

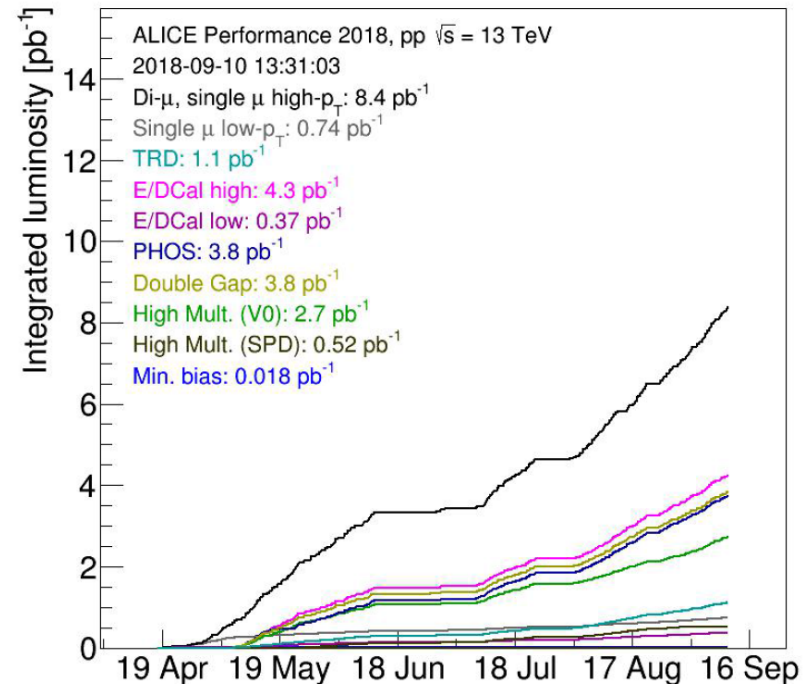
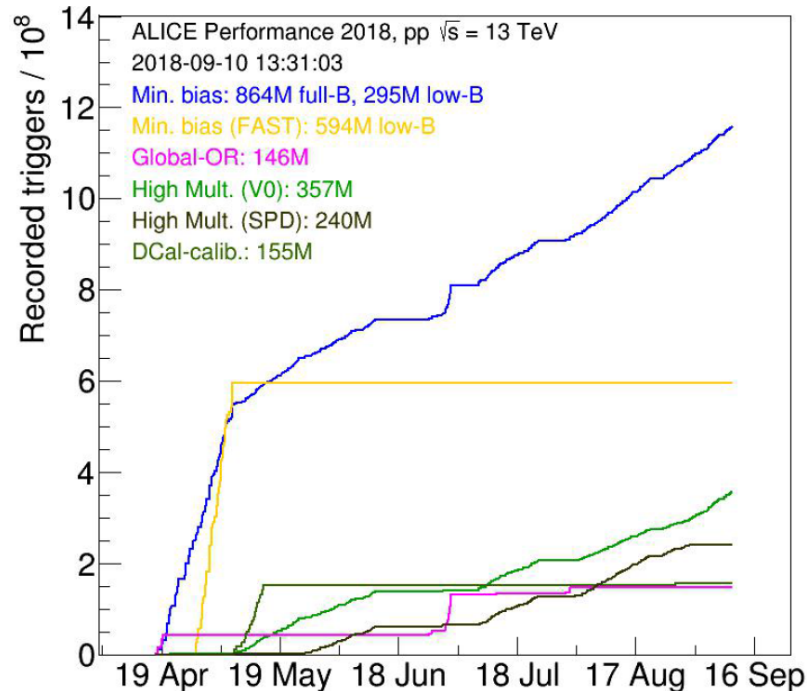
ALICE @ CNAF

Stefano Piano – INFN sez. Trieste

Run2 data taking 2018 operations

pp @ 13 TeV

- From April 2 to October 25 ALICE will continue collecting event statistics
- LHC luminosity levelling at $2.6 \times 10^{30} \text{ cm}^{-2} \text{ s}^{-1}$, running a rich trigger menu as in 2017

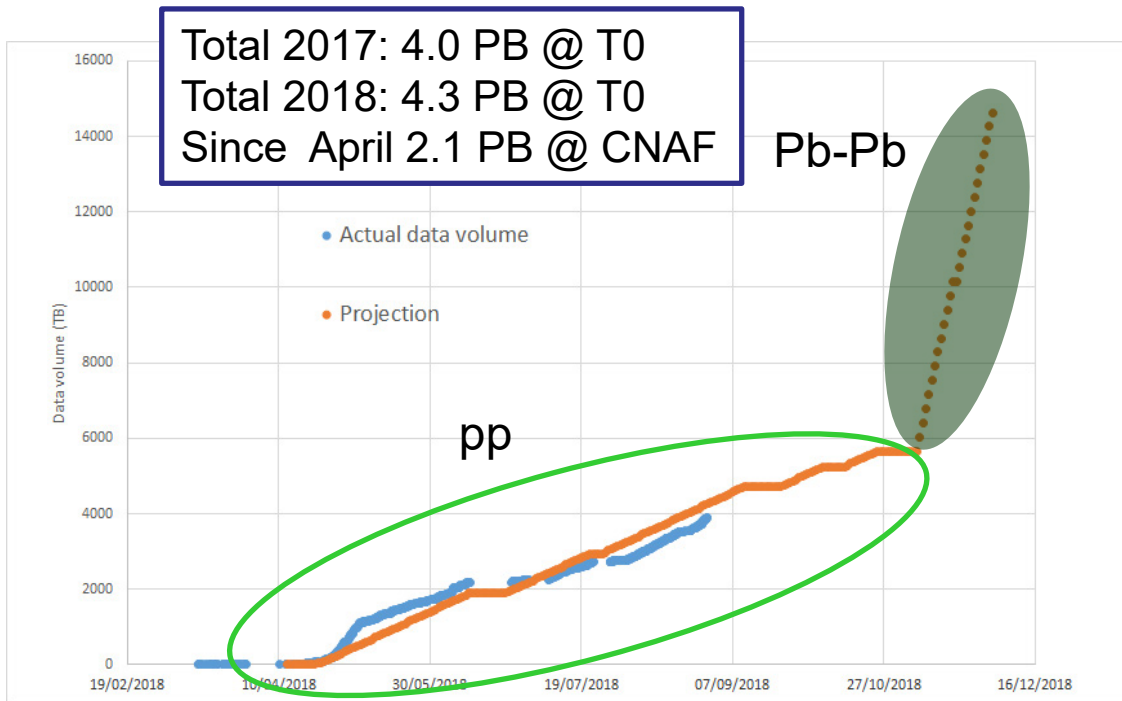


preparations for the end-of-year Pb-Pb campaign fully underway

RAW data volume expected in 2018

pp:
 $430 \text{ Hz (readout rate)} * 1.7 \text{ MB (event size)} * 86400 \text{ (seconds)} * 0.57 \text{ (combined efficiency)} * 150 \text{ (days)} = 5.4 \text{ PB}$

Pb-Pb
 With the increased HLT compression, data rate from 10 GB/s to 7.1 GB/s



Data taking 7.1 GB/s \Rightarrow 7.6GB/s:
 $100\text{M} \Rightarrow 200\text{M MB events, } 250 \text{ M central events plus several triggered samples, including muon arm events } (750 \mu\text{b}^{-1})$

increasing the size of the tape buffer at CERN (4PB on loan from CERN + 3 PB ALICE)
 increase the number of events to be processed offline

$7.1\text{GB/s [7.6GB/s]} * 86400 \text{ (seconds)} * 0.57 \text{ (combined efficiency)} * 24 \text{ (days)} = 8.3\text{PB [9.0 PB]}$

CPU and disk requirements are based on 7.1 GB/s scenario

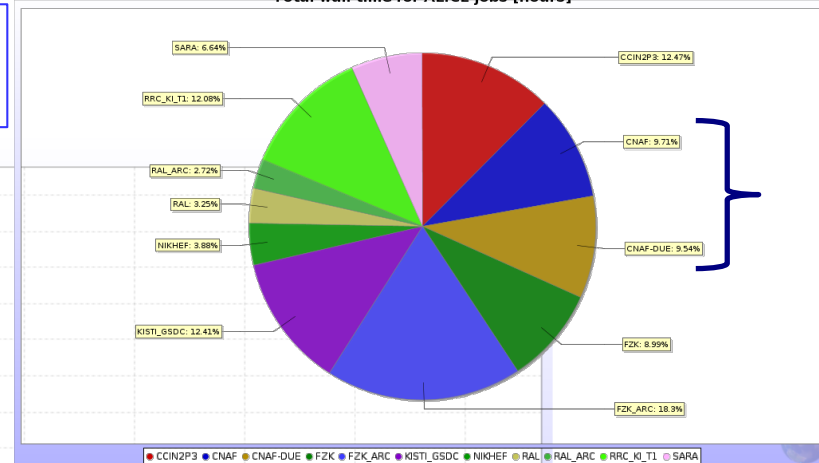
ALICE activity running jobs at CNAF



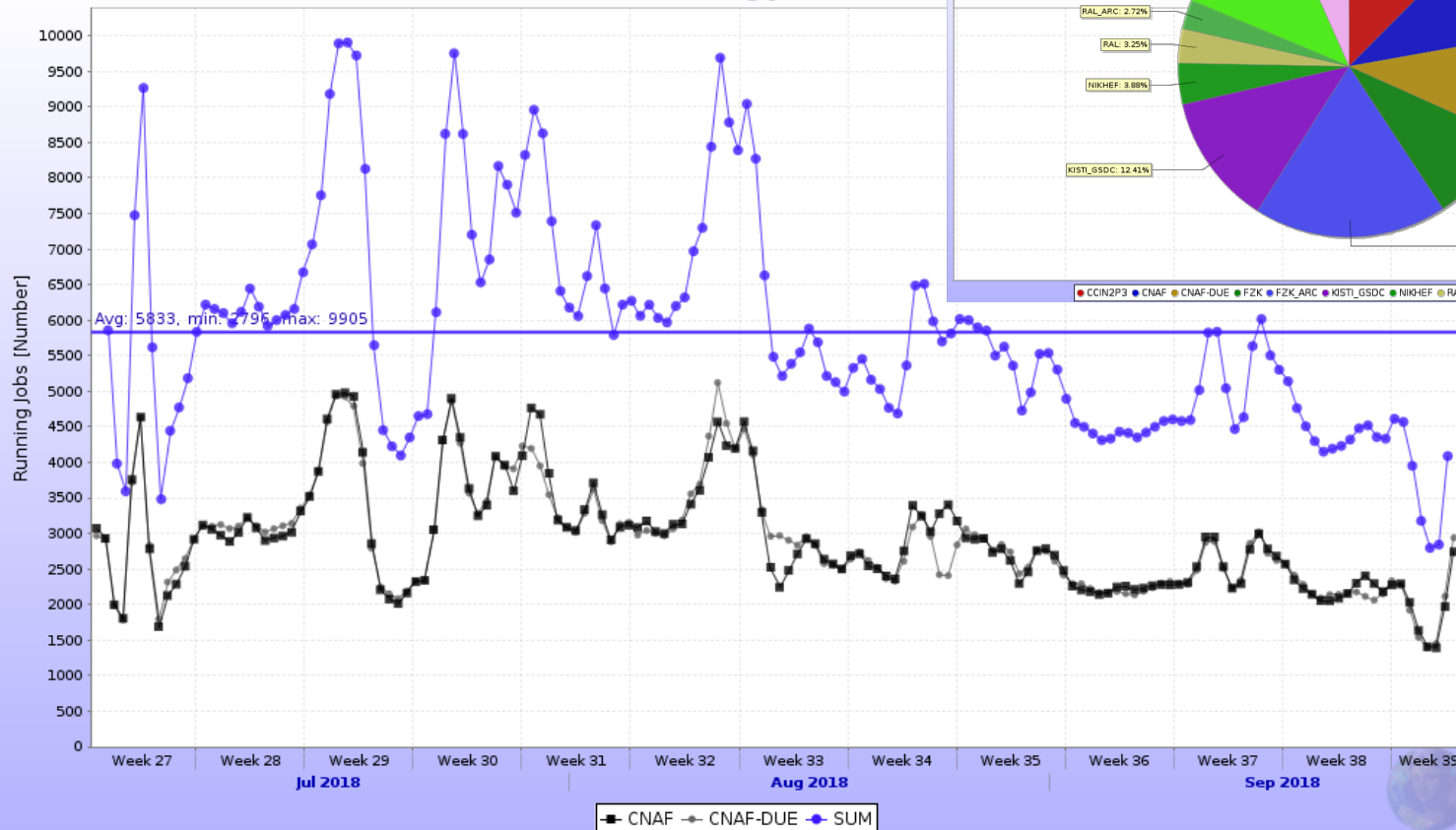
ALICE

CNAF 2018 pledge: 52 kHS06 CPU, 5140 TB disk and 13530 TB tape storage

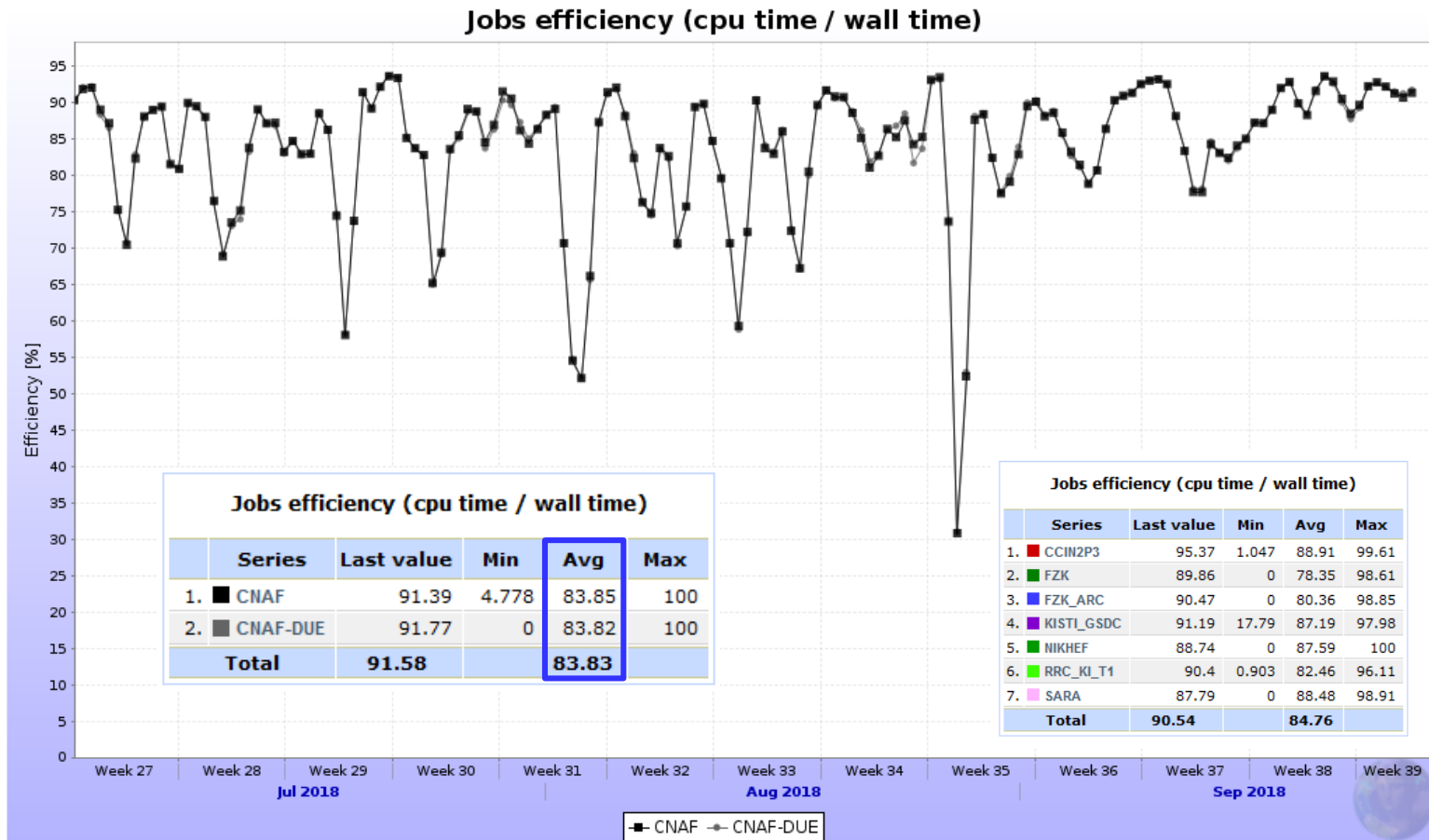
Total wall time for ALICE jobs [hours]



Running Jobs

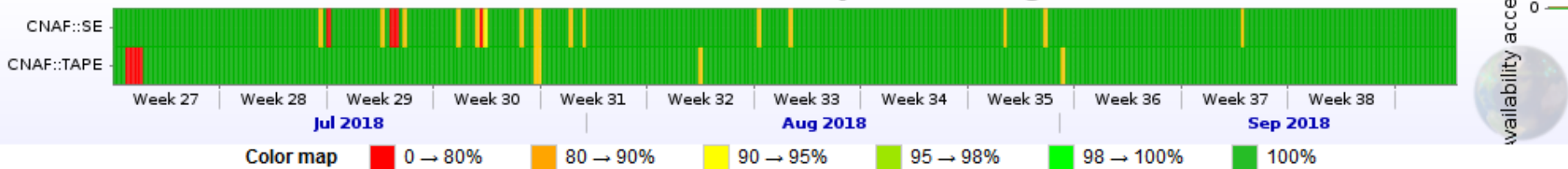


CNAF ranks first of the ALICE Tier1 sites despite the flooding incident !



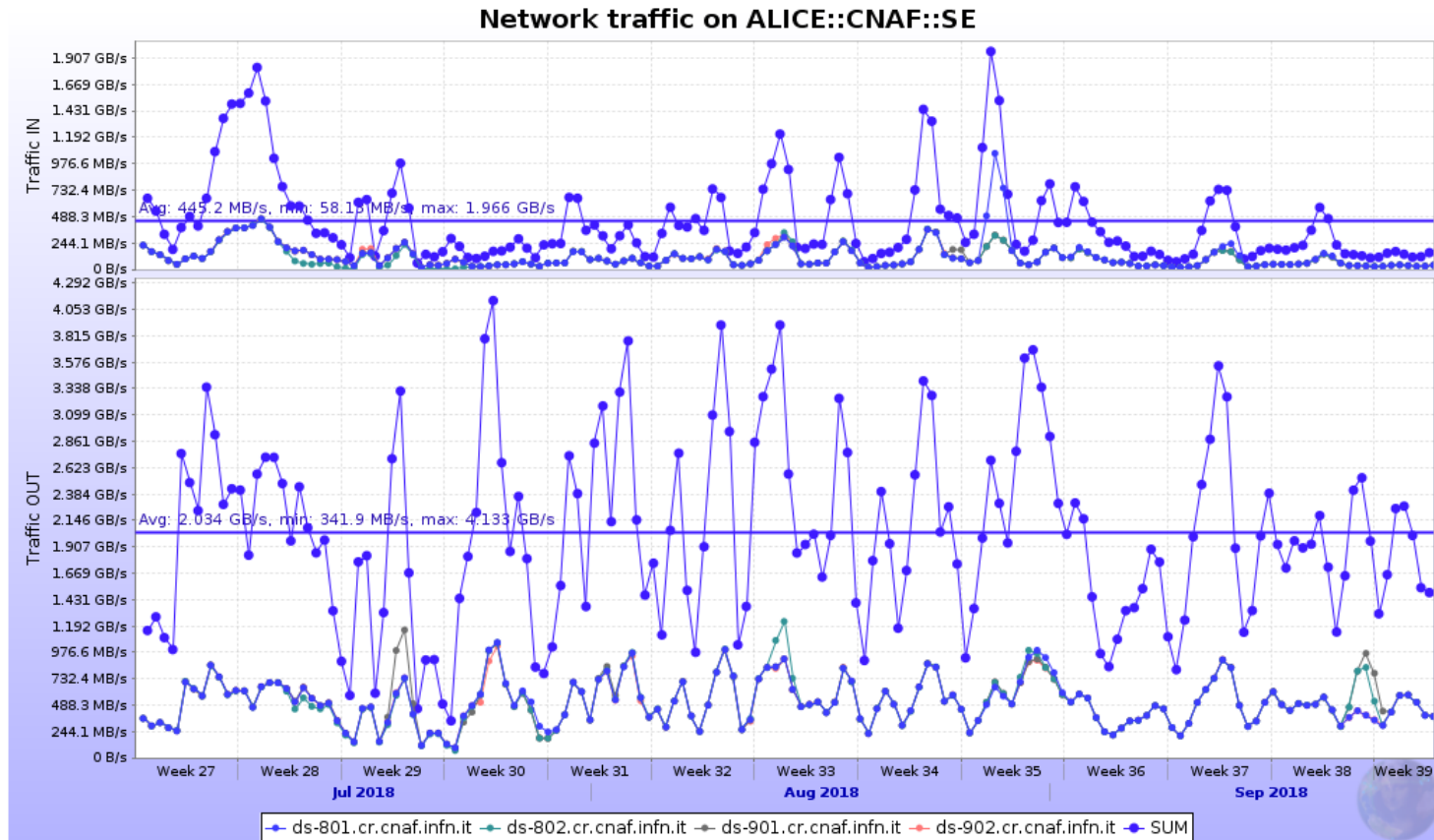
ALICE operations SE availability

AliEn SEs availability for reading

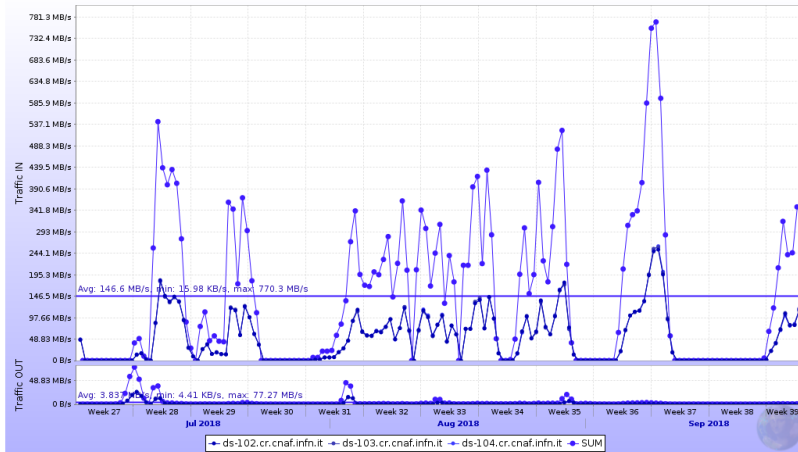


Statistics

Link name	Data		Individual results of reading tests			Overall
	Starts	Ends	Successful	Failed	Success ratio	Availability
CNAF::SE	01 Jul 2018 00:05	26 Sep 2018 23:19	2084	23	98.91%	98.93%
CNAF::TAPE	01 Jul 2018 00:05	27 Sep 2018 00:02	2088	24	98.86%	98.87%

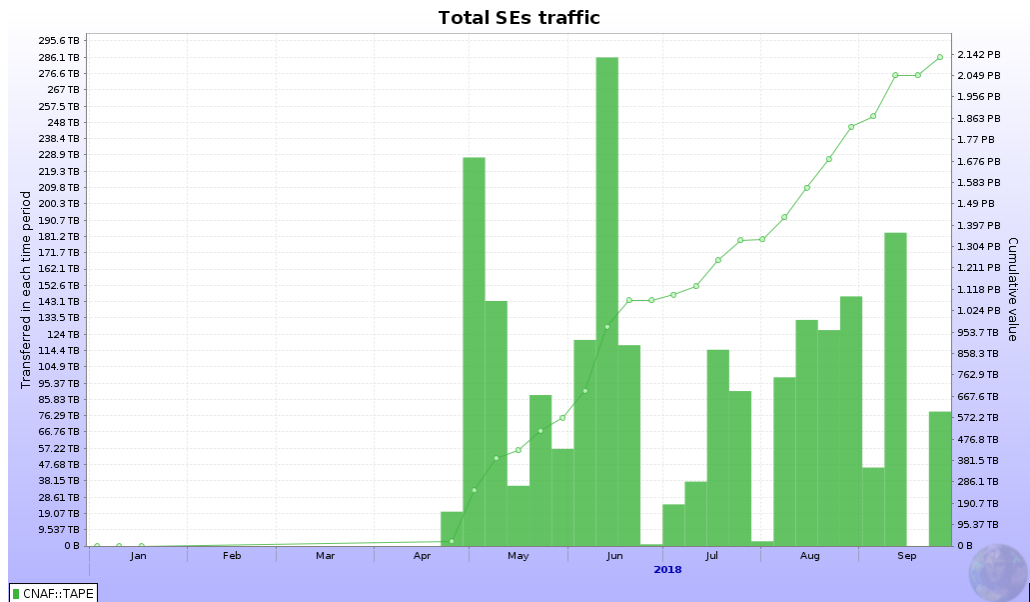


Network traffic on ALICE::CNAF::TAPE



Tape transfer rates

Traffic on tape week by week




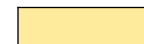
	Richieste per il 2019			Tabella per RRB ottobre (escluso disco aggiuntivo per la riduzione pledge al T0)			Previsioni CB Alice			Previsioni CB Alice		
	2019			2020			2021			2022		
ALICE-IT	CPU	Disk	Tape	CPU	Disk	Tape	CPU	Disk	Tape	CPU	Disk	Tape
Crescita T1	17.330	2.061	-1.843	0.000	2.147	-0.961	15.938	0.805	9.610	17.061	1.940	9.641
Crescita T2	11.359	-0.218		0.000	0.969		16.419	0.639		17.576	1.537	
Dismissioni T2	2019			2020			2021			2022		
	CPU	Disk	Tape	CPU	Disk	Tape	CPU	Disk	Tape	CPU	Disk	Tape
Bari	6.692	0.744		3.840	0.150		0.000	0.330		3.065	0.000	
Catania	13.147	0.960		0.000	0.000		0.000	0.000		0.000	0.000	
PD-LNL	1.065	0.270		8.520	0.630		0.000	0.540		1.700	0.180	
Torino	2.149	0.000		1.400	0.644		2.884	0.000		4.200	0.430	

(valori in kHS06 e PB)

- Crescita prevista senza tagli, bisogna rimodulare negli anni a seconda dei pledge inseriti
- Per i T2 di BA e CT le dismissioni 2019 (Recas) verranno anticipate dalla giunta per gli acquisti PON IBISCO e non ricadono in un accordo quadro gestito dal T1
- Per la durata del PON (2019 - 2021) ulteriori risorse di dismissioni e di crescita dei T2 possono essere inserite nel PON, ovviamente questo dipende dal progetto e dalle decisioni del management

 FINANZIATE CSN3

 PON IBISCO

 TBD PON IBISCO

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(valori in kHS06 e PB)

FINANZIATE CSN3

PON IBISCO

TBD PON IBISCO

Tier-1 posticipo 50% delle risorse nuove:

Risorse Nuove: 50%				Risorse totali previste al Tier-1			
	CPU HS06	Disk TB-N	Tape TB		CPU HS06	Disk TB-N	Tape TB
ALICE	7150	1008	-1810	ALICE	60600	6148	11687

Situazione CPU/storage Tier-2



ALICE

		Bari	Catania	Padova- LNL	Torino	Totale
30/06/2018	HS06	13577	13147	12889	14228	53841
Crescita acquisti 2018	HS06	1242	1242	1560	1560	6240
2018	HS08	14819	14389	14449	15788	59445
Assegnazioni crescita 2019	HS06	2850	2850	2850	2850	11400
2019	HS06	17669	17239	17299	18638	70845
30/06/2018	TB	1224	1204	1210	1396	5034
Crescita gara 2017	TB	270	350	300	0	920
Crescita gara 2018	TB	250	136	185	177	748
2018(*)	TB	1744	1690	1695	1573	6702
Assegnazioni crescita 2019	TB	0	0	0	0	0
2019	TB	1744	1690	1695	1573	6702

Pledge
2018
61050 HS06

Pledge
2018
6659 TB

(*) Disponibili a fine 2018 (fatte dismissioni + completati acquisti 2017 e 2018)



Thank you a lot!

Stefano Piano – INFN sez. Trieste

Run2 data taking Raw data collection

pp HLT compression
currently stands at 8.5 !

