

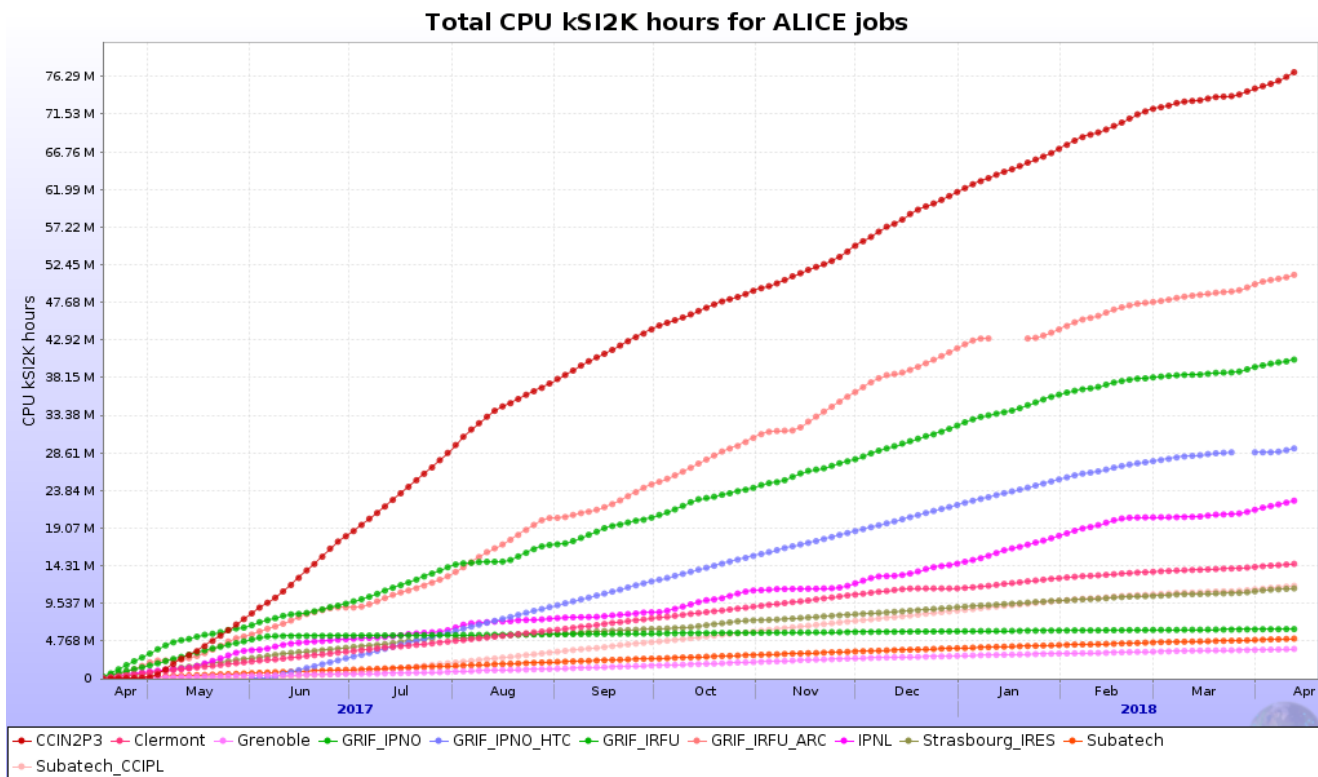
# French Cloud yearly report

*CCIN2P3  
ALICE T1/T2 workshop @ Derby, April 2018*

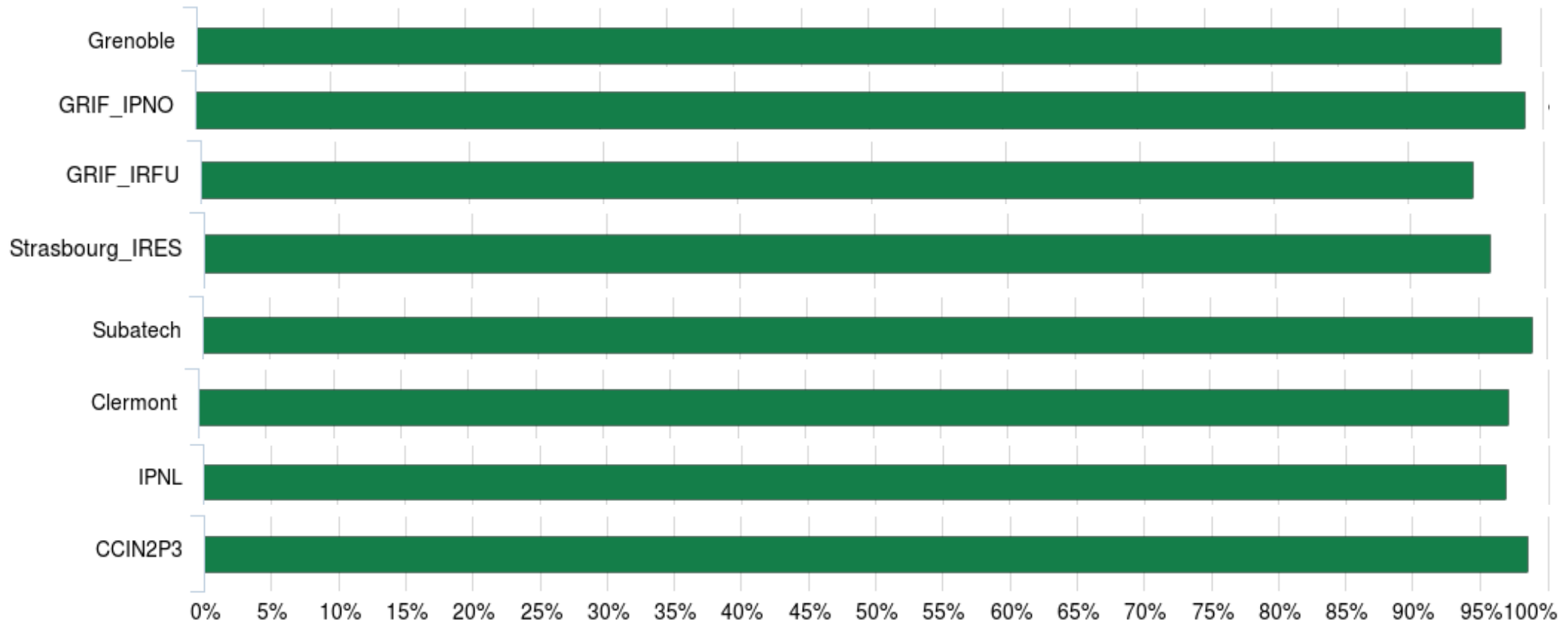
*Renaud Vernet*

# French contribution

- CPU ~ 9 % total
  - 0.32 out of 3.5 B kSI2K.h consumed in ALICE over the last year
- Storage ~ 9 % total



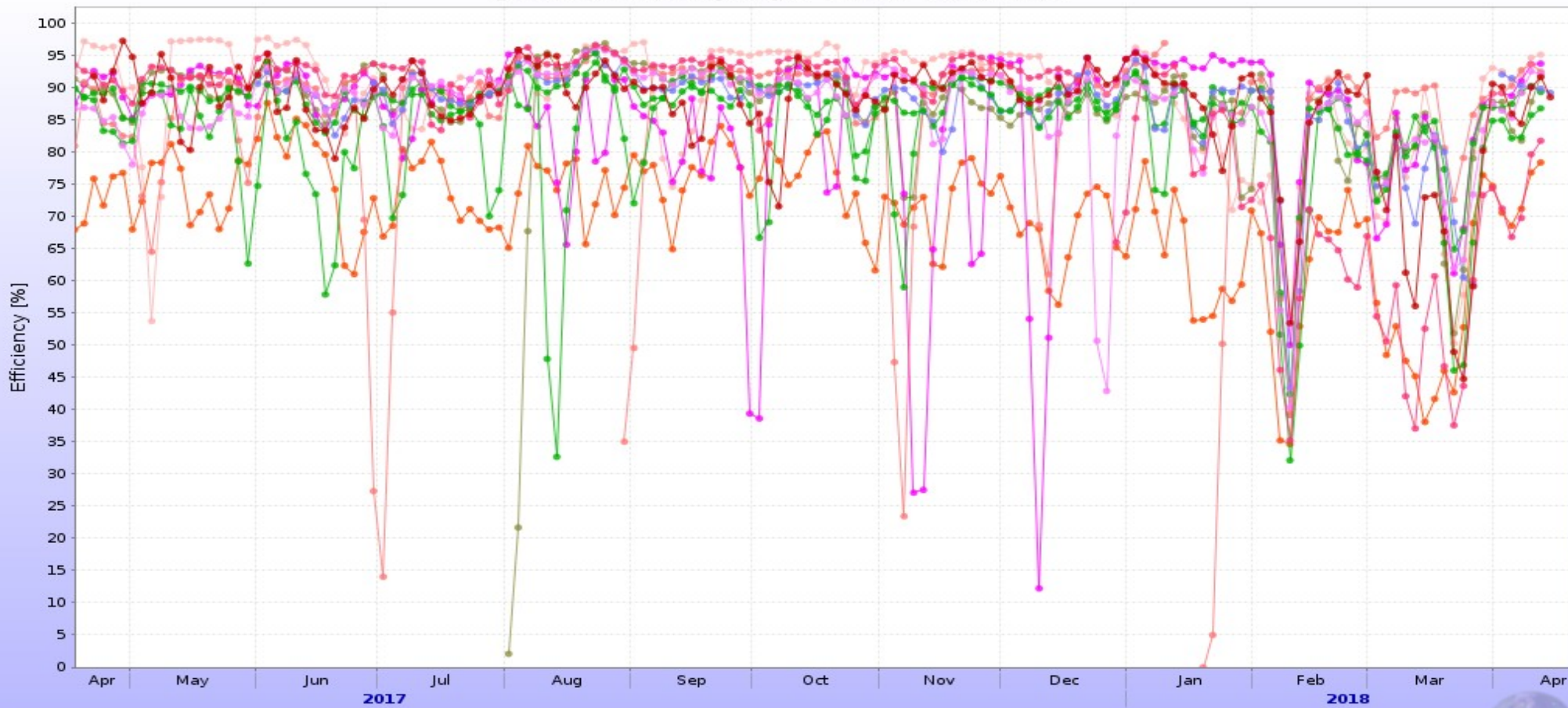
# Availability in sites



*Reliability is better than availability for all these sites*

# CPU usage

Jobs efficiency (cpu time / wall time)



CCIN2P3 Clermont Grenoble GRIF\_IPNO GRIF\_IPNO\_HTC GRIF\_IRFU GRIF\_IRFU\_ARC IPNL Strasbourg\_IRES Subatech Subatech\_CCIPL

# Funding

- LCG France project
- ~ flat funding for LCG France project every year
- ALICE = 15 % total budget
  
- + local contributions in every site
  - Essentially electricity and hardware replacement
  - May vary
  
- Late in pledge installation this year

# Resource growth in sites (2018)

	CPU	Disk	Tape
T1 CCIN2P3	+14 %	+31 %	+72 %
GRIF	+28 %	+16 %	
Strasbourg	-	+20 %	
Other T2	-	-	

- Supports 2 VOs :
  - ALICE (25%) & ATLAS (75%)
- ALICE share : 3400 HS06 + 340 TB
- Staff
  - 1 FTE : whole grid site administration
  
- Future ?
  - Starting 2019 : disk growth and replacement will be attributed to DPM (ATLAS)
  - If ALICE wants to continue with Grenoble, that would be with DPM/Xrootd

# Strasbourg

- 4000 HS06, 240 TB
- Problems with EOS installation
  - switched back to xrootd 4



- Big T2 site (33 % CPU consumed in France)
- 21 kHS06, 1.3 PB
  
- IRFU
  - problems with many small files
    - DPM drain very slow
  - IRFU : 85 % storage availability
    - Still problems understanding why tests fail
  
- IPNO
  - migrated to HTCondor
  - some memory-exhausting jobs, « but OK »

# Subatech & CCIPL (Nantes)

- 5000 HS06 (4500 declared in REBUS) + 1.6 TB disk (EOS Citrine)
- Local Analysis Facility (SAF)
  - 100 cores + 30 TB storage
- 1.2 FTE on the project (administration + management)
- Over the last year
  - 106 % CPU consumed (Subatech+CCIPL)
- Subatech connected to IPv6
- Incidents
  - Worker nodes hang due to memory exhaustion
  - Low usage of resources since January
- Future : until end of RUN3

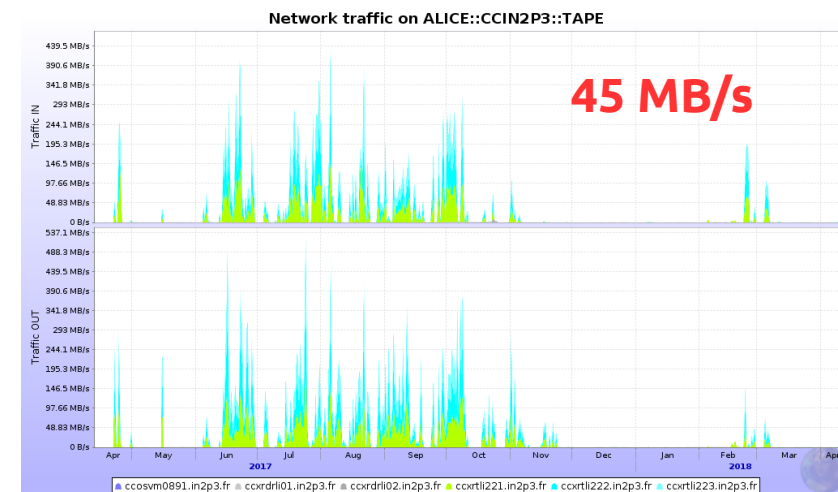
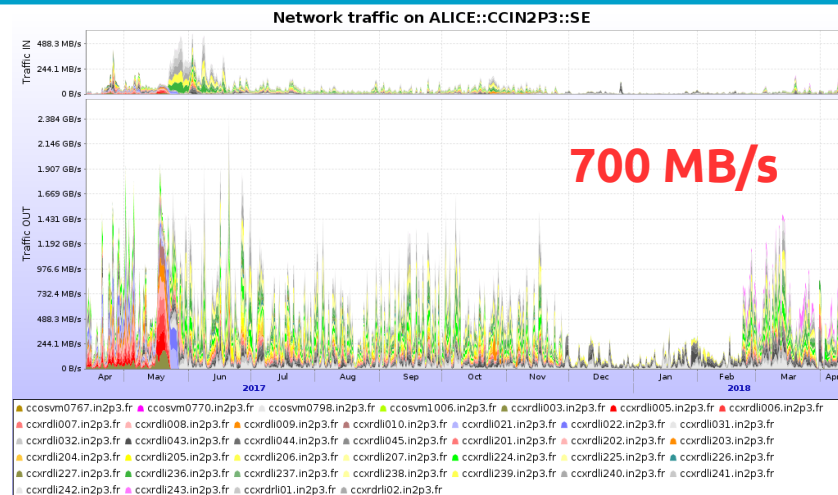
- 5000 HS06, 300 TB
- Two fire starts in early 2018
  - → impact on ALICE storage availability
  - report to be provided by Clermont admin (JC Chevaleyre)
- IPv6 deployed
- Network slower since early April
  - → work in progress

- T3 site (no pledges)
  - But 8 % CPU consumed in France
- Business as usual
- No big evolution in site capacity lately
- Migration Xrootd → EOS delayed
  - On the short to-do list

- 34.5 kHS06, 3.9 PB, 6.2 PB (tape)
- Centos 7 OK
- Investigating future of Tape system
  - End of Oracle T10K drives/tapes
  - LTO ? No tape ?
- Singularity available...
- Planning AFS decommissioning (2019)
- Plan to migrate Grid jobs to HTCondor

# CCIN2P3 storage

- Xrootd 4.6.1-1
  - IPv6 (dual stack)
  - Load-balanced redirector
- ALICE::CCIN2P3::SE
  - 3 PB installed (~full)
- ALICE::CCIN2P3::TAPE
  - 360 TB installed → need more ?
- Concurrent copy processes to tape
  - # migrating vs # staging → impact on throughput noticed
  - Ticket issued to XRD



# Network prospects (France)

		now	end 2018	2021
CCIN2P3	LHC OPN	20 Gb	40 Gb	100 Gb
	LHC ONE	30 Gb	40 Gb	100 Gb
Strasbourg, Clermont, Grenoble, Subatech	LHC ONE	10 Gb	10 Gb	20 Gb

- How and when to migrate the vobox to EL7 ?
  - Downtime or use a second vobox ?
- IPv6 available in most French sites
  - Local admins still have to provide the dual stack storage

# Various topics

- How and when to migrate the vbox to EL7 ?
  - Downtime or use a second vbox ?
- Upgrade of EOS to IPv6
  - Reboot required ?
- jAlien : when ?
- Any metric available to monitor rates per Worker Node in MonaLisa ?
- Any plan to get rid of vbox ?



# Summary

- Smooth operations in general
  - A few issues to follow up
- Good funding LCG-FR project
- Most sites will provide resources at least for RUN 3
- Future of some T2 sites uncertain