

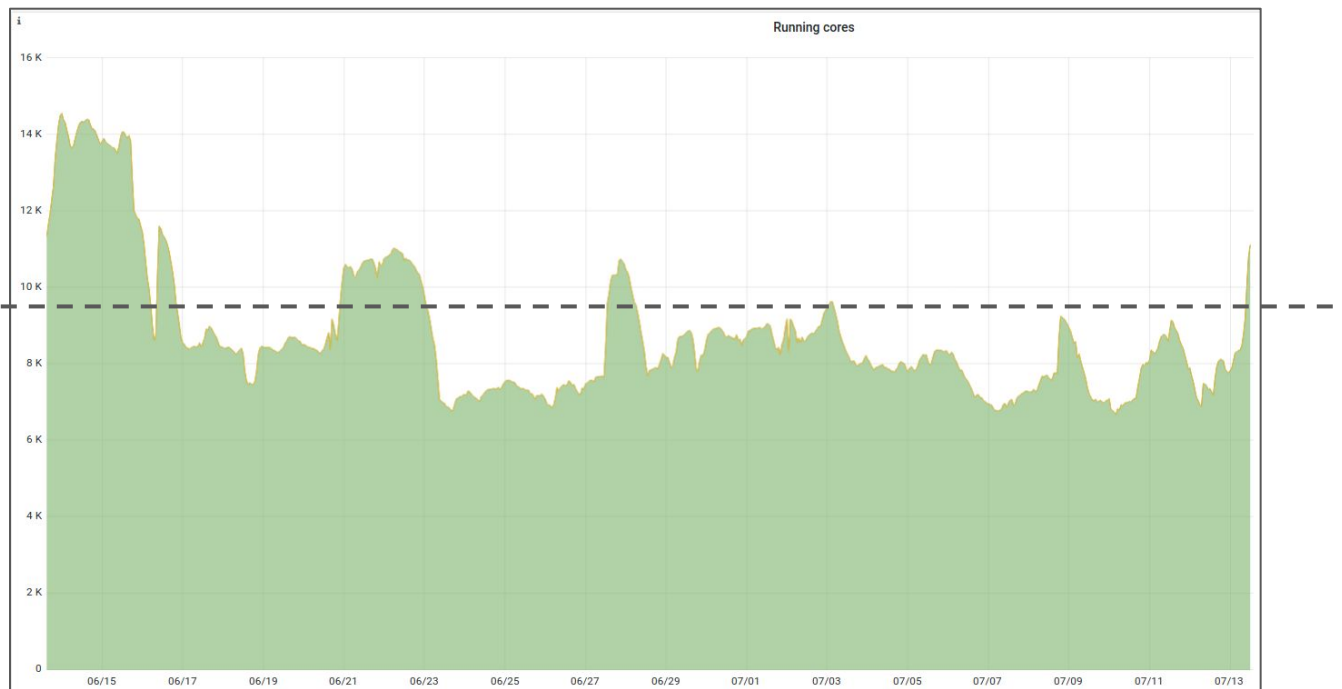
# CMS - CdG T1

Daniele Spiga  
INFN-PG

15.07.2022

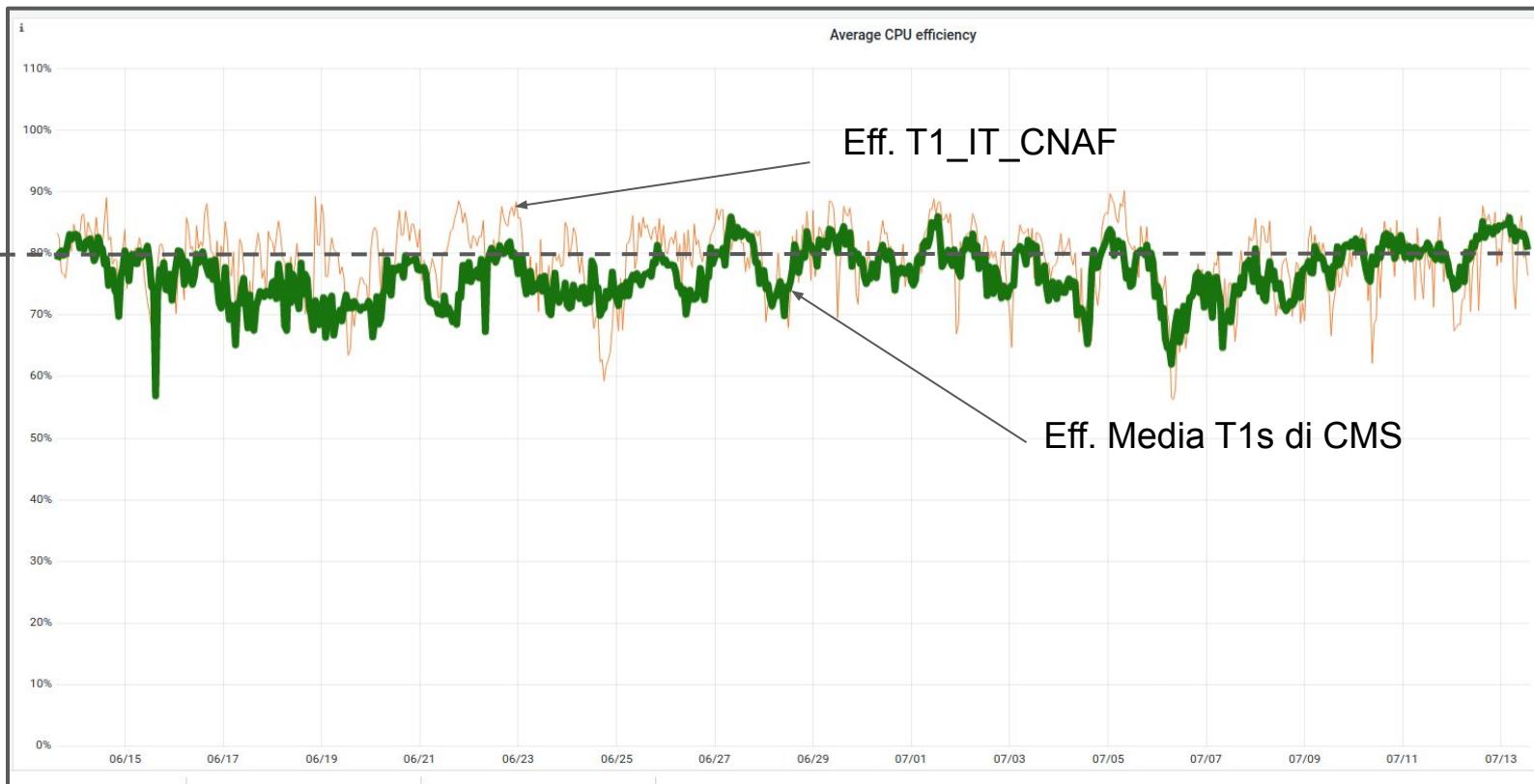


# Utilizzo Risorse Tier1





# Efficienza di CPU @CNAF

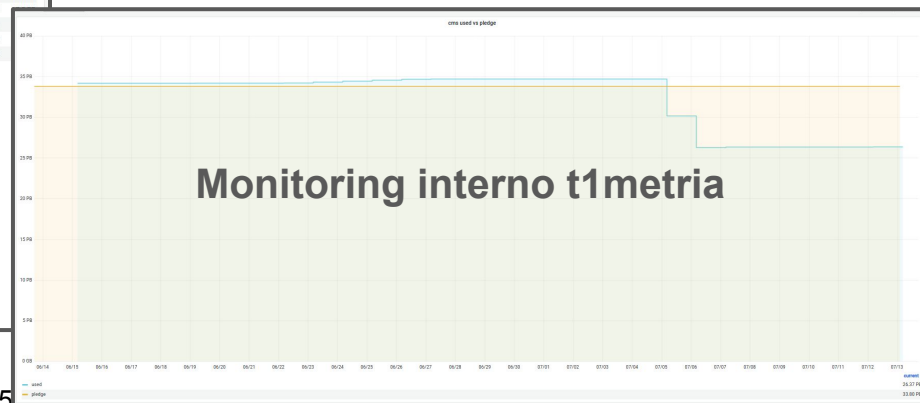
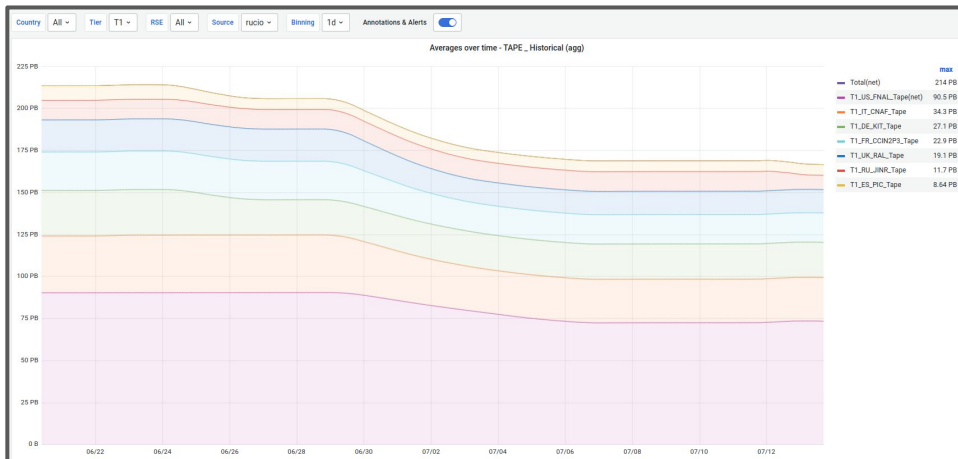
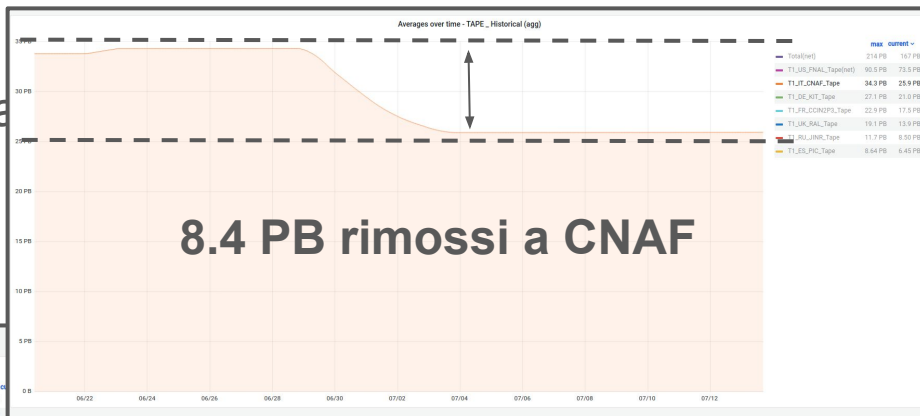




# Tape Deletion: Stato **OK**

**Quanto:** Target ~80 PB → 1/4 di tutto il Ta

- Total 81.6 PB (**69PB T1**, 12PB T0)



# M100 e validazione Tecnica **OK!**



Show 25 entries

D	L	workflow	status	type	priority	queue injection	job progress	event progress	lumi progress	failure rate	Estimated Completion	cool off
		ndmvserv_RVCMSSW_12_3_0ZpTT_1500_14_M100PPCTEST_220707_120210_196	closed-out	TaskChain	500000	0.0%	100.0%	80.0%	100.0%	10.9%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0H125GGtluonfusion_14_M100PPCTEST_220707_120203_8605	closed-out	TaskChain	500000	0.0%	100.0%	61.1%	81.1%	12.3%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0TTbar_14TeV_M100PPCTEST_220707_120203_3078	closed-out	TaskChain	500000	0.0%	100.0%	80.0%	100.0%	15.0%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0Unpion1StoMuMu_14_M100PPCTEST_220707_120203_3956	closed-out	TaskChain	500000	0.0%	100.0%	76.8%	95.6%	12.1%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0ZEE_14_M100PPCTEST_220707_120202_5958	closed-out	TaskChain	500000	0.0%	100.0%	80.0%	100.0%	16.2%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0QCd_Pt_1800_2400_14_M100PPCTEST_220707_120201_4825	closed-out	TaskChain	500000	0.0%	100.0%	68.5%	85.1%	17.5%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0ZMM_14_M100PPCTEST_220707_120201_7519	closed-out	TaskChain	500000	0.0%	100.0%	80.0%	100.0%	10.9%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0BuMixing_14_M100PPCTEST_220707_120200_6651	completed	TaskChain	500000	100.0%	90.0%	80.0%	100.0%	5.6%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0DisplacedSUSY_14TeV_M100PPCTEST_220707_120200_6253	closed-out	TaskChain	500000	0.0%	100.0%	72.2%	90.0%	16.7%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0QCd_FlatPt_15_3000HS_14_M100PPCTEST_220707_120200_7708	closed-out	TaskChain	500000	0.0%	100.0%	70.0%	87.1%	10.8%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0WToL_Nu_14TeV_M100PPCTEST_220707_120200_2713	closed-out	TaskChain	500000	0.0%	100.0%	75.2%	94.3%	7.5%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0WprimeToL_Nu_M2000_14TeV_M100PPCTEST_220707_120200_7741	closed-out	TaskChain	500000	0.0%	100.0%	80.0%	100.0%	6.5%	0 h 0 m	0
		ndmvserv_RVCMSSW_12_3_0ZTT_14_M100PPCTEST_220707_120200_7741	closed-out	TaskChain	500000	0.0%	100.0%	80.0%	100.0%	10.4%	0 h 0 m	0

Showing 1 to 13 of 13 entries

Tutto questo è molto importante anche perchè sta arrivando **SUMMIT** in US-CMS

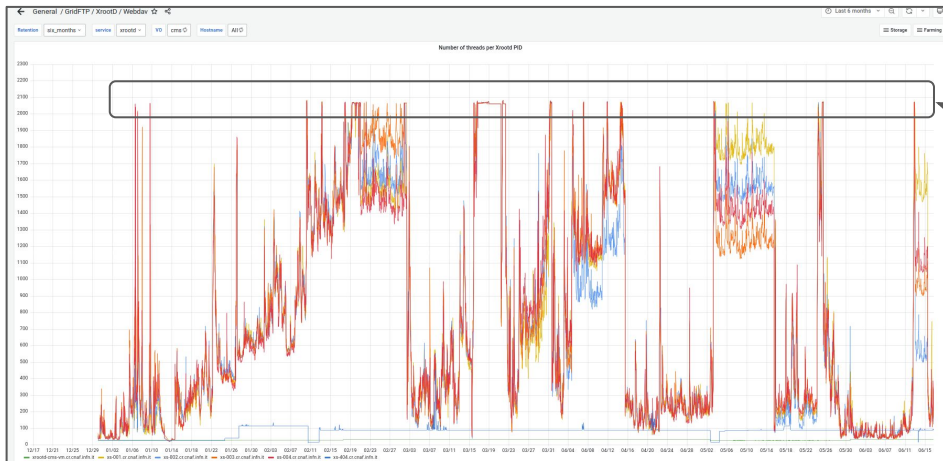
		LogCollectForDigIPU_2021PU	success	T1_IT_CNAF		0	21					
		LogCollectForDigIPU_2021PU	jobfailed	T1_IT_CNAF	60312	1				WMAgentStepExecutionError		
		LogCollectForDigIPU_2021PU	jobfailed	T1_IT_CNAF	60312	1				WMAgentStepExecutionError		
		RecoNanoPU_2021PUMergeDQMOutputMergedEndOfRunDQMHarvestLogCollect	jobfailed	T1_IT_CNAF	60312	1				WMAgentStepExecutionError		
		RecoNanoPU_2021PUMINIAODSIMOutputMergeLogCollect	jobfailed	T1_IT_CNAF	60312	1				WMAgentStepExecutionError		
		RecoNanoPU_2021PUNANOEDMAODSIMOutputMergeLogCollect	jobfailed	T1_IT_CNAF	60312	1				WMAgentStepExecutionError		
		RecoNanoPU_2021PURECOSIMOutputMergeLogCollect	jobfailed	T1_IT_CNAF	60312	1				WMAgentStepExecutionError		
		LogCollectForDigIPU_2021PU	jobfailed	T1_IT_CNAF	60312	1				WMAgentStepExecutionError		

Solo problemi ( attesi ) con i log collect

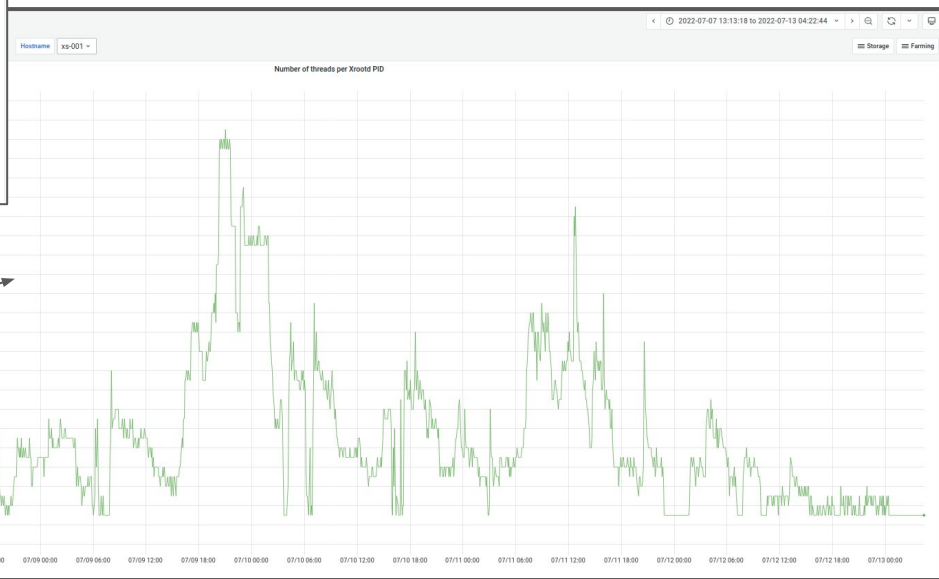
Siamo riusciti a completare la validazione tecnica dei Workflows Release Validation per la produzione di sample con PileUP

- Quelli piu' difficili per l'I/O
- Questo permette ora di fare la full-scale validation campaign che darà il via alla physic validation ( stesso processo che CMS ha seguito per effettuare la validazione di Alma Linux )

# ... Come abbiamo fatto



Saturazione dei threads questione che su vari fronti ci fa impazzire



Grazie Lucia/Storage: abbiamo temporaneamente dedicato un server xrootd per le attività M100



# Ancora su M100

Come CMS partiamo nei prossimi giorni con una fase di **test “a scala” per l’accesso via CE**

- Prossima settimana riunione con StefanoSDP

Importante per CMS in vista del supporto a multiArchitecture che stiamo finalizzando lato Workload Management di CMS.

- Mi aspetto che appena realizzato inizieremo col testing del singolo sito che espone più architetture.

Adriano (CMS Bari ) sta lavorando alla creazione di un workflow GPU che vogliamo testare su M100

# CMS Analysis Facility

Credits: Ciangottini / Lenzi / Tedeschi



## Quick Start

Requirements

For users

Using Dask

Using HTCondor

[Setting up the environment](#)

Submit your first job

Data

Issues

## The Analysis Facility as a normal batch cluster

As mentioned in the introduction, the Analysis Facility can be used in a similar way as you might be familiar with at lxplus/lxbatch, i.e. as an HTCondor batch system. The caveat is that the resources it uses are distributed in different Italian sites, so some care must be taken into ensuring that the same software environment is available on the jupiter hub and on the worker nodes.

At lxplus/lxbatch this is usually ensured leveraging `afs`: the worker nodes mount `afs`, and

job goes into the relevant `afs` directory to source the environment, or find input files that is then executed on the worker node.

It cannot be implemented as is in the Analysis Facility, but one that is similar, and when it comes to version management, is possible.

## CPU usage



Legacy

RDF



Prmissimi tests di confronto, stessa analisi stessi dati stessa infrastruttura: approccio batch vs approccio interattivo

**Next:** Continuare a lavorare alla "HOME distribuita"





# Richieste CMS Tier1 2023

Preliminare, da ricontrollare per via del nuovo preziario

<b>RICHIESTE 2023 no JINR CON Mitigazione</b>				
<b>T1</b>	<b>pledge 2022</b>	<b>pledge 2023</b>	<b>Incremento</b>	<b>Eur Delta</b>
<b>CPU (kHS06)</b>	94.9	116.25	<b>21.35</b>	<b>320250</b>
<b>DISK (TBN)</b>	10790	14415	<b>3625</b>	<b>507500</b>
<b>TAPE (TB)</b>	33800	46500	<b>12700</b>	<b>127000</b>
				<b>954750</b>