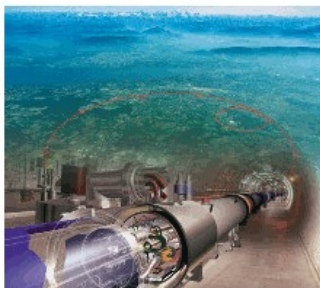


## Accueil

*Bienvenue sur le wiki de LCG-France - Welcome to the LCG-France wiki site*



**LCG-France** is the **French** contribution to the international collaboration building the [Worldwide LHC computing grid](#). The project is dedicated to the **LHC computing** and was launched in 2004 by High Energy actors to provide a funded Tier-1 centre and an Analysis facility in CC-IN2P3(Lyon) supporting the 4 LHC experiments, promote the emergence of Tier-2 and Tier-3 centres and make agreements on International MoU commitments with WLCG project. More on LHC project [here](#)

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- Conferences
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- Let. Infor. IN2P3
- FG Info Express
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# LCG-France report for Alice T1T2 workshop 2022

Jean-Michel BARBET, Subatech Laboratory, Nantes, France  
on behalf of LCG-France [\*]

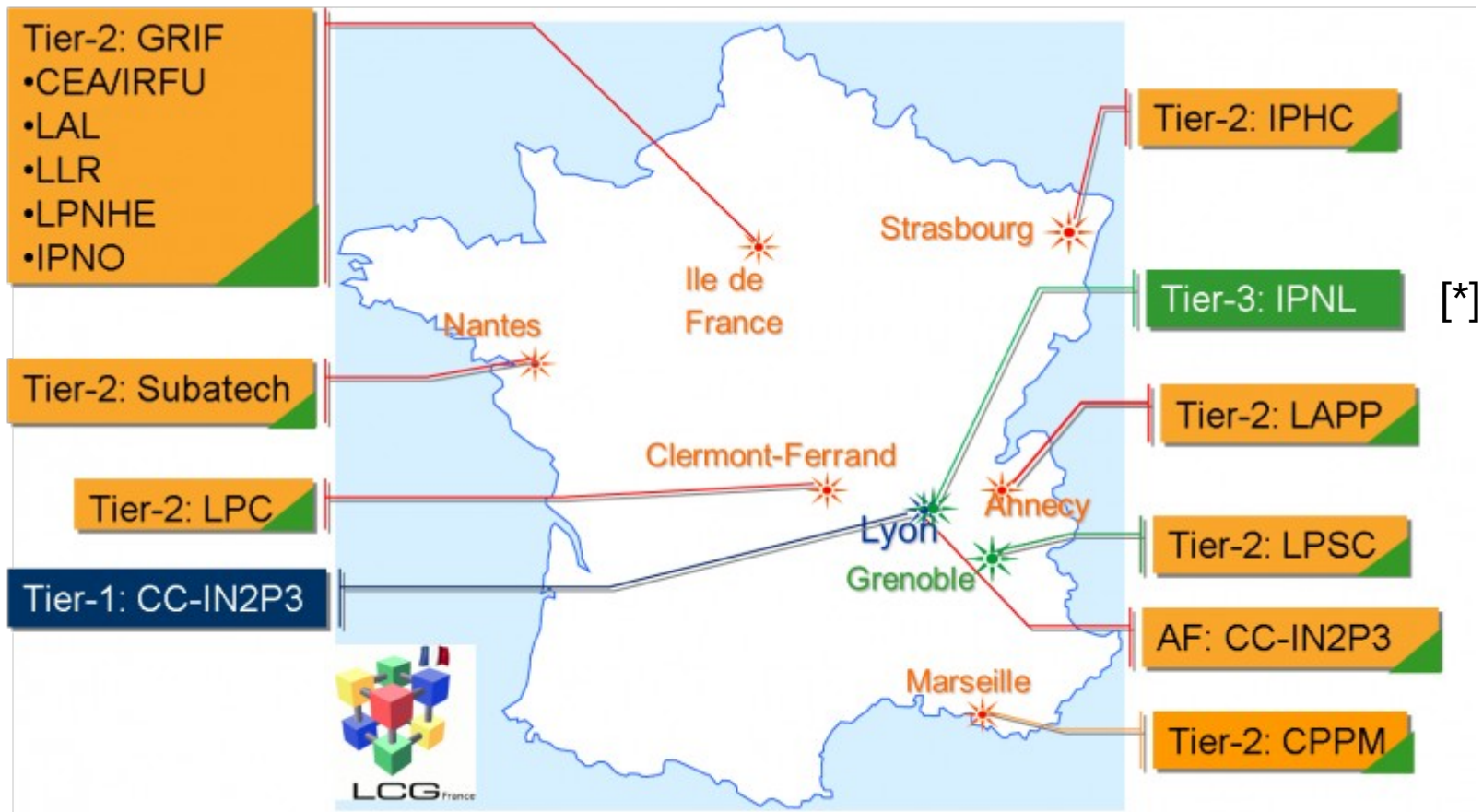
[\*] LCG-France : <http://lcg.in2p3.fr/>

Thanks to all FR sites managers who provided information for this report

# Introduction : LCG-France

- A project that involves IN2P3 (CNRS) and IRFU (CEA)
- MoU between LCG-France and sites. Goal is to deliver 8 to 10 % of the global WLCG resources, priority is on the Tier1 : CCIN2P3.
- Budget : 2M€ / year
- Executive board, Steering board, Technical coordination
- Meetings and events : twice a month (the 2 boards alternatively)+ 2 LCGFR f2f meetings per year
- Links with the FR NGI, all sites part of the FR NGI

# LCG-France : sites



Fev18

[\*] Since end of 2021, the Tier3 IPNL has withdrawn from the grid.

# Alice in LCG-France



# FR Alice Resources 2018-2023

	2019 (1)	2020	2021	2022	2023	% of global Alice request in 2023 [2]
T1 CPU	41000	42000	54780	57270	65780	11.5%
T1 Disk	5100	5800	6396	6875	7938	12.5%
T1 Tapes	6200	6200	8550	9765	12710	15.5%
T2s CPU	44773	50610	51422	52742	36964	6.2%
T2s Disk	4159	4133	5191	5422	3125	5.4%

*Pledged resources per year, CPU in KHS06 ; Disk and Tapes in TBytes*

[1] Pledges for year Y start on April 1st of the year  
source : <https://wlcg-cric.cern.ch/core/pledge/list/>

[2] Alice's requests for 2023  
source : <https://wlcg-cric.cern.ch/core/vopledgereq/list/>

# Alice CPU Pledged/Provided, Ex:2021

	Pledged 2021[1]	Expected [2]	Provided [3]	Ratio
CCIN2P3	54780	479872800	643603390	134 %
GRIF	21496	188304960	498807846	264 %
Strasbourg	6000	52560000	36817853	70 %
LPC Clermont	6000	52560000	85425168	162 %
LPSC Grenoble	4426	38771760	50771937	130 %
SUBATECH [4]	13500	118260000	134400785	113 %
Total	106202	930329520	1449826980	155 %

[1] : April 2021 to March 2022

[2] : Expected (HS06\*hours)= Power (HS06) pledged \* (365\*24)

source : <https://wlcg-cric.cern.ch/core/pledge/list/>

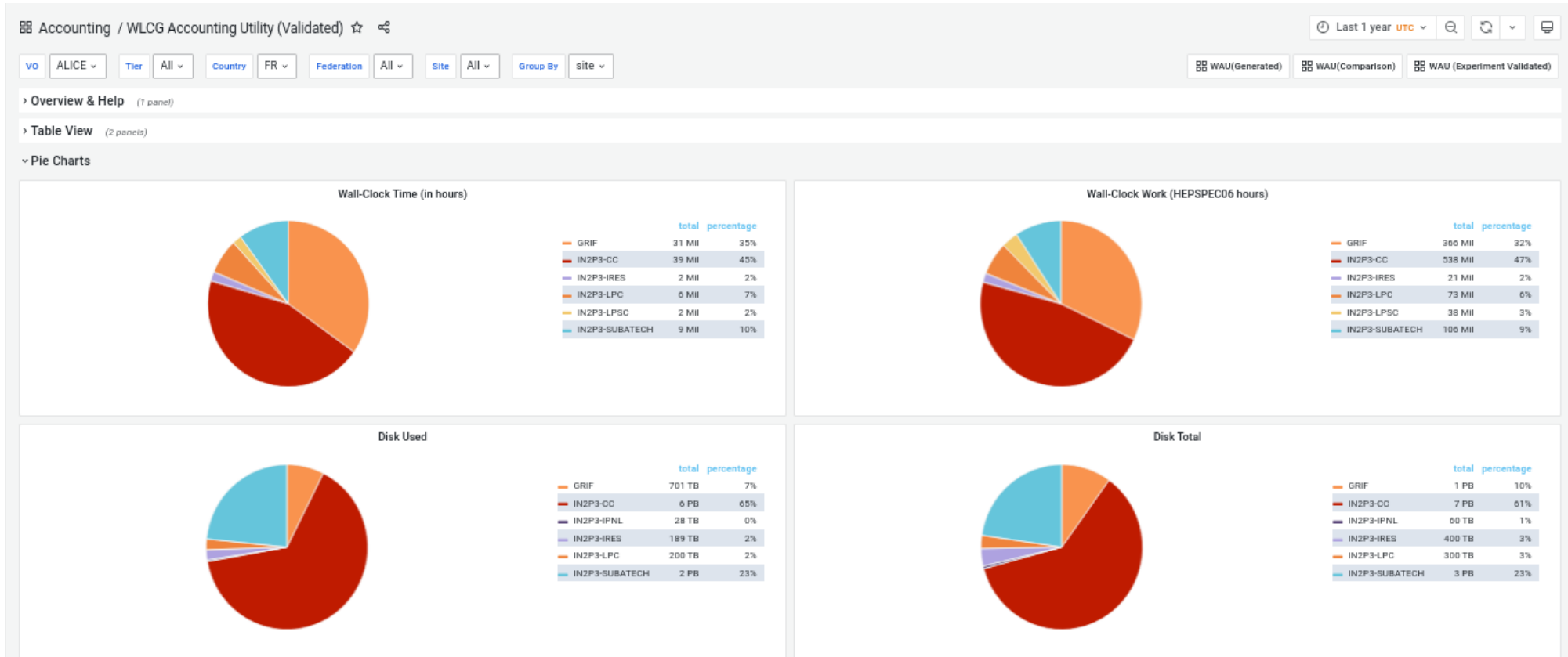
[3] : Provided (HS06\*hours)

source : <https://accounting.egi.eu/wlcg/country/France/>

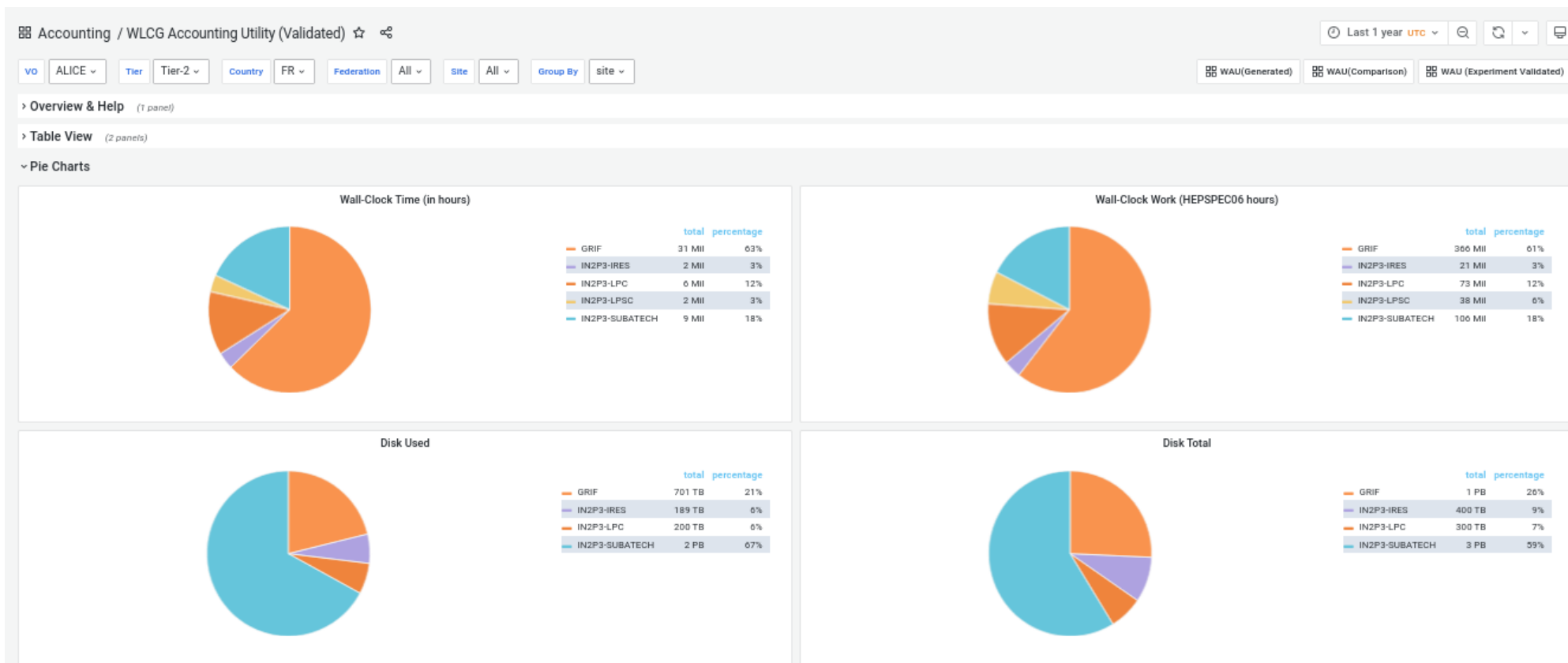
source : <https://monit-grafana.cern.ch/>

[4] : Including CCIPL HPC Center

# Resources FR last year



# Resources in FR Tier2s last year





# Operations at T1 CCIN2P3

- See Aresh's presentation following ...

# Operations at T2s

- Report on the status, projects and remarks from individual tier2s in France
- Sites [\*] :
  - GRIF-IRFU
  - GRIF-IPNO-IJCLAB (was : GRIF-IPNO)
  - Strasbourg-IRES
  - Clermont
  - Grenoble
  - Subatech + Subatech\_CC IPL (HPC center)

[\*] IPNL (Tier3 in Lyon) has stopped end of 2021  
Grenoble has stopped providing storage to Alice in 2020

# Tier2 Availability/Reliability

SiteMon / WLCG SiteMon Historical Profiles

2020-01-01 00:00:00 to 2022-08-31 23:59:59 UTC

VO: alice Profile: ALICE\_CRITICAL Tier: 2 Country: France Federation: All Site: All Flavour: All Hostname: All Recomputations: status

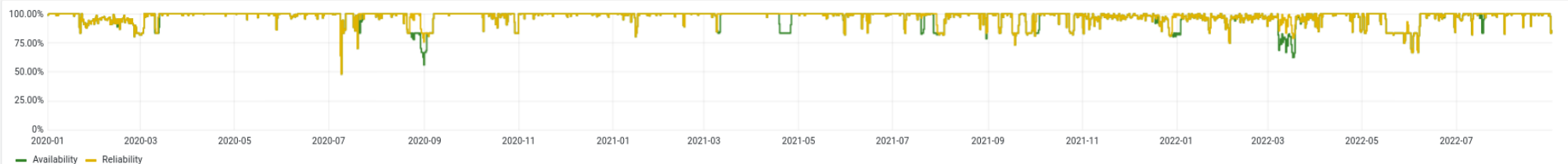
More Dashboards Website

This dashboard shows the availability, reliability, and status computation from ETF tests. To use it:

1. Apply the desired selection using the filters on top (dashboard will also load faster).
2. Click on "Availability & Reliability", "Site Status", "Endpoint Status", or "Test Status" to see results. Scroll up/down for more results.

## Availability & Reliability

Site	Availability	Reliability
Clermont	97.88%	98.97%
Grenoble	96.56%	96.56%
GRIF_IPNO	96.54%	96.68%
GRIF_IRFU	95.19%	98.59%
Strasbourg_IRES	93.86%	94.18%
Subatech	98.96%	98.96%



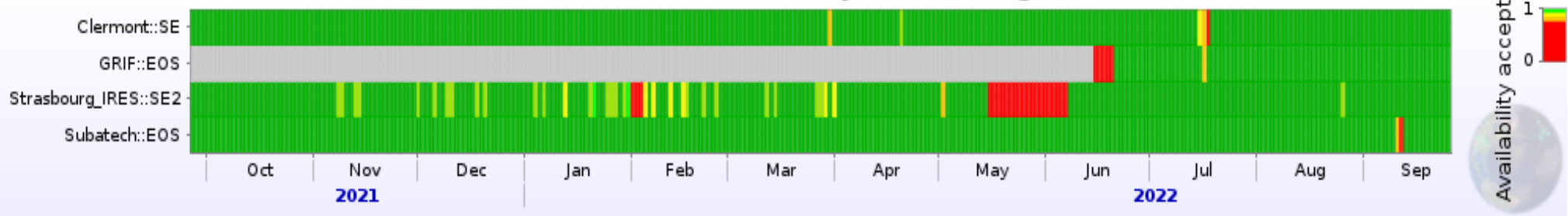
Site Status (1 panel)

Endpoint Status (1 panel)

Test Status (1 panel)

# Tier2 SE Availability

AliEn SEs availability for writing



Statistics						
Link name	Data		Individual results of writing tests			Overall
	Starts	Ends	Successful	Failed	Success ratio	Availability
Clermont::SE	26 Sep 2021 07:45	26 Sep 2022 07:53	8766	33	99.62%	99.63%
GRIF::EOS	15 Jun 2022 16:57	26 Sep 2022 07:54	2349	124	94.99%	95.01%
Strasbourg_IRES::SE2	26 Sep 2021 07:59	26 Sep 2022 08:05	8156	614	93%	92.99%
Subatech::EOS	26 Sep 2021 07:54	26 Sep 2022 08:01	8765	20	99.77%	99.77%

Issue : Cannot see SE that have been decommissioned (IPNL, Grenoble, GRIF-IRFU, GRIF-IPNO)

# Technologies in Tier2s

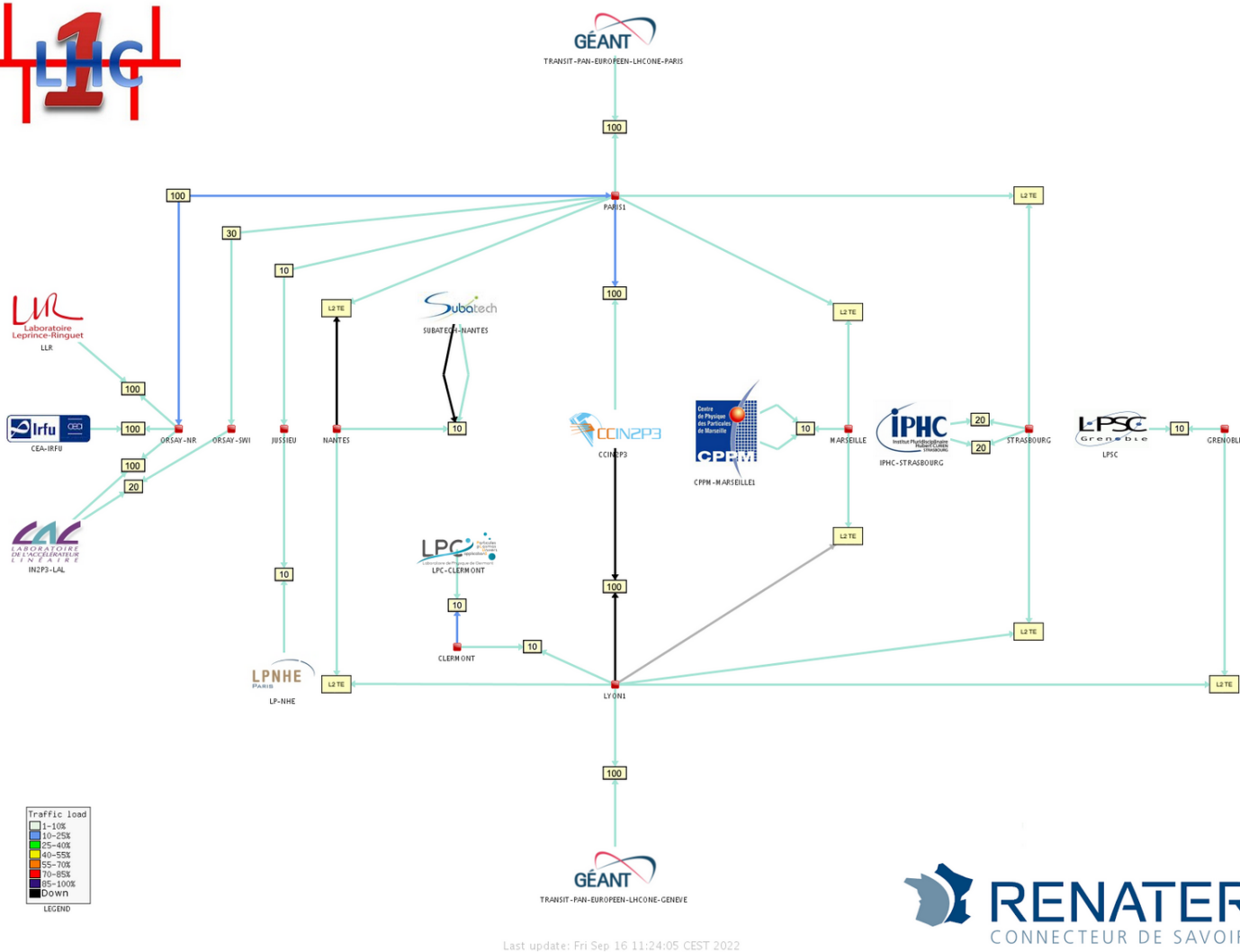
	GRIF-IRFU	GRIF-IJCLAB	Strasbourg	Clermont	Grenoble	Subatech
HT-Condor-CE		X				
ARC-CE	X		X	X	X	X
Torque			X		X	
SLURM						X [2]
HT-Condor	X	X		X		X
Xrootd only			X [1]	X		
Dcache						
EOS	X[3]	X[3]				X

[1] : Strasbourg is considering EOS but would like to share the instance with CMS

[2] : SLURM is used in the CCIPL HPC center

[3] : A single EOS instance is replacing previous GRIF-IRFU's DPM and GRIF-IPNO's xrootd

# Network



**CCIN2P3 :**  
100Gbits/s on LHC-ONE  
100Gbits/s on LHC-OPN  
(200 Gbits/s planned)

**GRIF :**  
100Gbits/s

**Strasbourg :**  
20Gbits/s  
(40Gbits/s 2023 planned)

**Clermont :**  
10Gbits/s  
(40Gbits/s 2023 planned)

**Grenoble :**  
10Gbits/s

**Subatech :**  
10Gbits/s  
(capped to 8Gbits/s)

# Sites report on operations

- Storage provided by sites to Alice is not 100 % used
  - Stated by Strasbourg: storage underused (150TB on the 400TB provided)
- Difficulties to understand, setup and maintain storage monitoring (usage, traffic)
  - Clermont: Would a diskless site make sense since the storage provided is already small ?
- Will xrootd only (not EOS) be supported in the future ?

# Summary of changes in FR Tier2s

- IPNL has stopped ...
- Grenoble has already stopped providing storage for Alice end of 2020 and will stop the site in 2023
- Subatech (and Subatech-CCIPL) will stop in 2023, schedule to be defined, but 2023 pledges are 0 already
- DPM is gone (at least from Alice point of view), replaced by EOS at GRIF (Alice data from IRFU and IPNO migrated from xrootd and DPM into the new EOS)



# Summary

- COVID-19 crisis have not had a big impact on the delivery of services and resources, thanks to the site managers dedication
- It has, however, limited face-to-face meetings and maybe impacted the « group momentum » (my feeling)
- Changes (containers, multicore computing) have been relatively smooth (except in Subatech-CCIPL, maybe)
- Funding and human resources in Tier2 are an issue in the years to come
- Uncertainties lie ahead on the availability of some hardware and delivery delays (which makes pledging a difficult exercise)
- Not forgetting the energy issue that may hit Tier1 as well as Tier2s

# Backup Slides