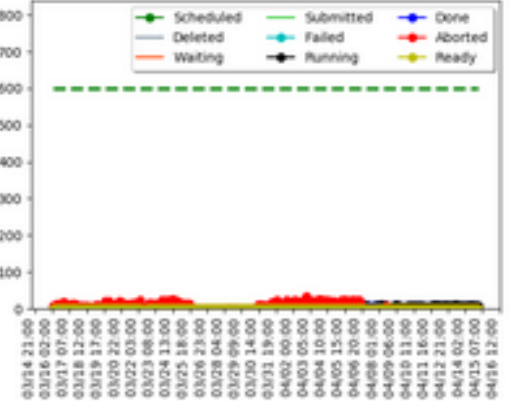
PilotTrend:LCG.Napoli.it



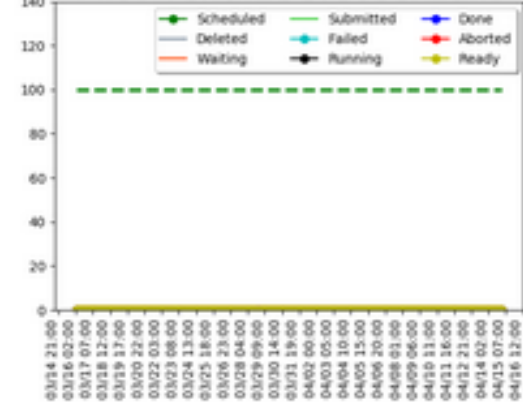
PilotTrend:LCG.Pisa.it



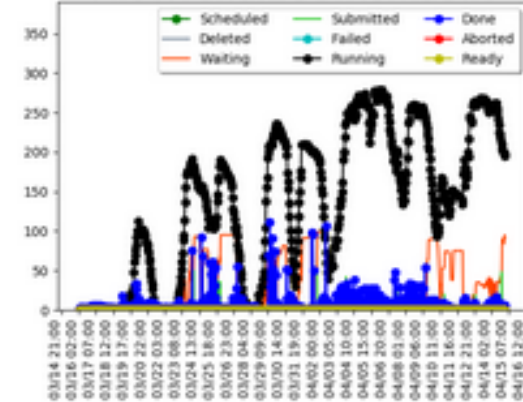
PilotTrend:LCG.Torino.it



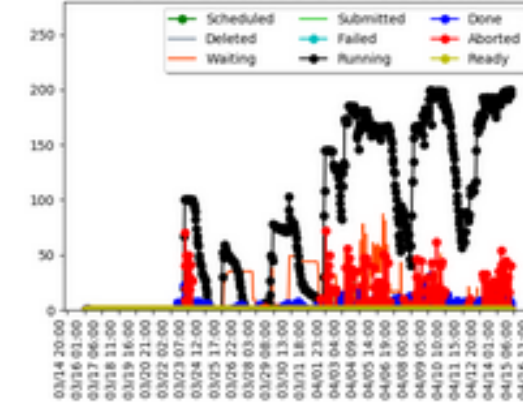
PilotTrend:LCG.Cosenza.it



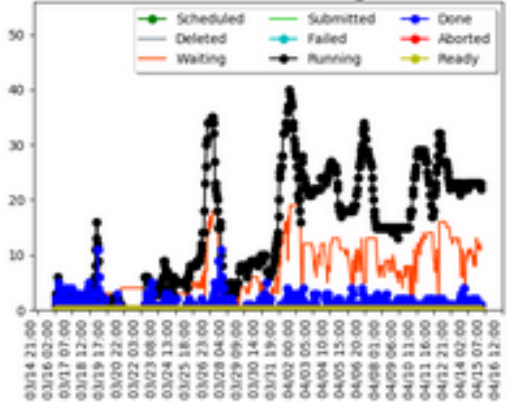
PilotTrend:LCG.Roma3.it



PilotTrend:LCG.Frascati.it



PilotTrend:LCG.Legnaro.it

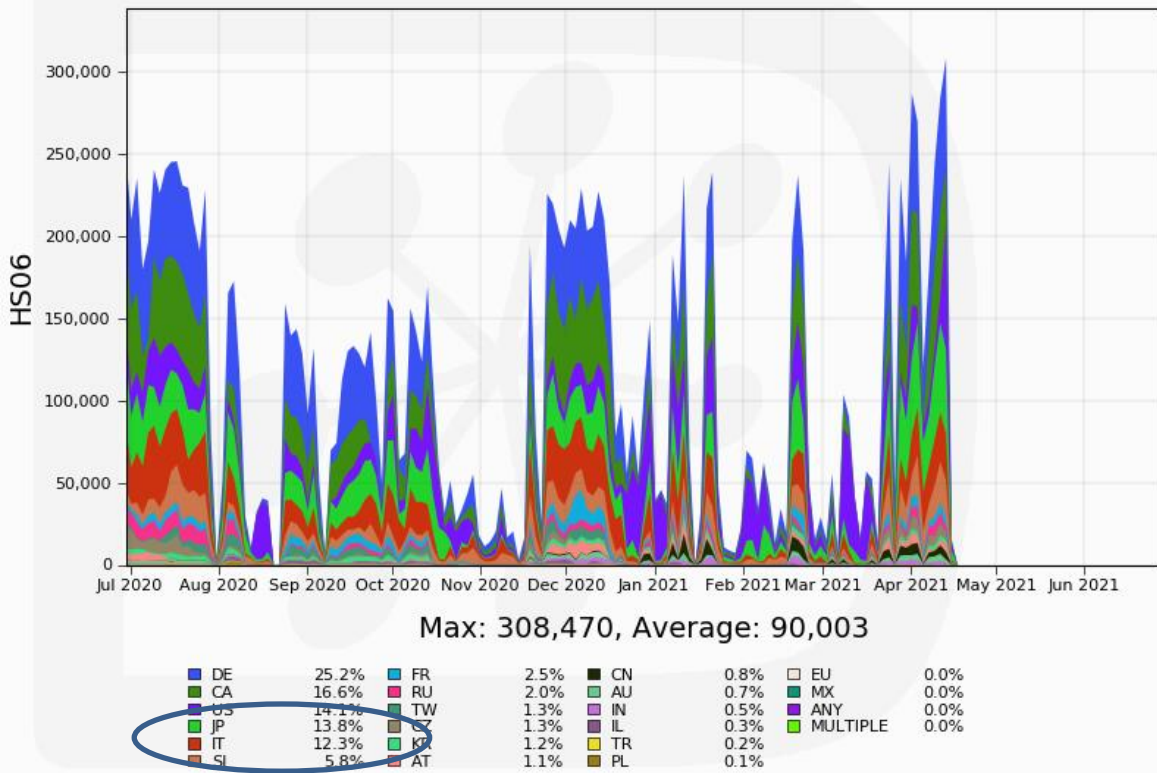


Linee ancora relative al pledge 2020 presto verranno aggiornate: 3000 CNAF e 800 Pisa

Normalized CPU per country

Utlimi 12 Mesi

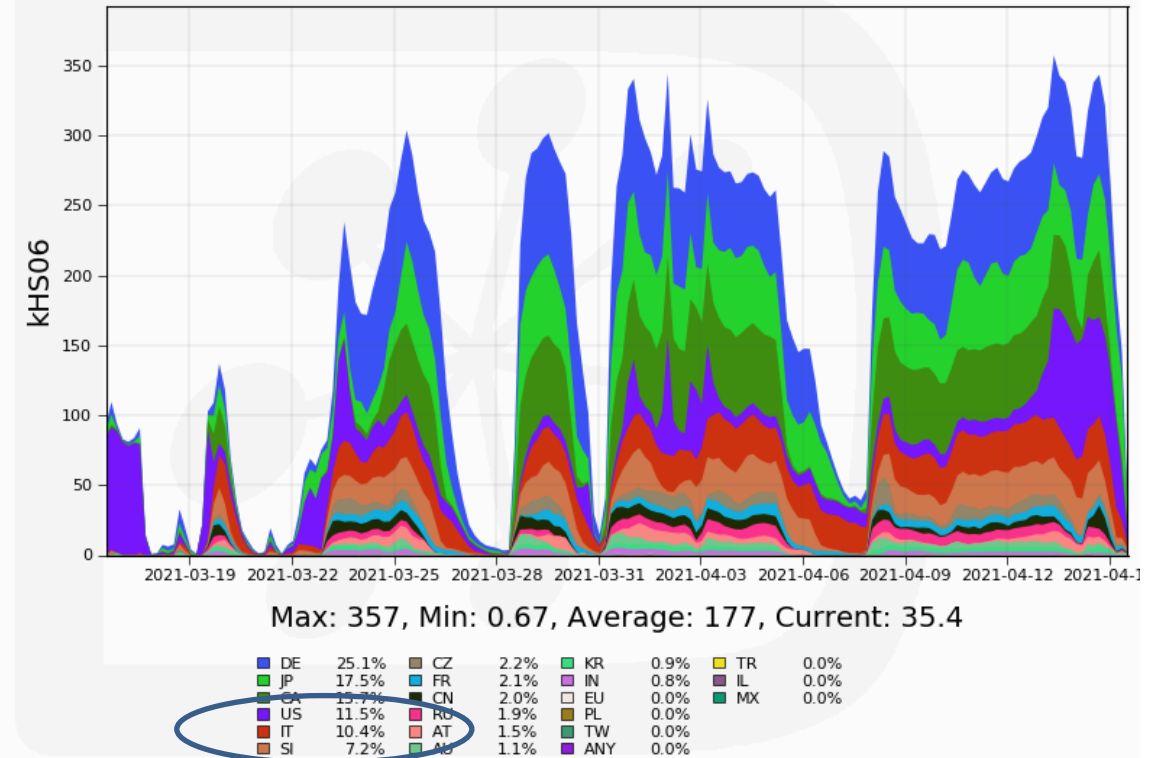
Normalized CPU usage by Country
52 Weeks from Week 26 of 2020 to Week 26 of 2021



Generated on 2021-04-15 15:46:42 UTC

Ultimo Mese

Normalized CPU usage by Country
30 Days from 2021-03-16 to 2021-04-15



Generated on 2021-04-15 15:46:06 UTC

Quick View Italian Sites

Pagine riassumono lo stato dei pilot e dei job nei siti italiani.
Richiede l'accesso a DIRAC

<http://people.na.infn.it/~spardi/mon.html>

<http://people.na.infn.it/~spardi/mon7.html>

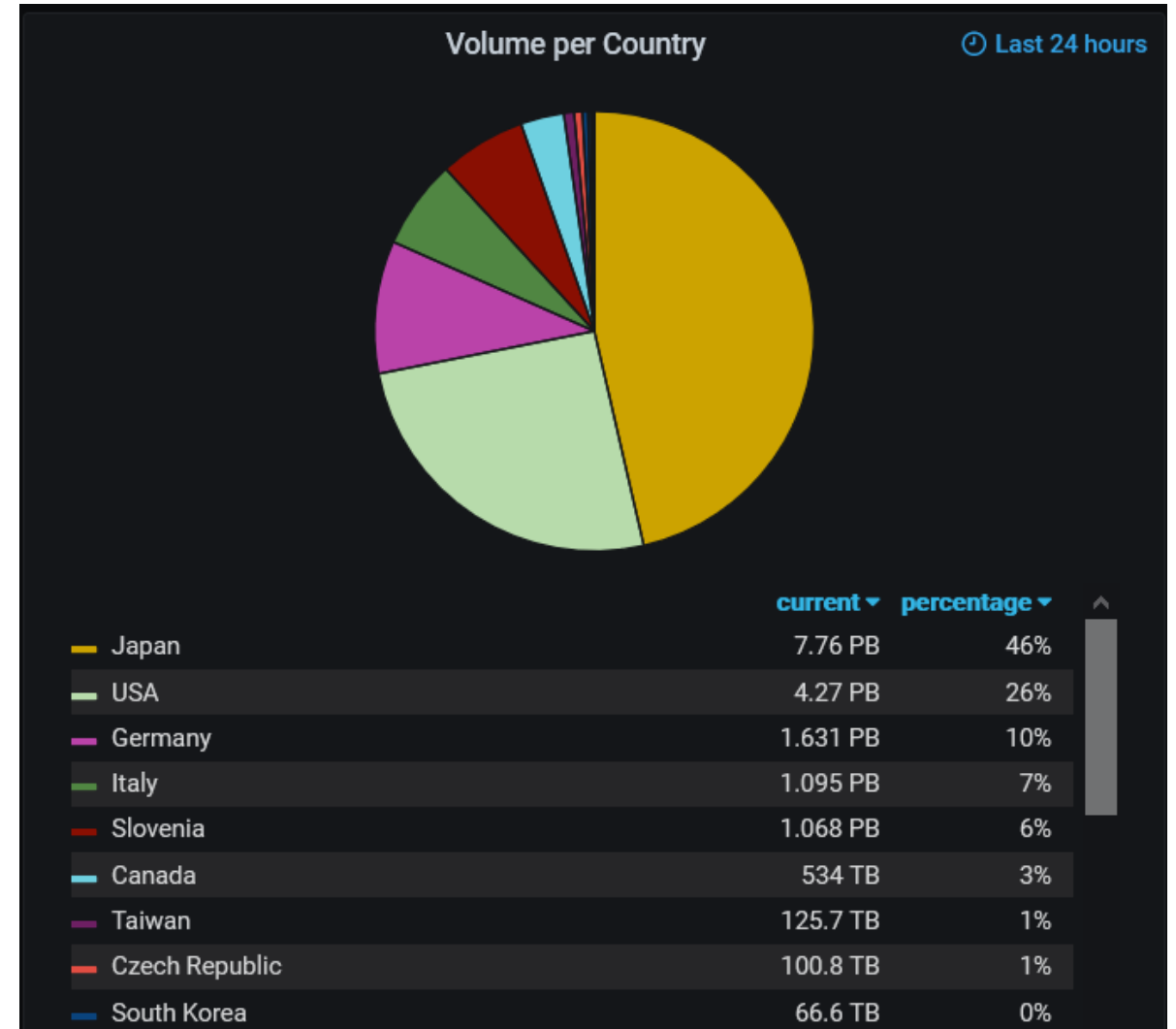
<http://people.na.infn.it/~spardi/mon30.html>

STORAGE ITALIA

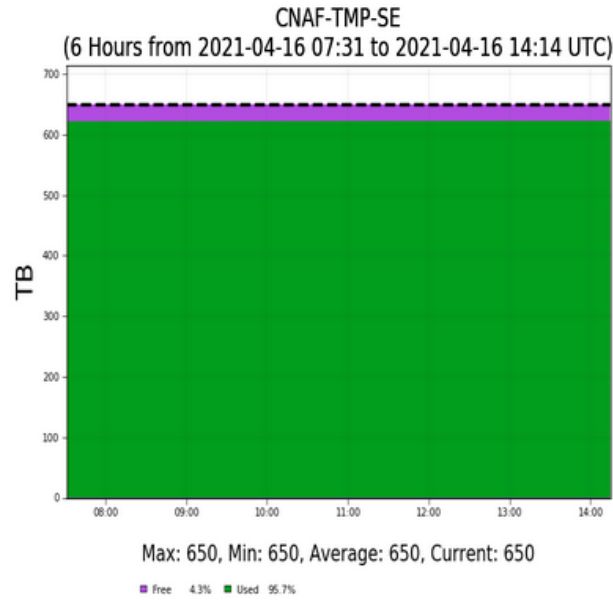
<https://monitoring.sdcc.bnl.gov/pub/grafana/d/ddm-site-accounting/ddm-site-accounting?orgId=1>

Mancano

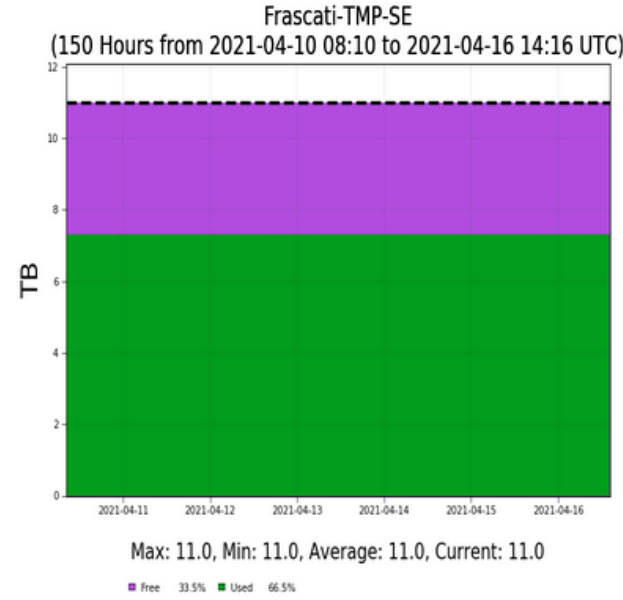
- 200TB Pisa
- 200TB Torino



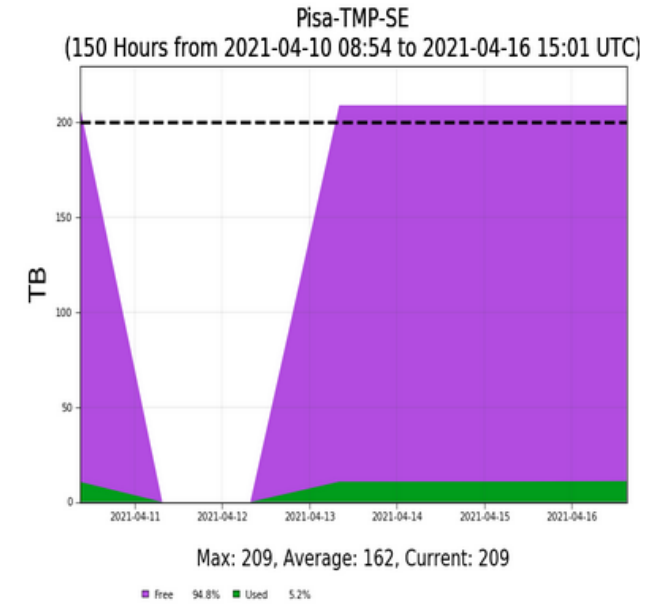
UTILIZZO STORAGE



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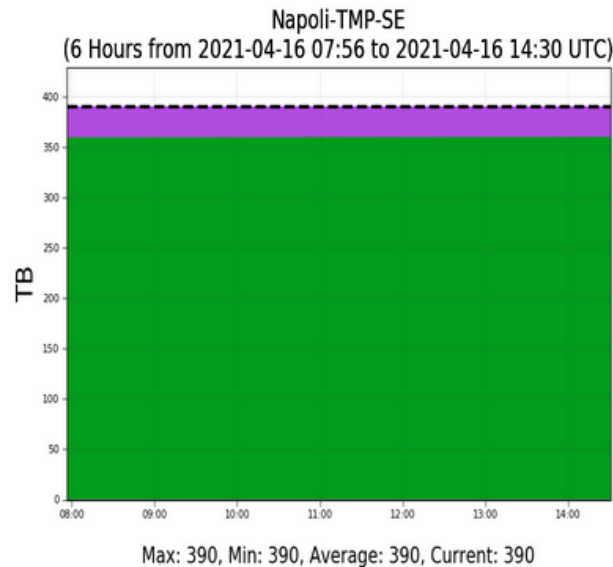


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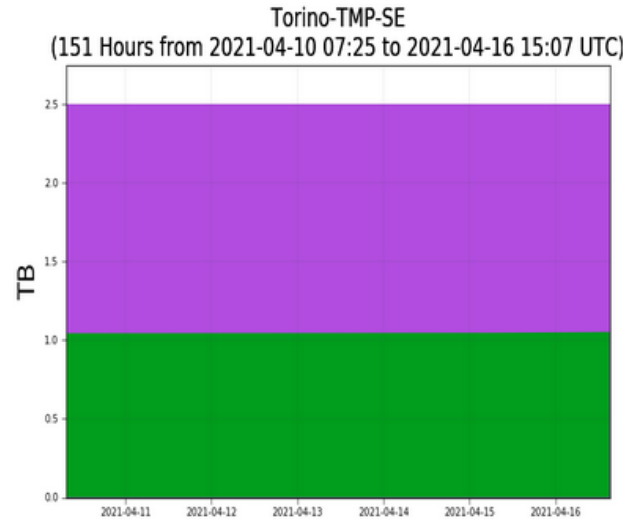


Generated on 2021-04-16 06:53:53 UTC

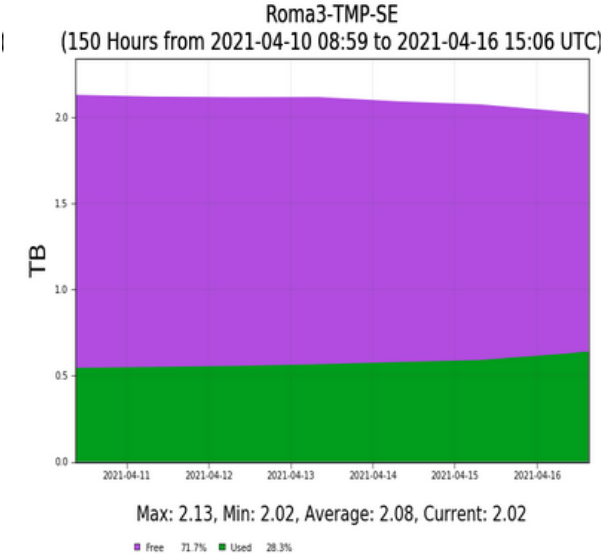
CNAF-TMP-SE



Frascati-TMP-SE

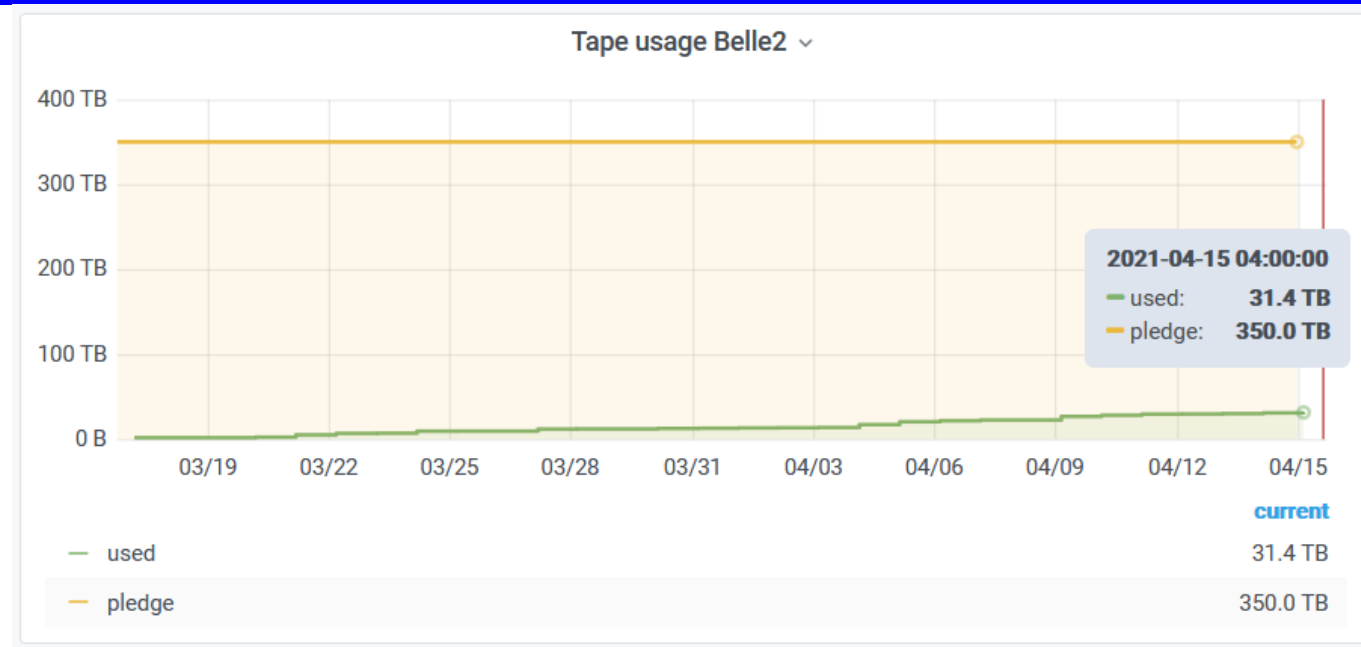


Pisa-TMP-SE



Ro

TAPE



E' in corso una revisione delle necessità di spazio su TAPE per Belle II per il 2021 principalmente per via degli attuali constraint sul trigger.

Secondo le nuove stime è possibile che avremmo bisogno di utilizzare per quest'anno fino a 650TB su TAPE al CNAF anziché i 350TB richiesti.

La cosa riguarda tutti TAPE systems

Operation

Necessario rispondere e processare i ticket fino a risoluzione.

<https://wiki.kek.jp/display/belle2grid/MoU>

show/save search result as [CSV](#) | [XML](#)

4 of 4 Tickets

Ticket-ID	Type	VO	Site	Priority	Resp. Unit	Status	Last Update	Subject
151287	Team	belle	INFN-PISA	urgent	NGI_IT	assigned	2021-04-13	Pisa-SE: most file transferring to ...
150925	Team	belle	INFN-PISA	very urgent	NGI_IT	assigned	2021-03-28	INFN-PISA: Data transfer to ...
150604	Team	belle	INFN-TORINO	very urgent	NGI_IT	in progress	2021-02-17	INFN-TORINO: Transfer efficiebcy is 0%
150505		belle	INFN-T1	less urgent	NGI_IT	waiting for reply	2021-03-30	INFN-T1: job queue failed submitting to ...

Tot pages: 1
[1]

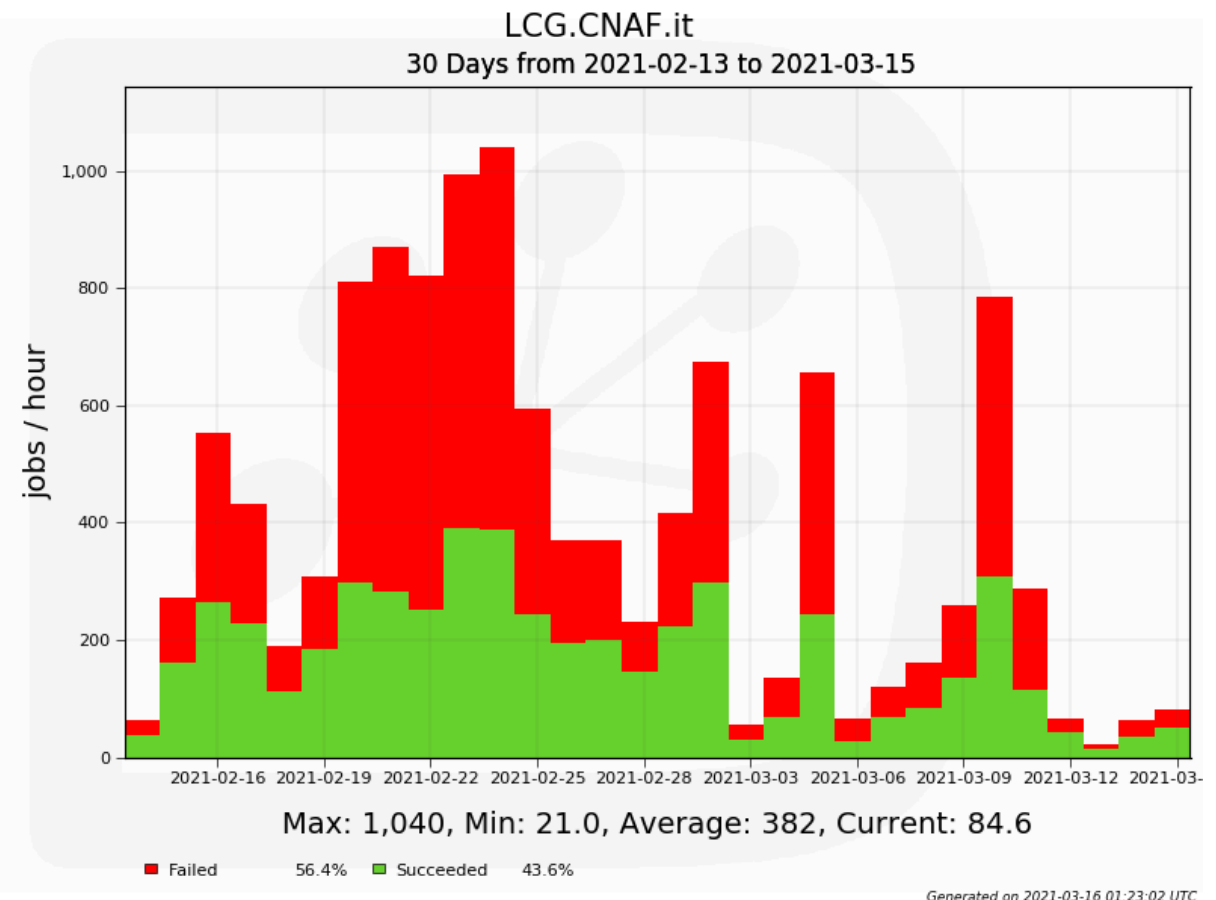
LCG.CNAF.it: "Pilot Submission Failure"

2021-02-03 15:20:33 UTC WorkloadManagement/SiteDirectorCNAF ERROR: Failed submission to queue ce06-htc.cr.cnaf.infn.it_htcondorce-condor:
Pilot submission failed with error: ERROR: Can't find address of schedd ce06-htc.cr.cnaf.infn.it

https://ggus.eu/index.php?mode=ticket_info&ticket_id=150505

```
[root@ce02-htc ~]# tracepath -p 2811 can65.cc.kek.jp 1?: [LOCALHOST]
pmtu 9000 1: gw1-192.cr.cnaf.infn.it 225.326ms
1: gw1-192.cr.cnaf.infn.it 8.797ms
2: cisco7600.cnaf.infn.it 0.574ms asymm 3
3: ru-cnaf-rx1-bol.bol.garr.net 1.235ms asymm 4
4: rx2-bol-rx2-mil.mil.garr.net 4.707ms asymm 5
5: rx2-mil-rx2-mi2.mi2.garr.net 10.505ms asymm 6
6: garr.mx1.mil2.it.geant.net 11.292ms asymm 7
7: ae6.mx1.gen.ch.geant.net 24.923ms asymm 8
8: ae2.mx1.fra.de.geant.net 25.686ms asymm 9
9: ae7.mx1.ams.nl.geant.net 25.838ms asymm 10
10: sinet.mx1.ams.nl.geant.net 25.894ms asymm 11
11: tokyo1-GM-ET-9-1-2-100.s5.sinet.ad.jp 188.869ms asymm 12
12: ibaraki-RM-ET-7-1-0-1151.s5.sinet.ad.jp 190.674ms asymm 13
13: ibaraki-RM-ET-5-1-0-151.s5.sinet.ad.jp 178.119ms pmtu 1500
13: kek-lan-2.gw.sinet.ad.jp 184.095ms asymm 14
14: no reply
```

Stefano Dal Pra ha individuato un dei router di SINET con MTU 1500.
Il 21 Aprile verrà portato a 9000 e dovrebbe risolvere il problema



- Il nuovo schema di distribuzione dei RAW Data è in fase di implementazione. Il CNAF sta già collezionando parte dei dati.
- Le attività di produzione e analisi è in crescita.
- Stiamo recuperando dopo la migrazione dei CE
- Dobbiamo stabilizzare il pledge 2021 nelle varie sedi in particolare fornire lo storage anche per dare respiro ai siti di CNAF e Napoli praticamente full.
- Necessario curare le operation.

Step di registrazione

Registrazione su DESY:

https://registration.belle2.org/cgi-bin/certs_auth/request_form.pl

Una volta registrati su DESY chiedere l'accesso la membership al VOMS di Belle II (VO name: belle)

<https://voms.cc.kek.jp:8443/voms/belle/>

Fatti questi step è possibile chiedere un account su DIRAC inviando una mail a : comp-dirac-registration@belle2.org seguendo lo schema indicato qui:

<https://confluence.desy.de/display/BI/Computing+GettingStarted#ComputingGettingStarted-7.RegisterwithDIRAC>

ESEMPIO

Oggetto della mail: - New registration: Silvio Pardi

Testo della mail:

Name : Silvio Pardi

DESY account : spardi

DN : /DC=org/DC=terena/DC=tcs/C=IT/O=Istituto Nazionale di Fisica Nucleare/CN=Silvio Pardi spardi@infn.it

email : spardi@na.infn.it (your mail address registered in VOMS)

Belle II web site

<https://www.belle2.org>

Documentazione

<https://confluence.desy.de/display/BI/Belle+II>

Sistema di Ticketing JIRA

<https://agira.desy.de/projects/BIIDCO/summary>

Workload Management System

<https://dirac.cc.kek.jp:8443/DIRAC/>

Per la registrazione per l'accesso a JIRA e Confluence

Documentazione:

<https://confluence.desy.de/display/BI/Belle+II+Registration+and+Account+FAQ>

<https://confluence.desy.de/display/BI/Belle+II+User+Registration>

Pagina di riferimento per la parte GRID

<https://confluence.desy.de/display/BI/Computing+GettingStarted>

Generale del computing di Belle II

<https://lists.belle2.org/sympa/info/comp>

Siti di belle II

<https://lists.belle2.org/sympa/info/comp-sites>

Operation

<https://lists.belle2.org/sympa/info/comp-dc-operations>

Networking

<https://lists.belle2.org/sympa/info/belle2-wan-networking>

Mailing List Italiana del Computing

<https://lists.infn.it/sympa/info/belle2-it-comp>