

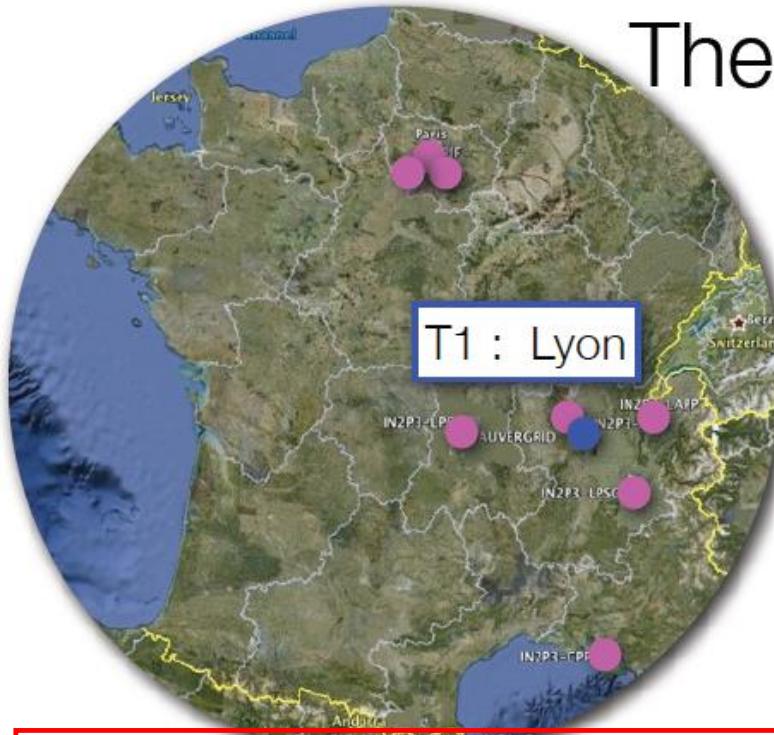


# French Cloud

L. Poggioli, LAL Orsay

- Sites (focus on french sites)
- Support

# FR-Cloud today



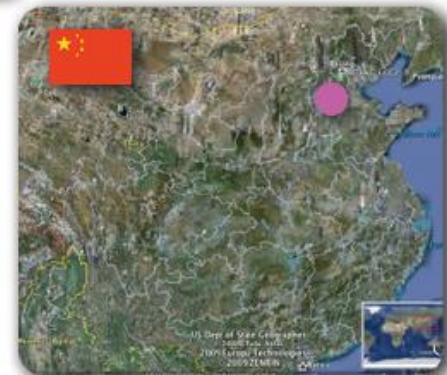
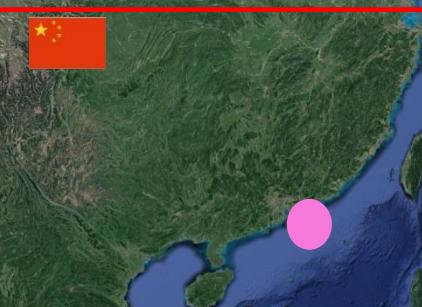
## The “French” cloud

T2s : 14 sites

- Annecy
- Clermont
- Grenoble
- IdF (3 sites...)
- ~~Lyon~~ Hong-Kong
- Marseille
- Beijing
- Romania x4
- Tokyo



CC-T2 decommissioned in 2016



# Romanian sites

- General
  - 4 sites, unequal size
  - LCG Review in 10/2016 A.Filipcic, LP for ATLAS
- Sites
  - RO-07 (Bucarest)
    - Big site, ARC, SURM, HTCondor
  - RO-02 (Bucarest)
    - Modest size, CREAM, dpm
    - Diskless 'candidate'
  - RO-14 & RO-16
    - Diskless sites since 2017
    - SE is RO-07 SE
    - Only simulation (no reco/analysis)

Sites (2018)	CPU (HS06)	Disk (TB)
RO-07	10800	1070
RO-02	10500	320
RO-14	3000	Diskless
RO-16	5700	Diskless

# French T2s: General

- All are T2D
  - 1 Nucleus: LAPP
- All are connected >10 Gb/s link
- Mcore: Dynamic scheme (except IRFU)
- Storage: dpm
  - Tests @ LAPP: SRM-less SE (Ongoing)
- Batch system
  - Torque/Maui
  - HTCondor (LAL, IRFU, CPPM\*new)
- CE
  - CREAM
  - ARC (IRFU, CPPM\*new)

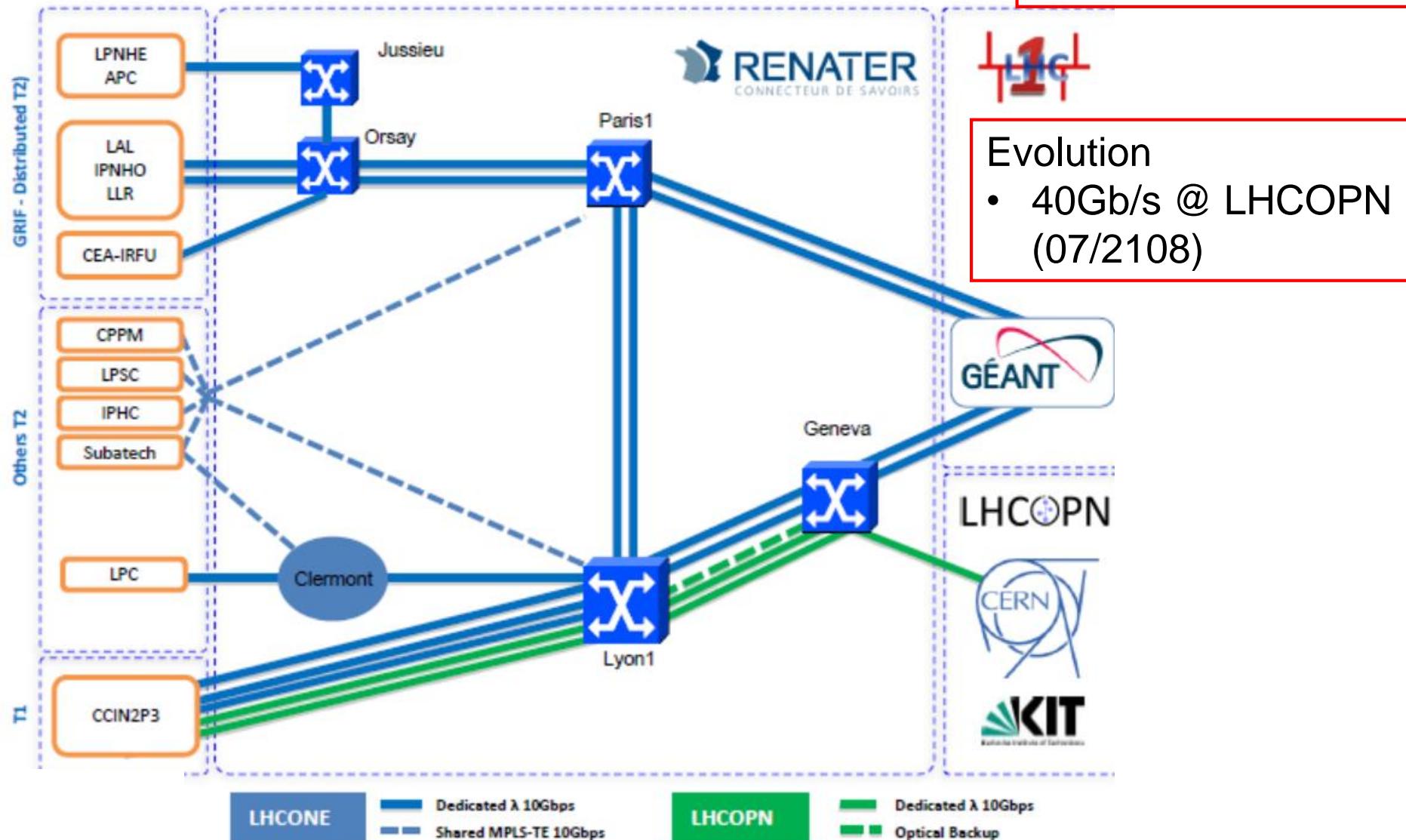
# VOs

SITES	VOs
LPC	ATLAS, ALICE, LHCb
LAPP	ATLAS, LHCb
LPSC	ATLAS, ALICE
CPPM	ATLAS, LHCb
GRIF-LAL	ATLAS, LHCb
GRIF-IRFU	ATLAS, CMS, ALICE
GRIF-LPNHE	ATLAS, CMS, LHCb

- For multi-VO some tweaking needed @batch
  - Eg with ALICE, long 1core jobs, need protection to have 8core ATLAS jobs running
  - LPSC OK, LPC ongoing

# Connectivity

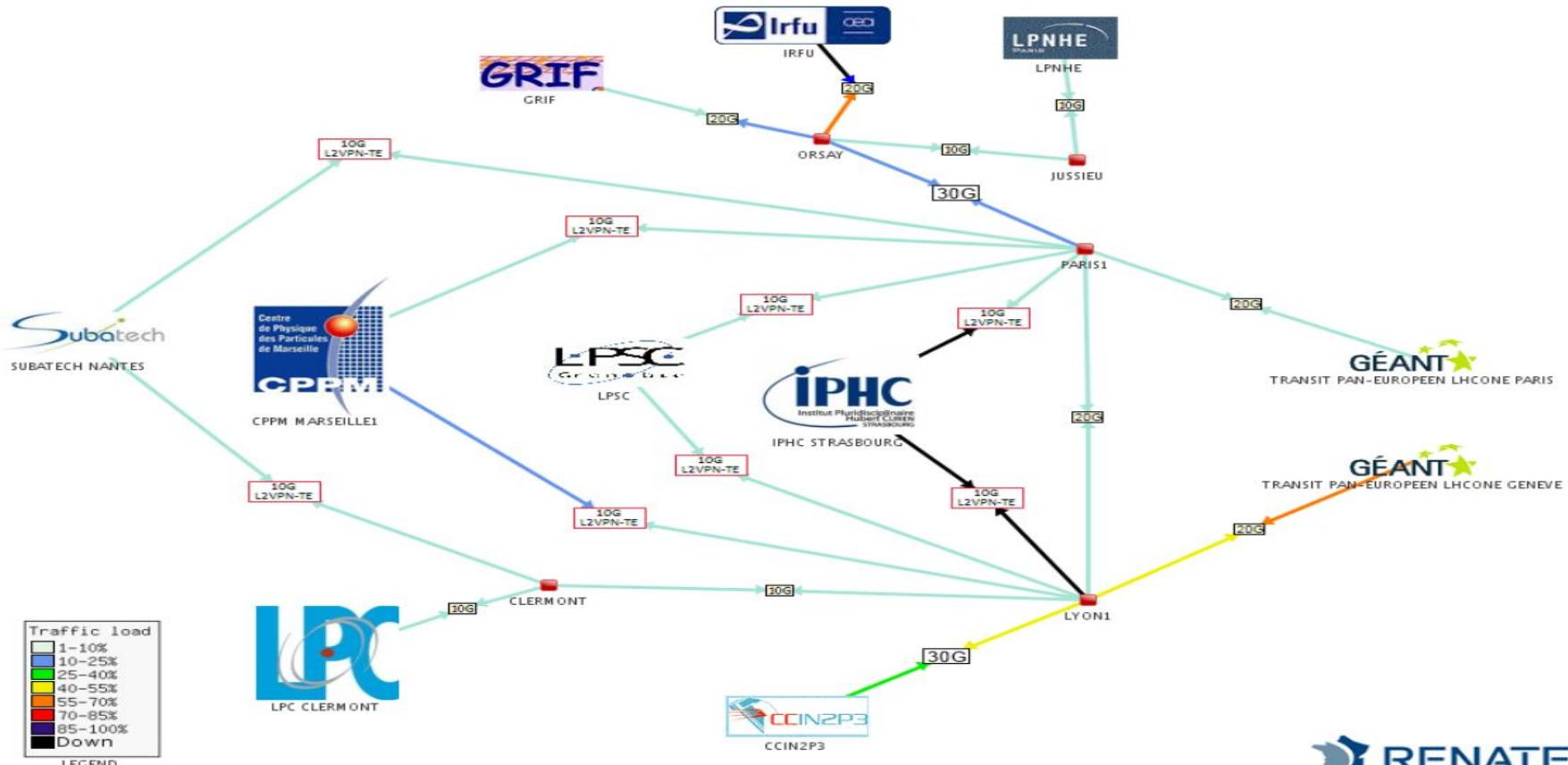
See Jérôme/Eric's talk



# LHCONE weathermap in FR

## LHCONE France

- Weathermap [https://pasillo.renater.fr/weathermap/weathermap\\_lhccone\\_france.html](https://pasillo.renater.fr/weathermap/weathermap_lhccone_france.html)



# Infrastructure

SITES	Electricity	Cooling
LPC	65 kW	Air 77*kW
LAPP	2*80 kVA	Air 2*60 kW
LPSC	120 kW	100 kW freecooling
CPPM	60 kW	Air 3*32 kW
GRIF-LAL	150 kW	200 kW (standard)
GRIF-IRFU	200 kW	Water 300 kW
GRIF-LPNHE	250 kVA	Water 8*25 kW

# CPU ATLAS Pledges

\* Not final

SITES	2016 (HS06)	2017	2018
LPC	10500	11000	11000*
LAPP	12500	14500	18000
LPSC	7800	10100	10100*
CPPM	8000	8000	11000
GRIF-IRFU	7700	19200	22700
GRIF-LAL	6000	10700	13400
GRIF-LPNHE	5600	10050	10050

• GRIF

- Big increase in 2017 (Extra 100k€ funding)

# ATLAS Storage pledges

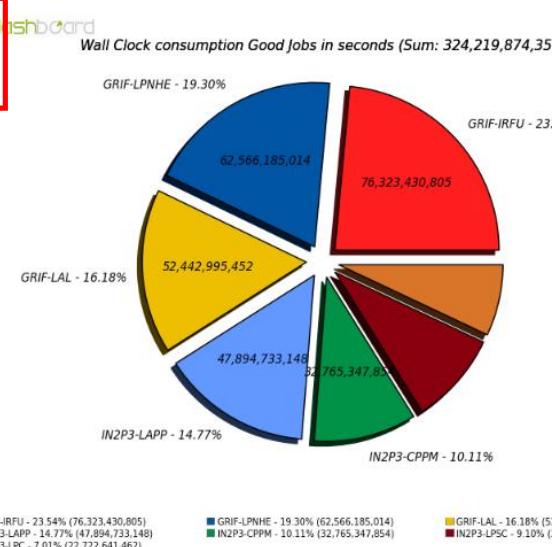
SITES	2016 (TB)	2017	2018
LPC	1100	1200	1200
LAPP	1500	1600	1850
LPSC	720	820	820*
CPPM	900	900	1000
GRIF-IRFU	980	1300	1300
GRIF-LAL	760	800	1000
GRIF-LPNHE	710	740	950

- GRIF

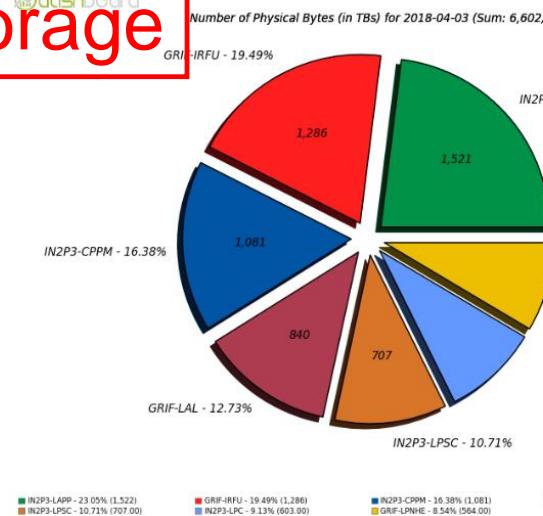
- Big increase in 2017 (Extra 100k€ funding)

# French-T2s: Resource usage on 1yr

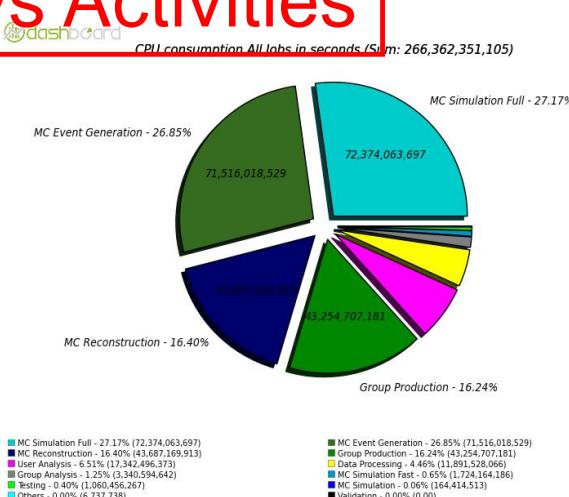
CPU



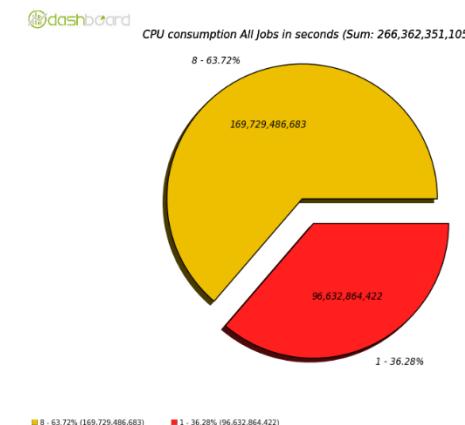
Storage



CPU vs Activities



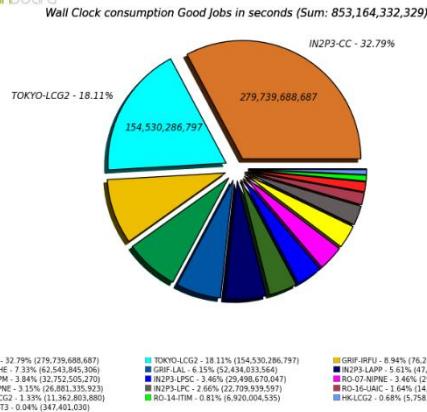
CPU vs #Cores



# FR-cloud in ATLAS on 1yr

- All FR-cloud sites

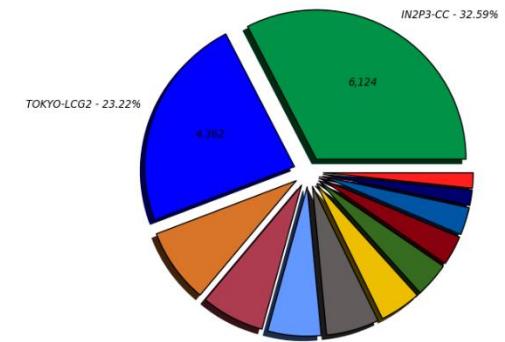
CPU



■ IN2P3-CC - 32.79% (279,739,688,687)  
 ■ GRIF-BPFU - 8.04% (70,395,981,500)  
 ■ IN2P3-JAIP - 5.61% (47,894,092,593)  
 ■ IN2P3-LAL - 6.15% (52,433,033,564)  
 ■ RO-07-NPHE - 3.46% (29,496,380,768)  
 ■ IN2P3-LPC - 3.46% (29,496,670,047)  
 ■ IN2P3-LPC - 2.66% (22,709,539,597)  
 ■ RO-16-UAIIC - 1.64% (14,014,463,707)  
 ■ HK-CCG2 - 0.81% (6,920,004,555)  
 ■ IN2P3-CC-T3 - 0.04% (347,401,030)

dashboard

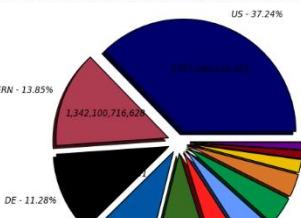
Number of Physical Bytes (in TBs) for 2018-04-03 (Sum: 18,792)



Storage

dashboard

Wall Clock consumption Good Jobs in seconds (Sum: 9,687,312,938,940)

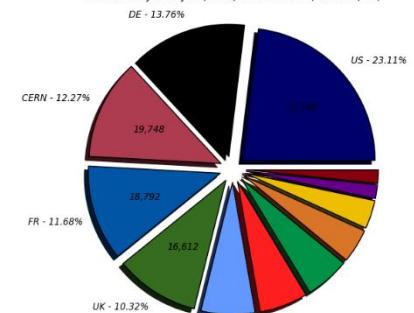


■ US - 37.24% (3,607,082,112,351)  
 ■ FR - 8.81% (853,164,332,329)  
 ■ DE - 4.28% (414,463,346,738)  
 ■ UK - 1.05% (101,753,571,130)  
 ■ other - 0.09% (514,811)

■ CERN - 13.85% (1,342,100,716,628)  
 ■ DE - 11.28% (1,200,000,000,000)  
 ■ FR - 8.59% (852,074,409,892)  
 ■ CA - 4.34% (420,277,785,293)  
 ■ IT - 4.21% (407,506,316,297)  
 ■ NL - 3.31% (320,908,641,619)  
 ■ RO - 1.65% (101,753,571,130)

dashboard

Number of Physical Bytes (in TBs) for 2018-04-03 (Sum: 160,928)



# Ongoing Developments

- CE
  - ARC CE (IRFU) in prod, HTCondor CE pending
- Batch
  - HTCondor (LAL, IRFU), No SLURM
- Storage
  - France strongly involved in dpm collaboration
- Opportunistic resources
  - HPC
    - LPNHE (test machine), IDRIS (CC) but 10k slots max
    - Need to get involved in European EuroHPC
  - Cloud
    - OpenStack@CC, JupyterHub (LAL, OpenStack+Ceph)
    - Commercial European project
  - No implication in ATLAS@home

# Support: Evolution for Run-2

- Shifts
  - No more ATLAS@P1 shifts
    - Shared with ADCoS (T0->T1s) & Offline shifts (Tasks)
  - CRC: High level (ex-AMOD) **Class#1**
  - ADCoS shifters **Class#2**
    - ATLAS wide. Notify sites (ggus) & squads (email, Jira)
  - DAST: Support to users for analysis **Class#2**
  - Cloud Squad **Class#3**
- In French Cloud
  - CRC: Sabine Crépé-Renaudin
  - ADCoS: Hiroshi (Senior), Tomoe, Edith Knoops (CPPM), Sophie Trincaz (LPNHE)
  - DAST: Laurent Duflot (LAL)

# FR-Squad: 2010-2014

- Operation 5-7/7 on a week-time basis
  - [atlas-support-cloud-fr@cern.ch](mailto:atlas-support-cloud-fr@cern.ch)
- 3 persons
  - Sabine Crépé-Renaudin (LPSC)
  - Emmanuel (Manu) Le Guirriec (CPPM)
  - LP (LAL)
  - And for Romanian sites: Camelia Visan (Bucarest)
- Previous members
  - I.Nikolic & T.Beau (LPNHE) & Wenjing Wu(IHEP)
- In addition, dedicated support at T1
  - Emmanouil Vamvakopoulos (aka Manoulis)

# FR-Squad: 2014-?

- Today: LP only + Manoulis@T1
- Evolution
  - Squad work is made much easier
    - Sites & ATLAS WFM&DDM much more stable
    - ADCoS are doing great!
    - More & more automat'ed tasks (Downtimes, HC tests)
  - Interaction with T1
    - No problem thanks to Manoulis!
  - But still ~daily work needed
    - ggus, sites availability, AGIS update, SL7 migration,...
  - Under ICB scrutiny (March 2018)
    - #FTEs, Activities & Uniformity across clouds