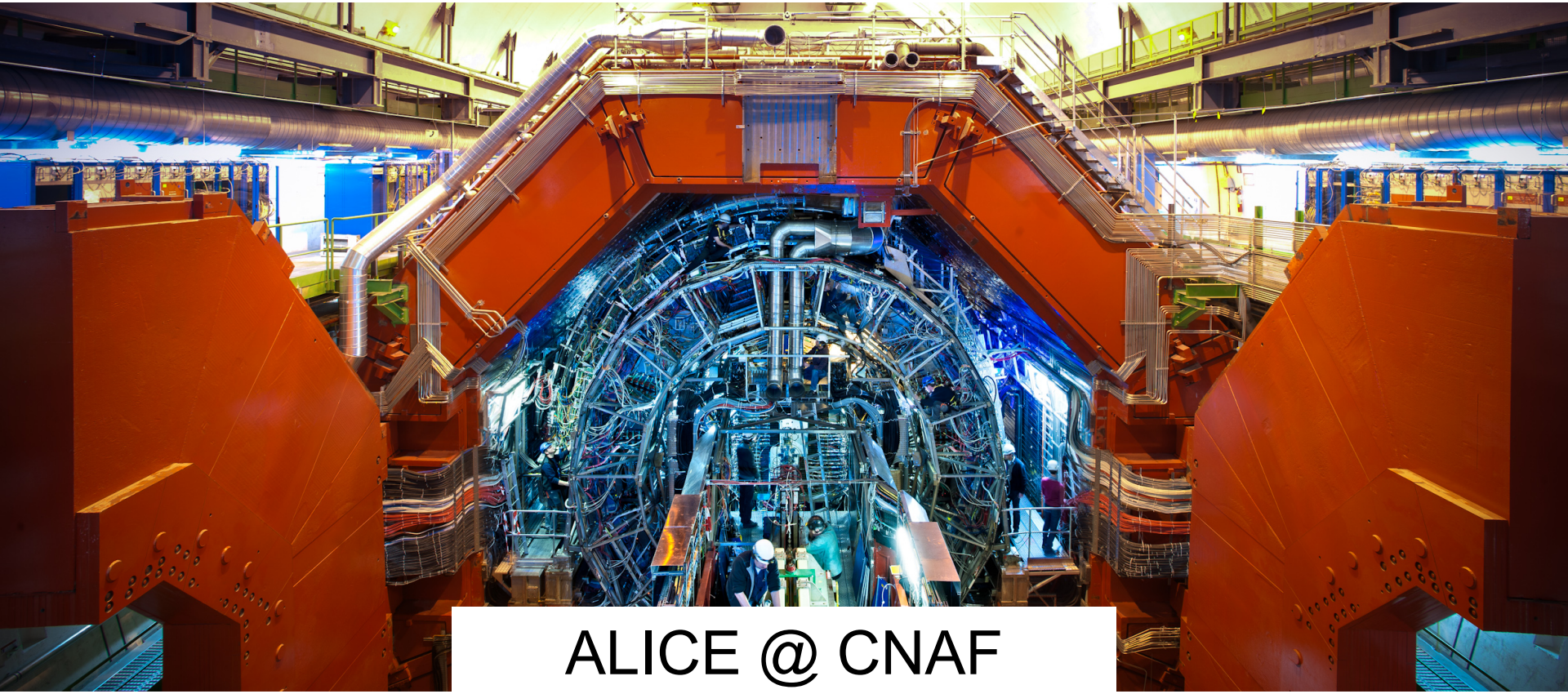
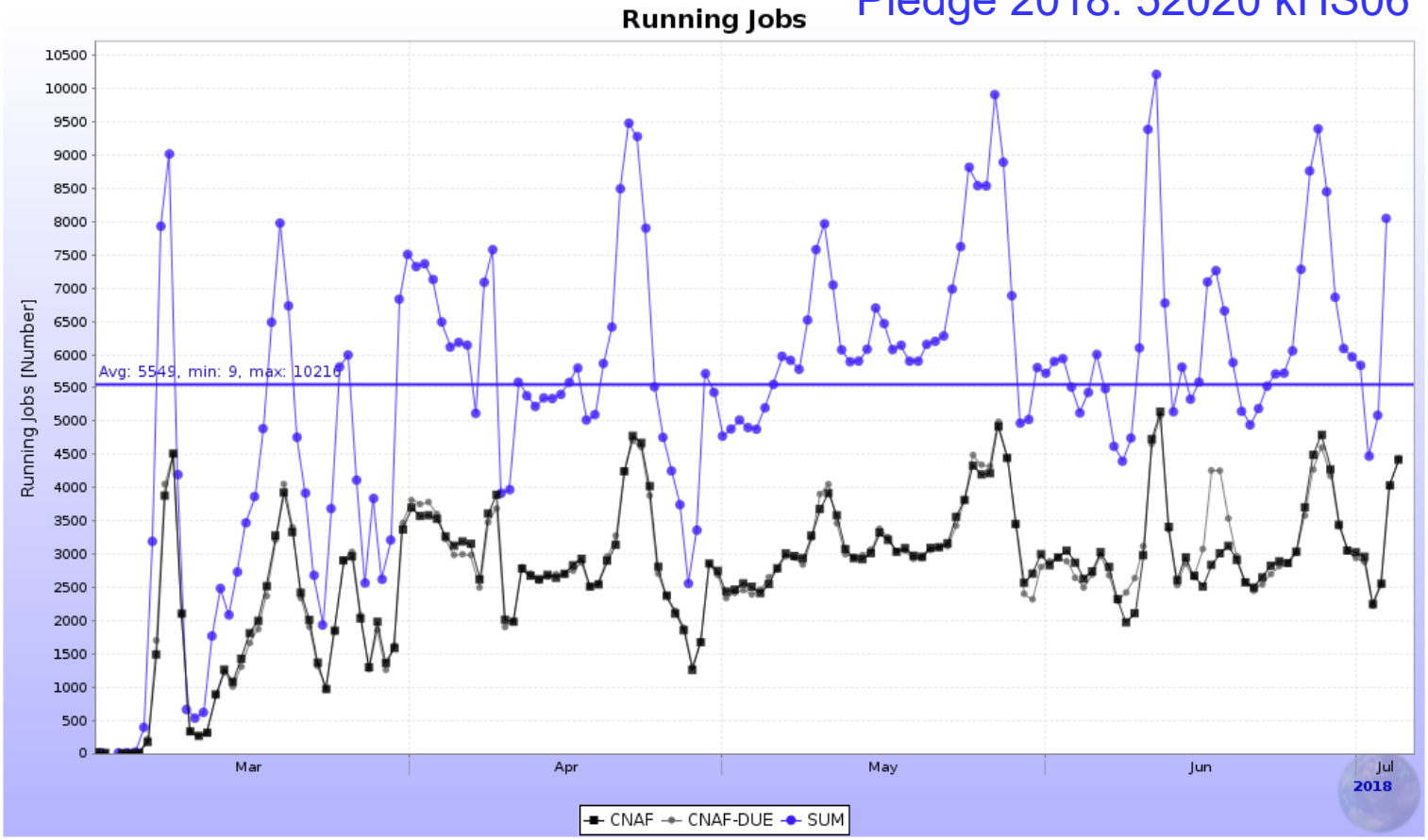


ALICE @ CNAF

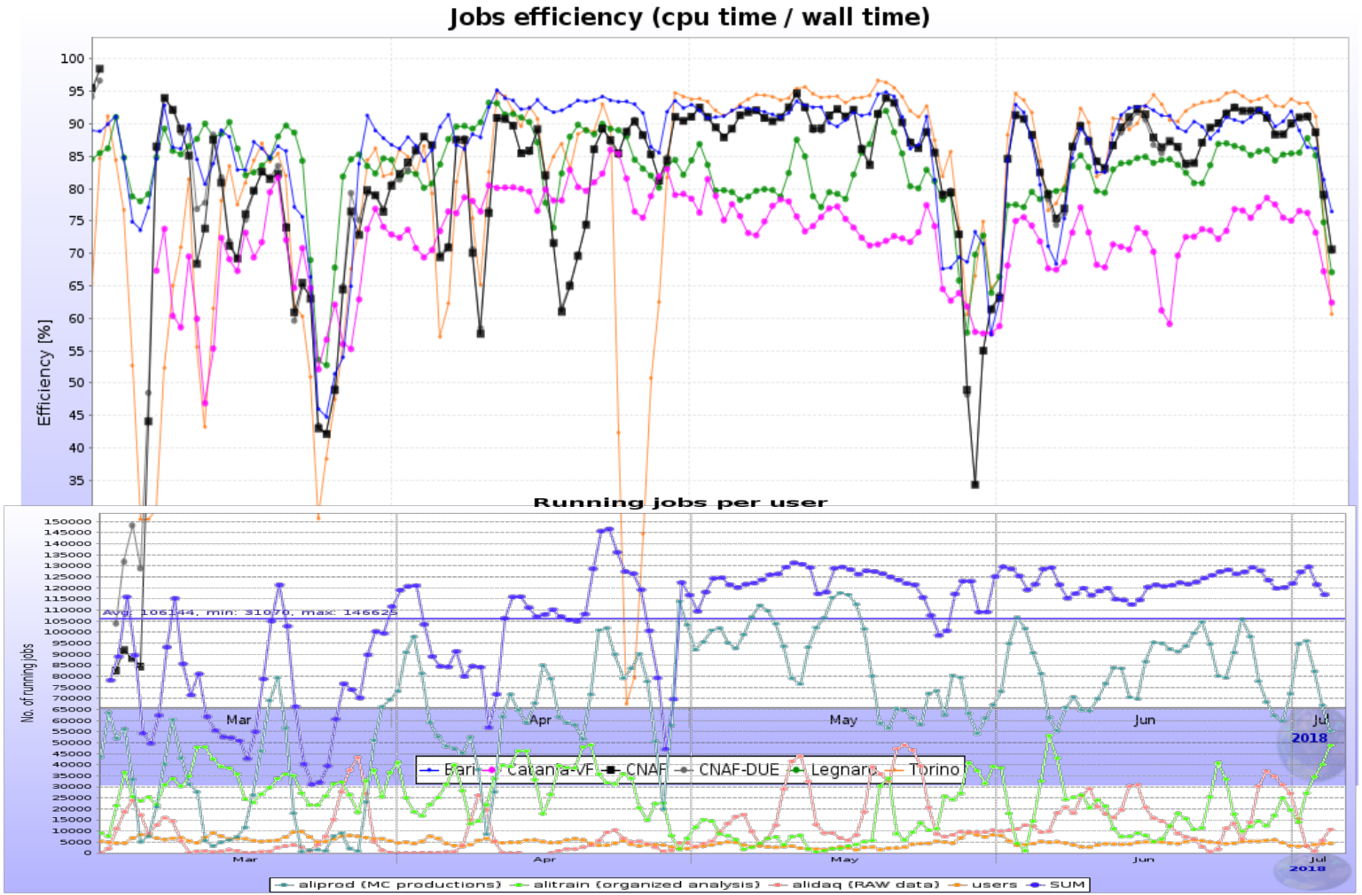
Stefano Piano – INFN sez. Trieste

ALICE activity
running jobs at CNAF

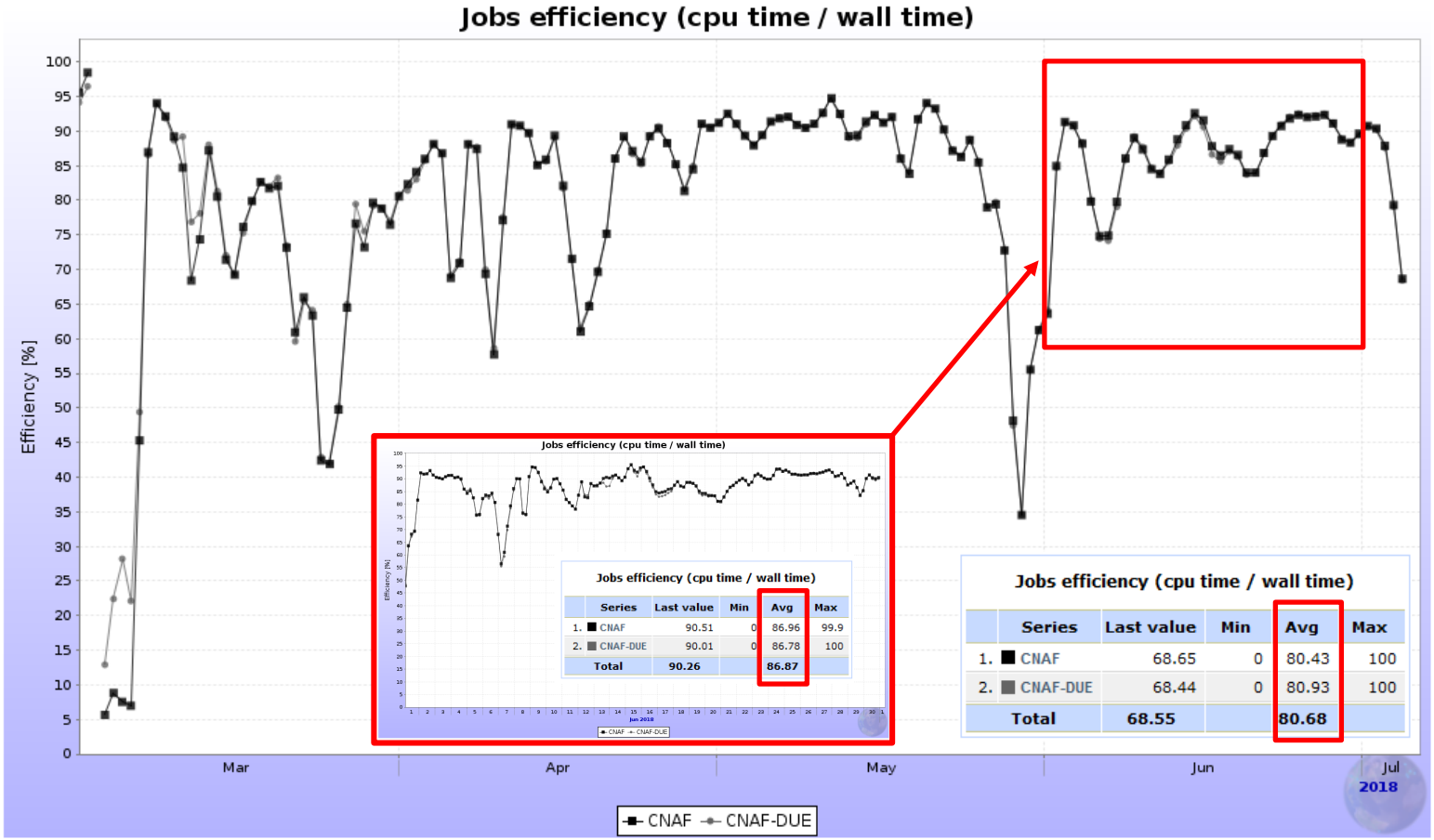
Pledge 2018: 52020 kHS06



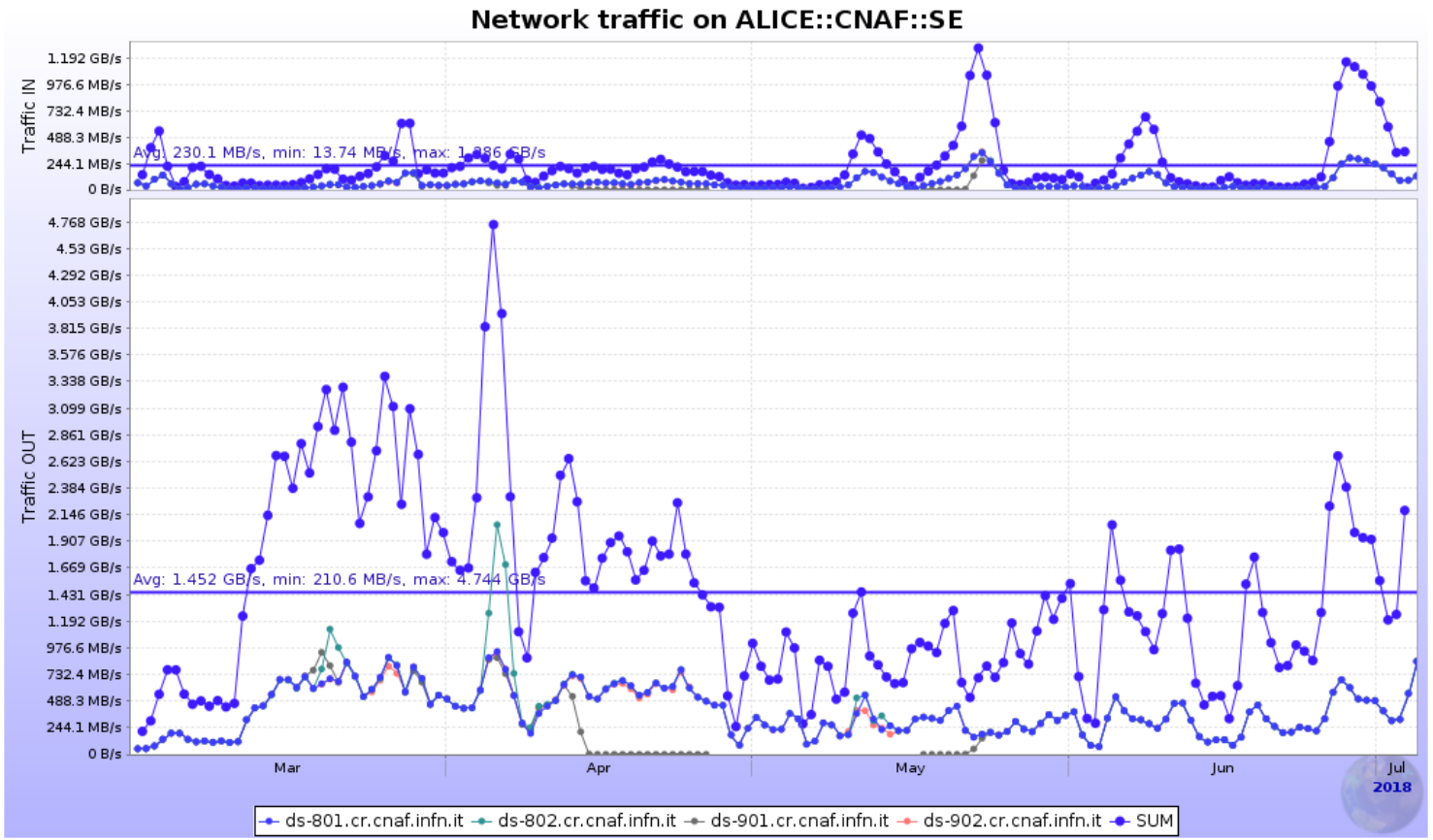
ALICE activity
jobs efficiency at CNAF



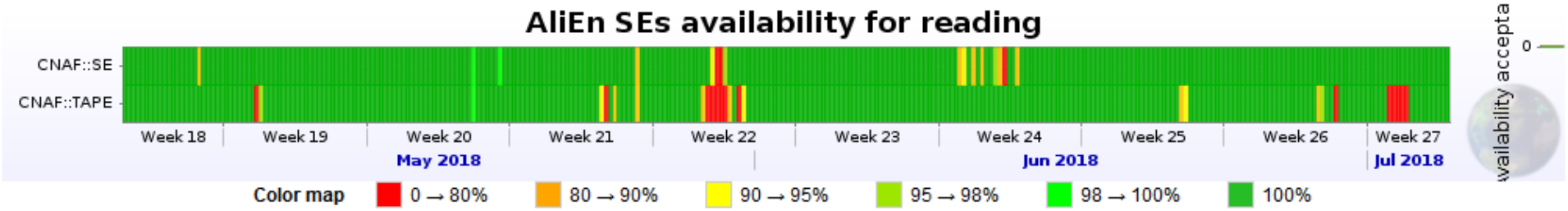
ALICE activity
jobs efficiency at CNAF



ALICE activity
CNAF::SE traffic



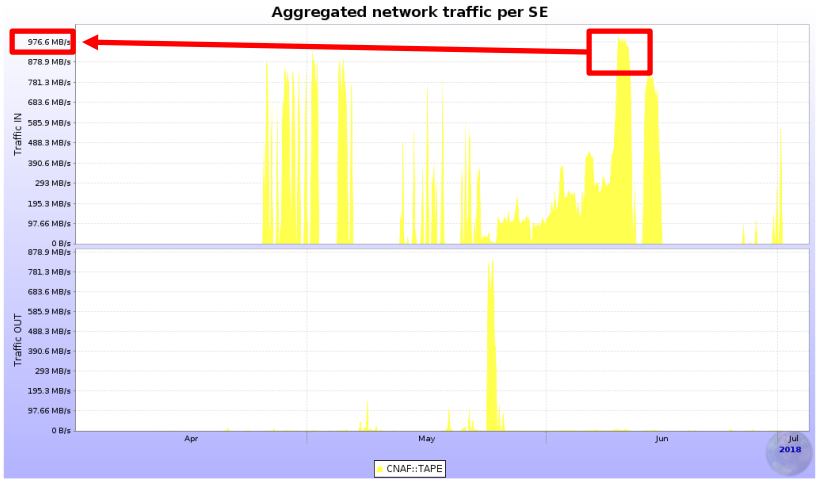
ALICE operations SE availability



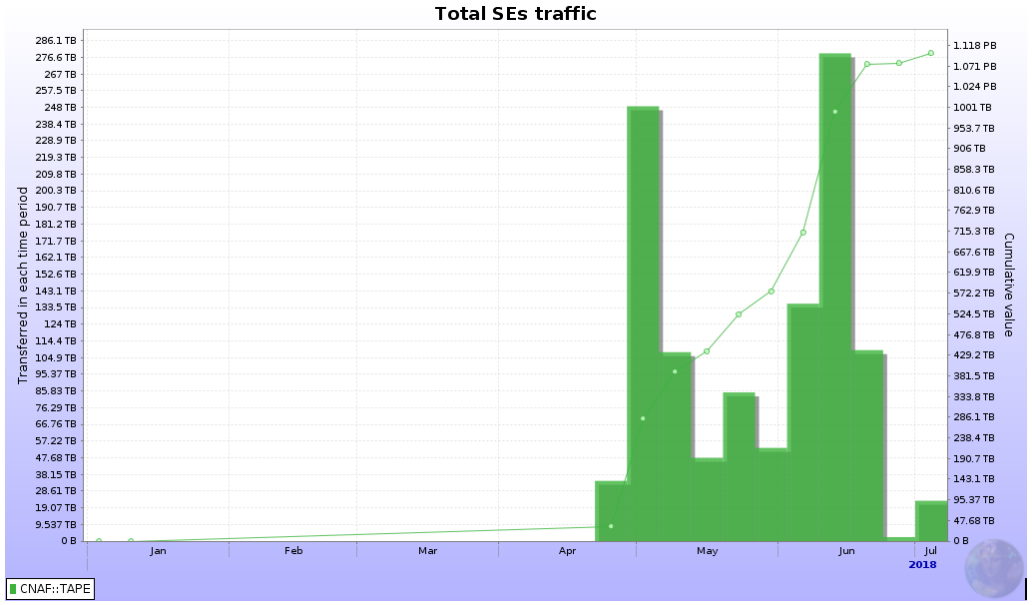
Statistics

Link name	Data		Individual results of reading tests			Overall
	Starts	Ends	Successful	Failed	Success ratio	Availability
CNAF::SE	01 May 2018 00:05	05 Jul 2018 00:05	1537	21	98.65%	98.92%
CNAF::TAPE	01 May 2018 00:05	05 Jul 2018 00:05	1500	58	96.28%	96.42%

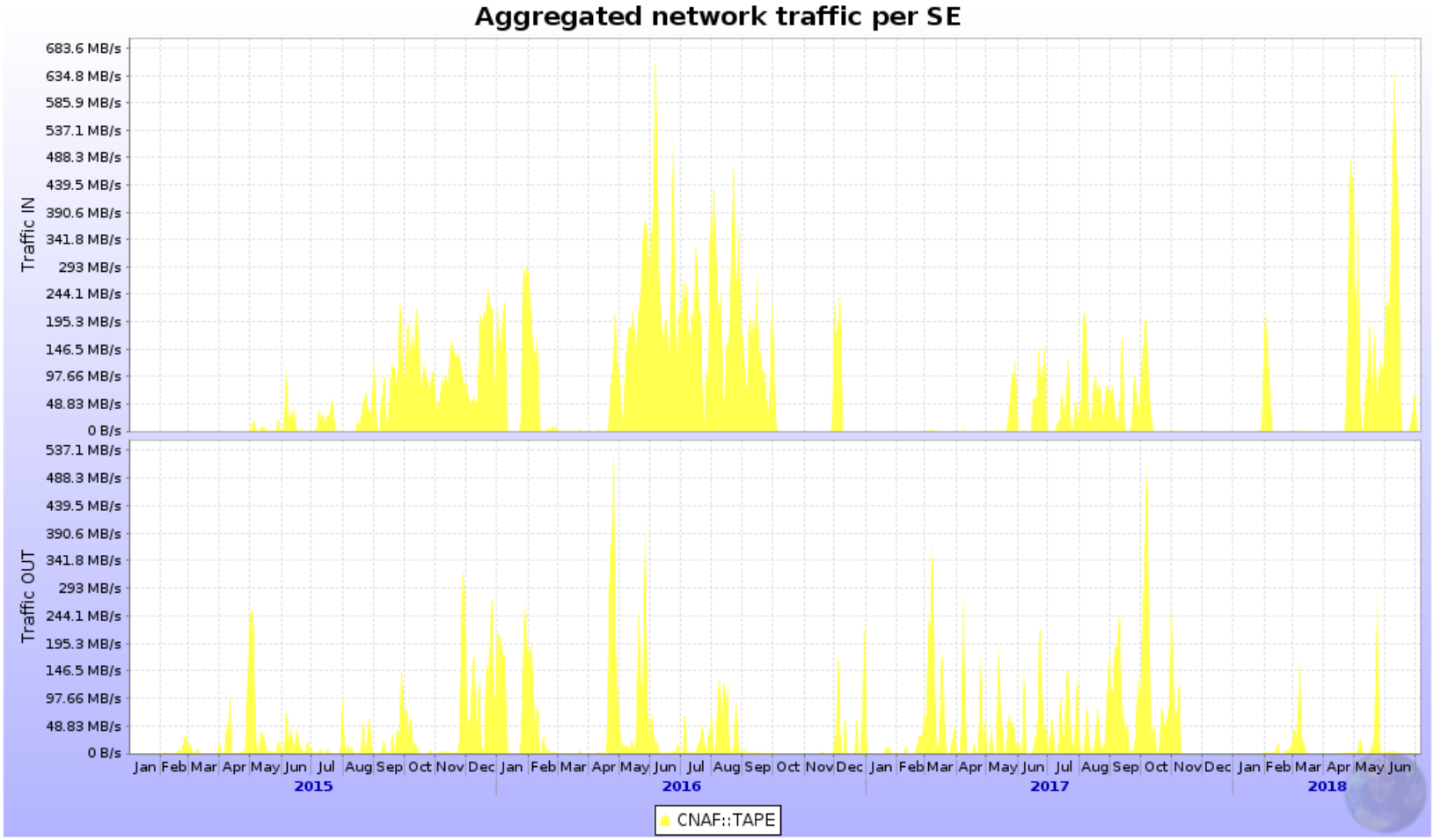
ALICE operations
RAW replication on TAPE



Traffic on tape week by week

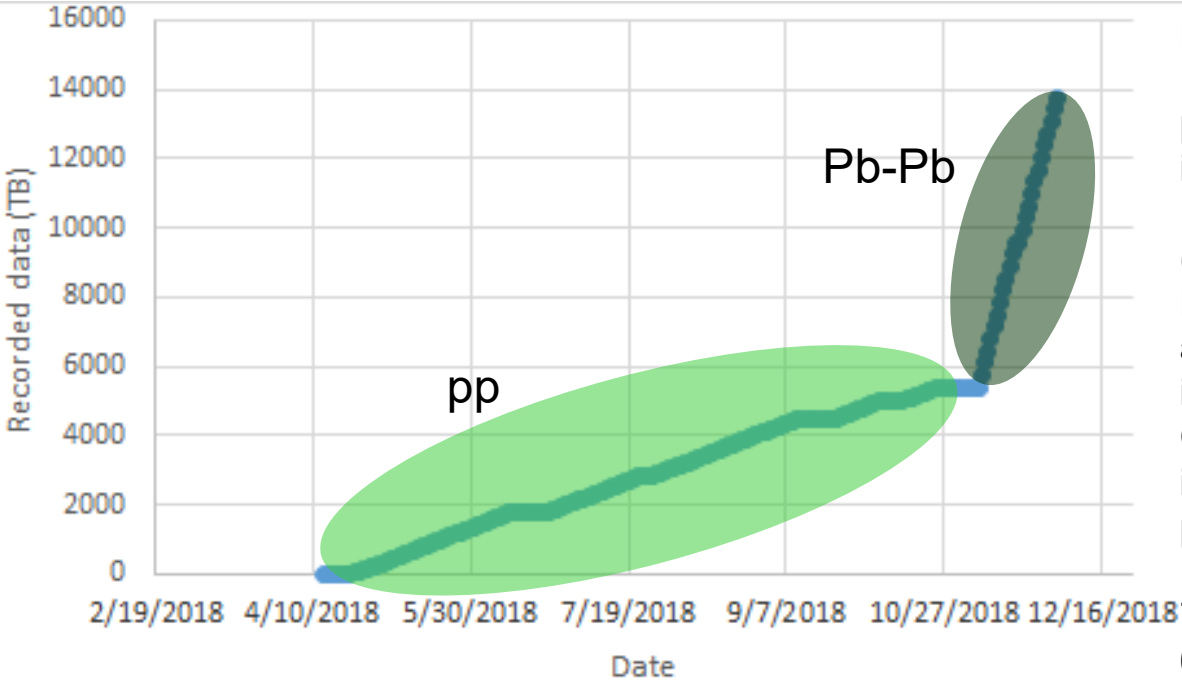


ALICE operations
Tape transfer rates



RAW data volume expected in 2018

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



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

(Scenario 1):
Data taking at 7.1GB/s
100M MB events, 250 M central events plus several triggered samples, including muon arm events (750 μb^{-1}).

(Scenario 2):
Data taking at 7.6GB/s
additonal 100M MB events
increasing the size of the tape buffer at CERN
increase the number of events to be processed offline

7.1GB/s [7.6GB/s] * 86400 (seconds) * 0.57 (combined efficiency) * 24 (days) = 8.3PB [9PB]

ALICE operations
Tape transfer rates

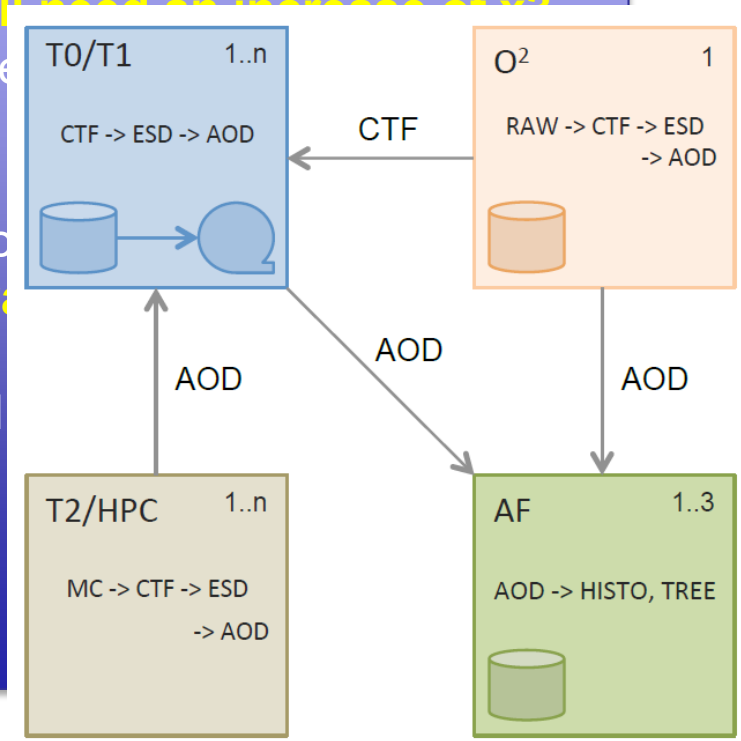
Throughput on tape expected for 2019:

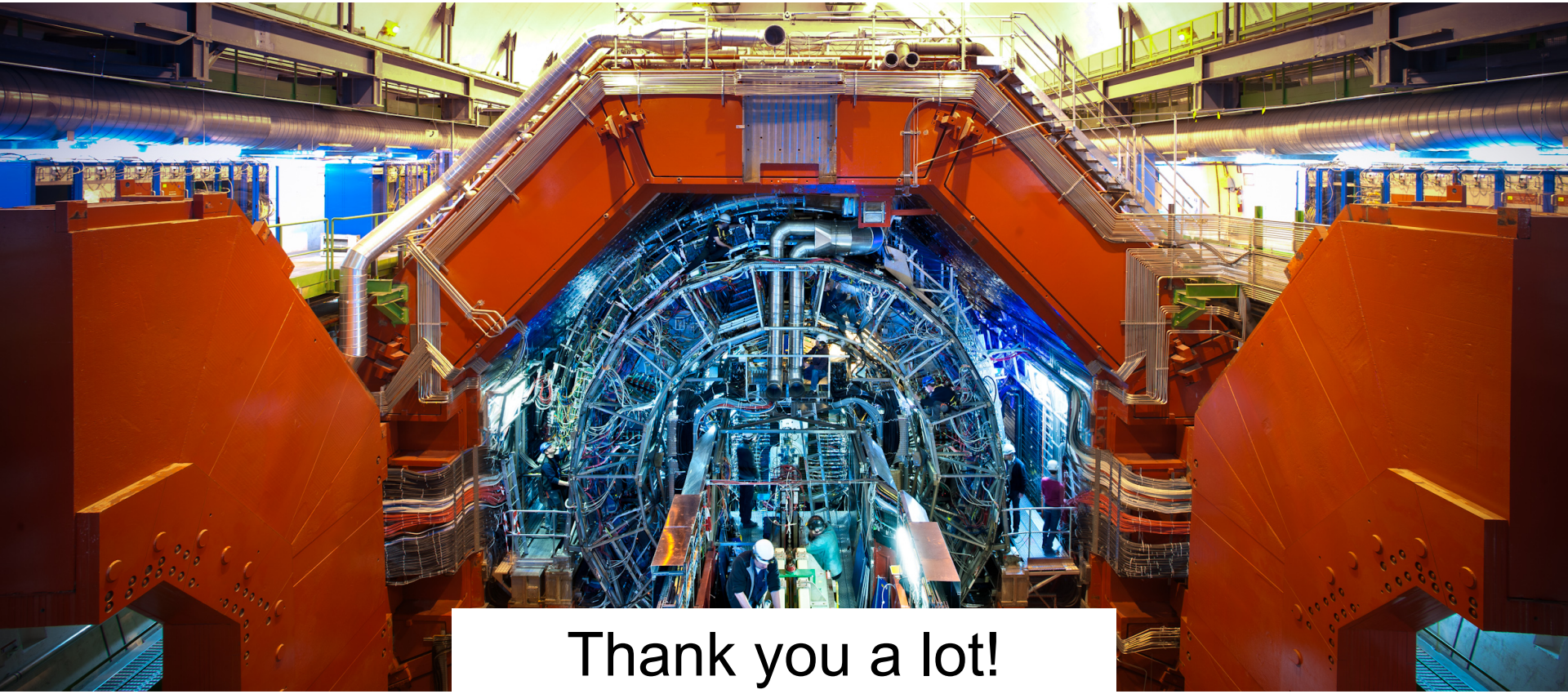
- If we replicate all Pb-Pb data (~3PB at CNAF) from the end of this year in the 2 months period which follows, **we will need an increase of x3** over the current values. This will be the largest increase in terms of throughput to tape until Run3 (2021).
- As the copy rate is something we can control, we can tune to the max CNAF can accept: **what is the maximum value we can write with?**
- Having a glance at Run3: the tape (required size) throughput will increase a lot to analyze CTF data.

ALICE operations
Tape transfer rates

Throughput on tape expected for 2019:

- If we replicate all Pb-Pb data (~3PB at CNAF) from the end of this year in the 2 months period which follows, **we will need an increase of x2** over the current values. This will be the large throughput to tape until Run3 (2021).
- As the copy rate is something we can contro CNAF can accept: **what is the maximum va**
- Having a glance at Run3: the tape (required increase a lot to analyze CTF data.





Thank you a lot!

Stefano Piano – INFN sez. Trieste

Pledge 2018

	Spring request (*)		Fall request (*)		PLEDGE 2018 (REBUS)	
	Tier1	Tier2	Tier1	Tier2	Tier1	Tier2
CPU (HS06)	52020	74460	52190	67660	52020	61050
DISK (TB)	5440	6970	5185	5967	5140	6659
TAPE (TB)	13500		13510		13530	

(*) ALICE requests scaled for INFN share (excluding CERN): ~17% for CPU and disk, ~33% for tape

ALICE resources request 2019

ALICE		2017			2018		2019		
		CRSG recomm.	Pledged	Used	CRSG recomm.	Pledged	Request	2019 req. /2018 CRSG	C-RSG recomm.
CPU	Tier-0	292	292	389	350	350	430	123%	430
	Tier-1	256	235.5	295	307	279.5	365	119%	365
	Tier-2	366	279.6	299	312.9	312.9	376	120%	376
	HLT	n/a	n/a	26	n/a	n/a	n/a	n/a	0
	Total	**914**	**807.1**	**1010**	**969.9**	**942.4**	**1171**	**121%**	**1171**
	Others			*39*					
Disk	Tier-0	22.4	22.4	19.3	26.2	26.2	34.3	131%	34.3
	Tier-1	25.4	21.8	18.245	30.5	30.4	37.9	124%	37.9
	Tier-2	31.4	22.7	20.06	29	29	33.9	117%	33.9
	Total	**79.2**	**66.9**	**57.6**	**85.7**	**85.6**	**106.1**	**124%**	**106.1**
Tape	Tier-0	36.9	36.9	29.7	49.1	49.1	44.2	90%	44.2
	Tier-1	30.9	30.6	22.3	40.9	42.2	37.7	92%	37.7
	Total	**67.8**	**67.5**	**52**	**90**	**91.3**	**81.9**	**91%**	**81.9**