

The GRIF project



irfu

cea

saclay



irfu
cea
saclay

LM



GRIF is

a distributed Tier2/Tier3
(6 sites in the Paris region)

irfu
cea
saclay

Institut de
Recherche sur les lois
fondamentales de
l'univers

IPN
INSTITUT DE PHYSIQUE NUCLÉAIRE
ORSAY

LAL
LABORATOIRE
DE L'ACCÉLÉRATEUR
LINÉAIRE

10 Gbit/s WAN
(RENATER)

LPNHE
PARIS

LM



The project started in 2005 with the main goal of building a federated LCG Tier2 grid infrastructure but also cover computing needs of other fields.

Scientific field	Supported Virtual Organization
Particle physics	ATLAS, CMS, LHCb, ILC, CALICE, D0, SuperNemo, SuperB, GEANT4
Nuclear physics	ALICE, AGATA, QCD, MURE.IN2P3, PANDA.GSI, MCNPX
Earth science	EGEODE, ESR, climate
Chemistry	RadioChimie, CompChem
Life science	Biomed, neugrid, ISC-PIF, eticsprojet
Astronomy	CTA, Planck, Auger, Glast, astro
Thermonuclear fusion	Fusion
Computing	OPS, DTEAM, DestopGird, Proactive
Local activities	APC, LPNHE, IRFU, LAL, LLR, IPNO, PSUD

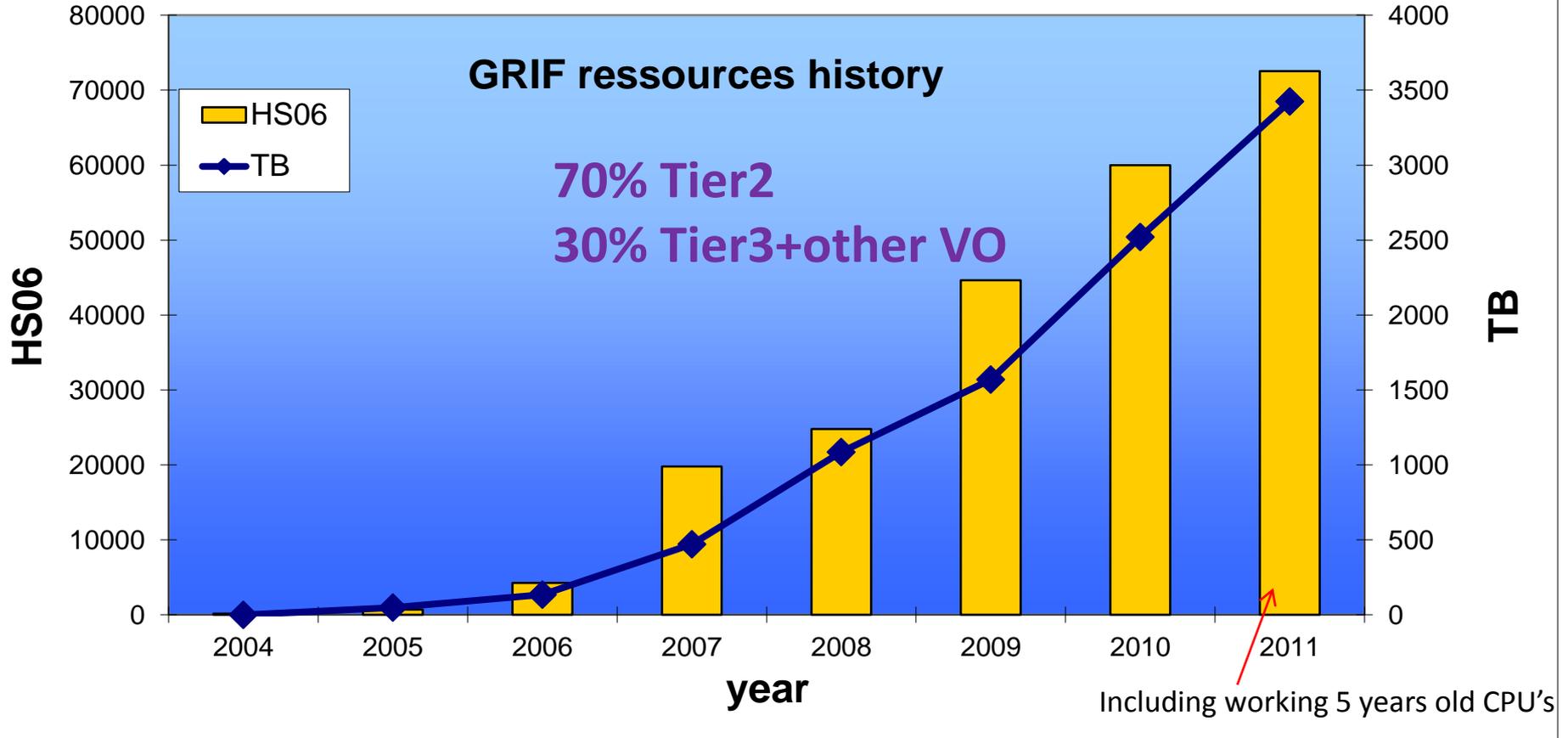
Around 40 supported virtual organizations

GRIF by numbers

10Gbit/s link between sites and CCIN2P3

GRIF ressources history

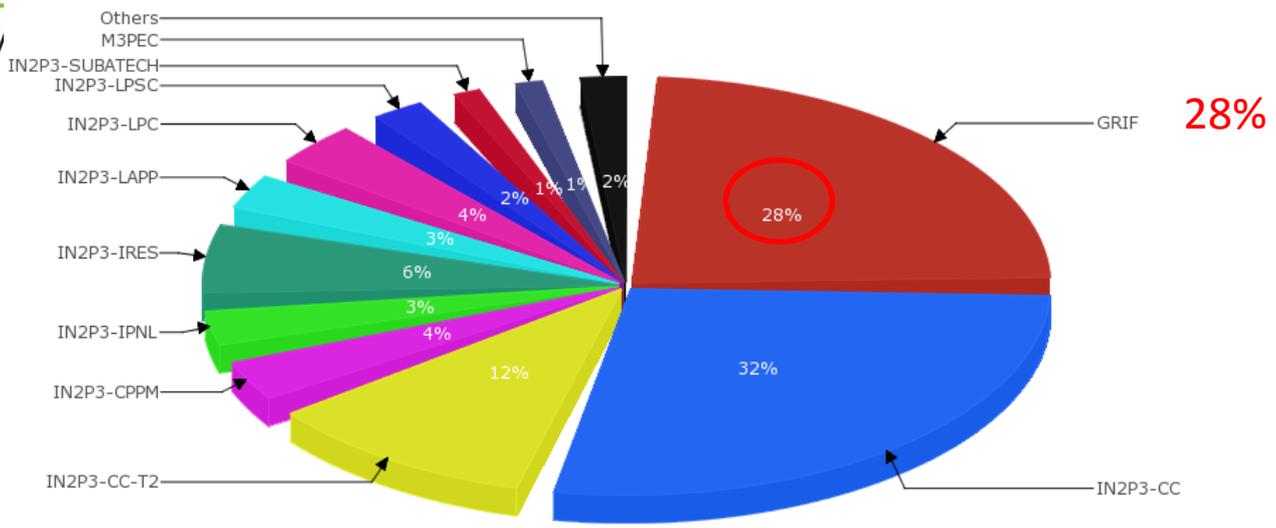
70% Tier2
30% Tier3+other VO



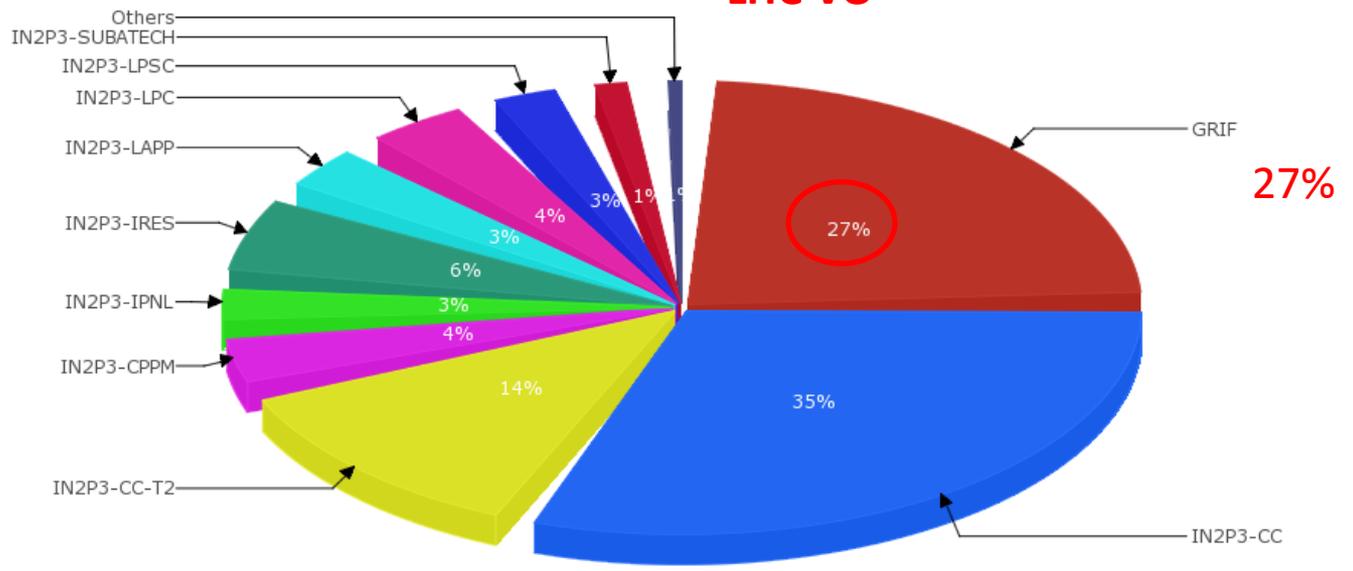
A common technical team of 20 peoples (12 FTE's)
Around 200 users (170 form LHC experiments)

FR- Accounting

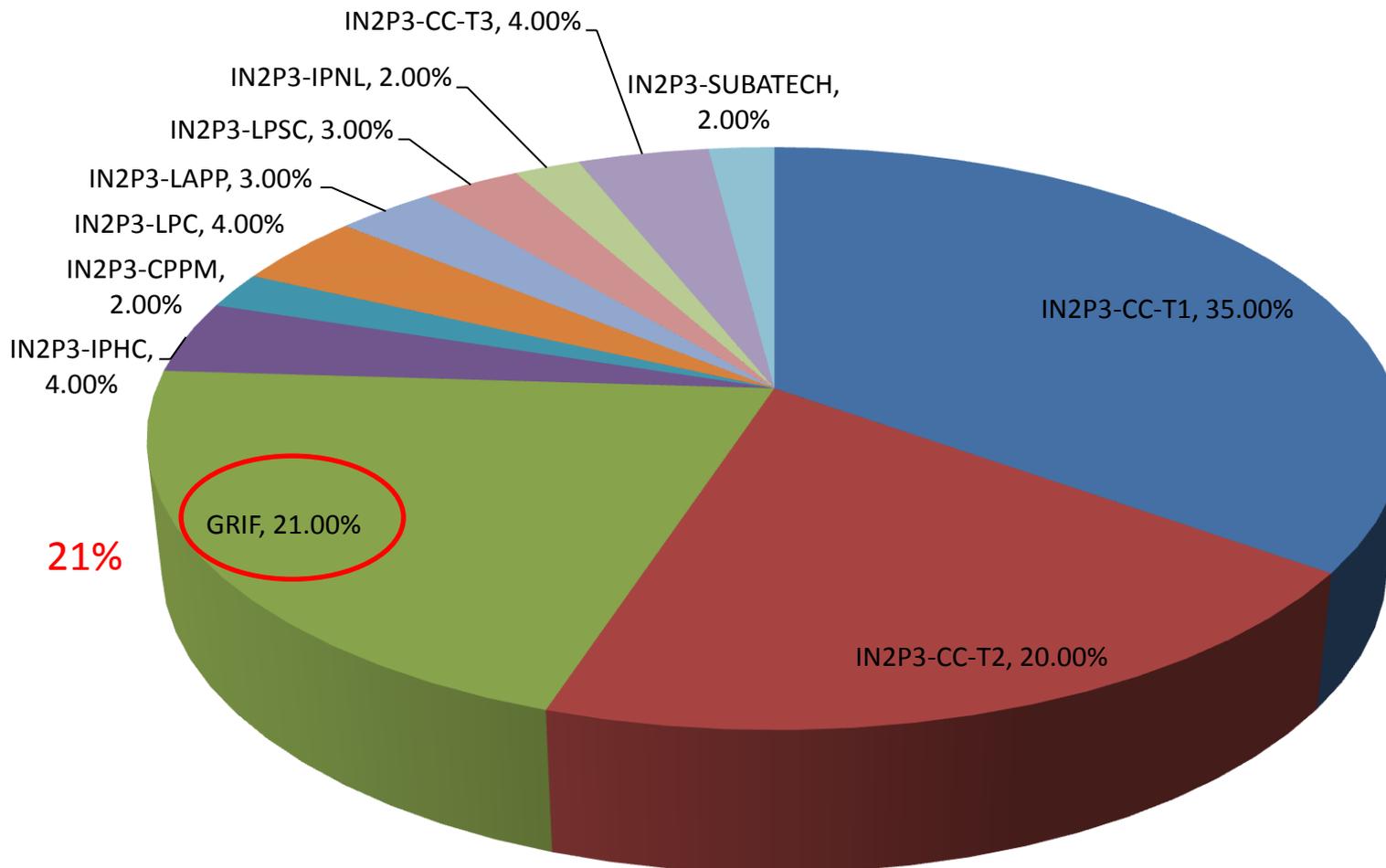
ALL VO



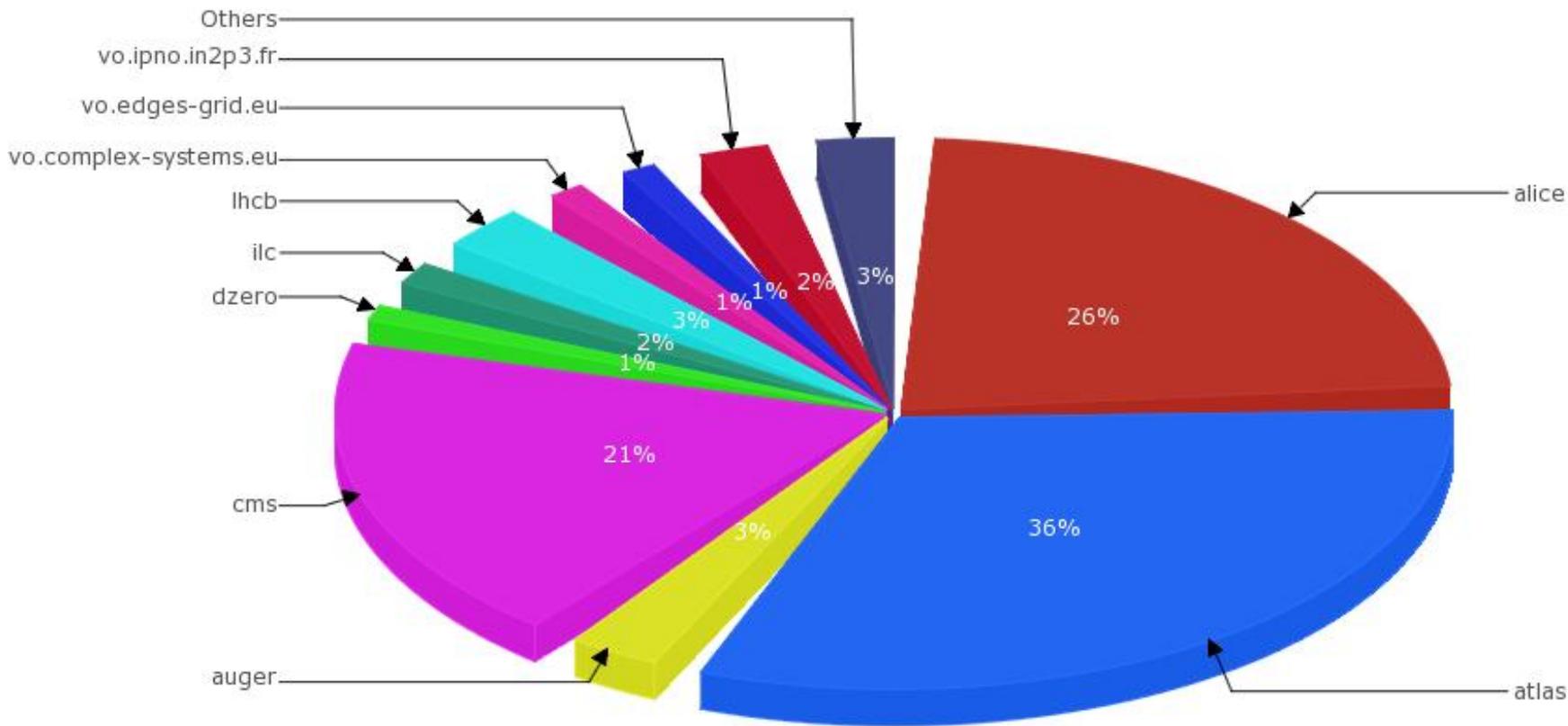
LHC VO



Installed Disk end 2011



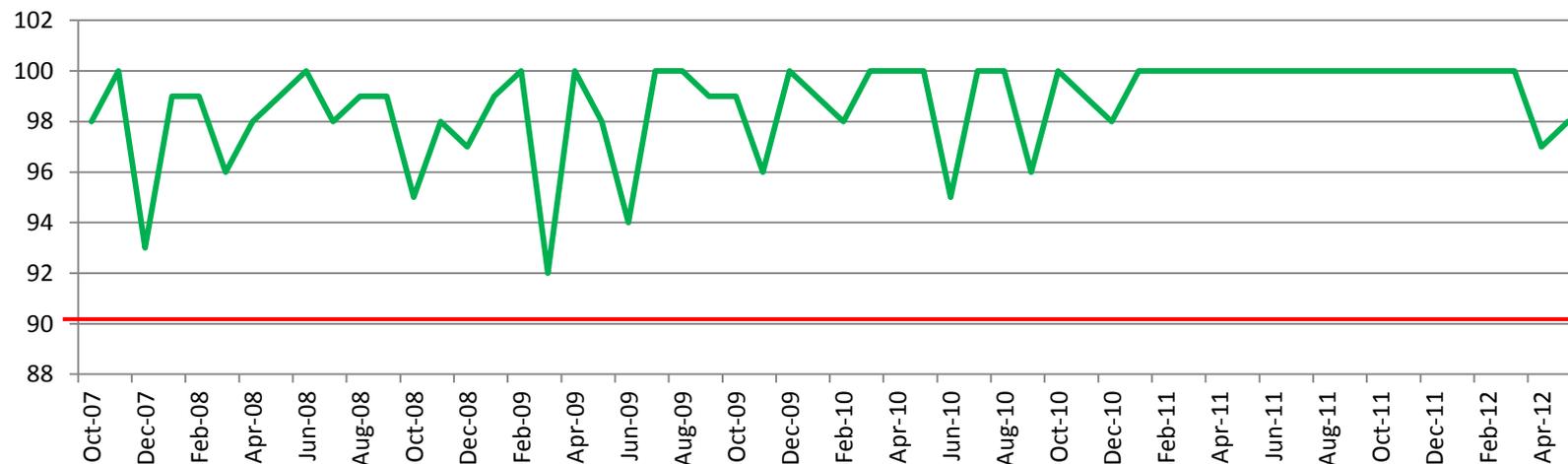
GRIF - Accounting



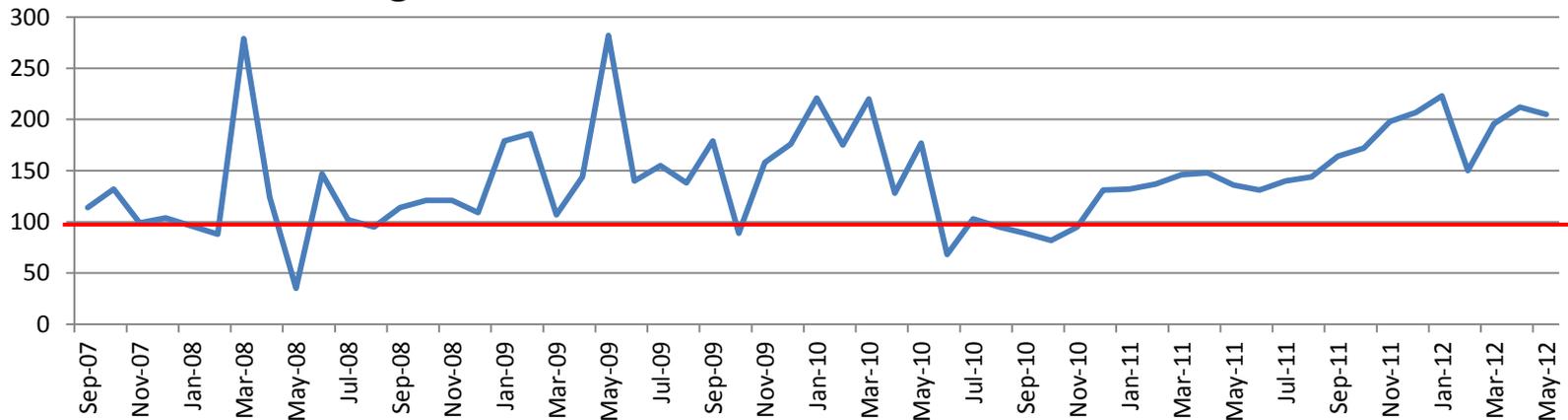
~85% LHC

LCG-View

% LCG availability

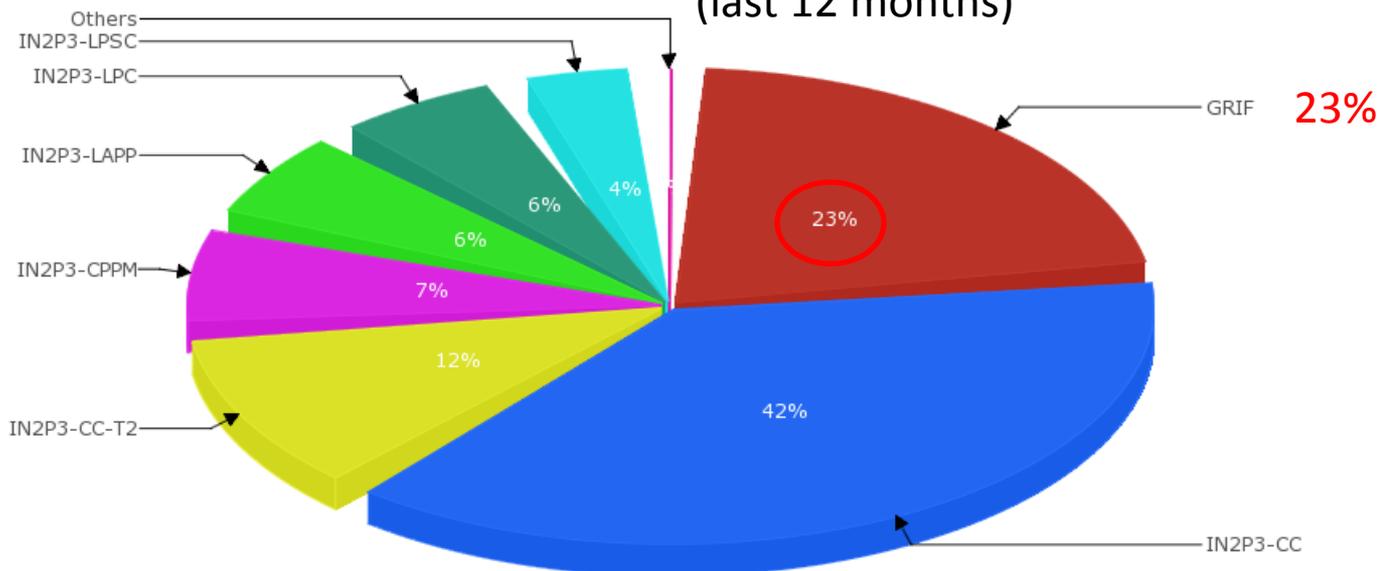


% LCG Accounting



ATLAS view (1/2)

(last 12 months)



GRIF-site	CE	SE	Disk&CPU share 2012
IRFU	node74	node12	40%
LAL	grid10	grid05	27%
LPNHE	Lpnhe-cream	lpnse1	33%

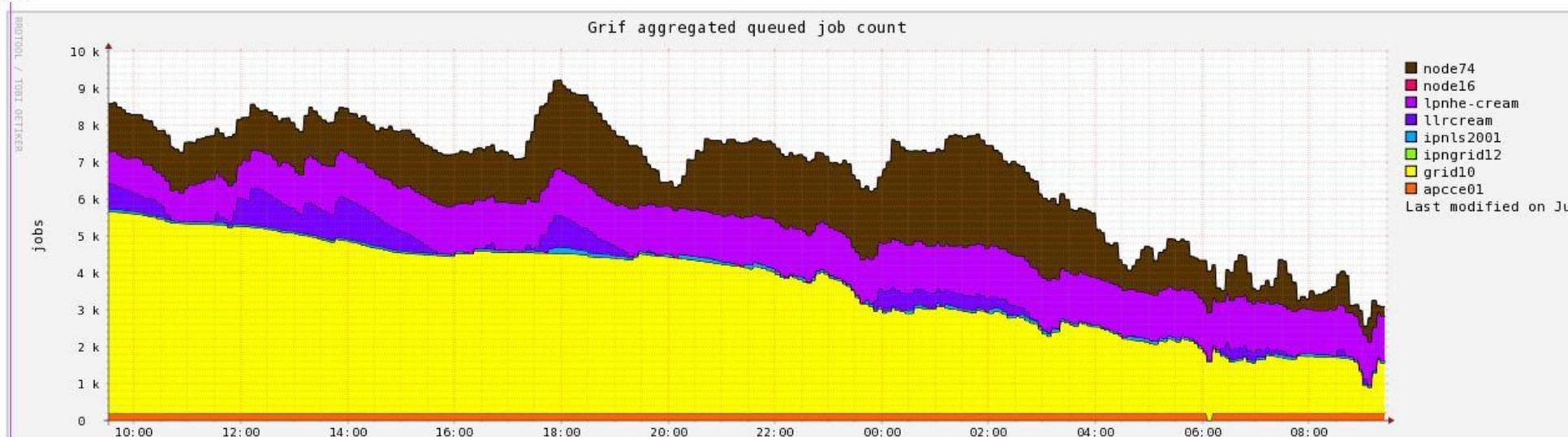
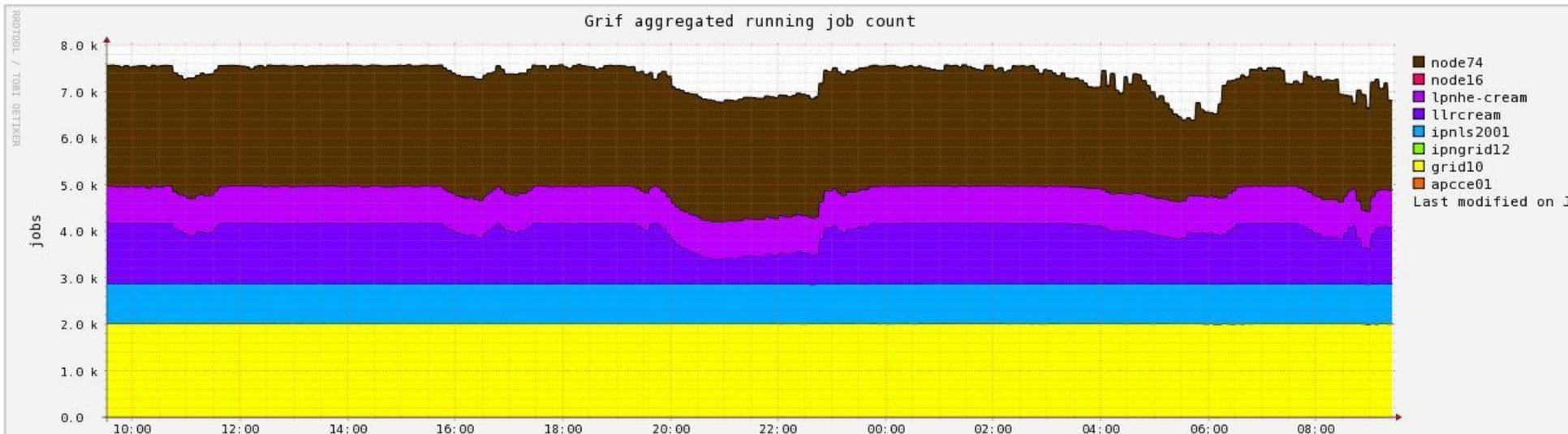
9050 HS06 and 1600TB DPM based storage

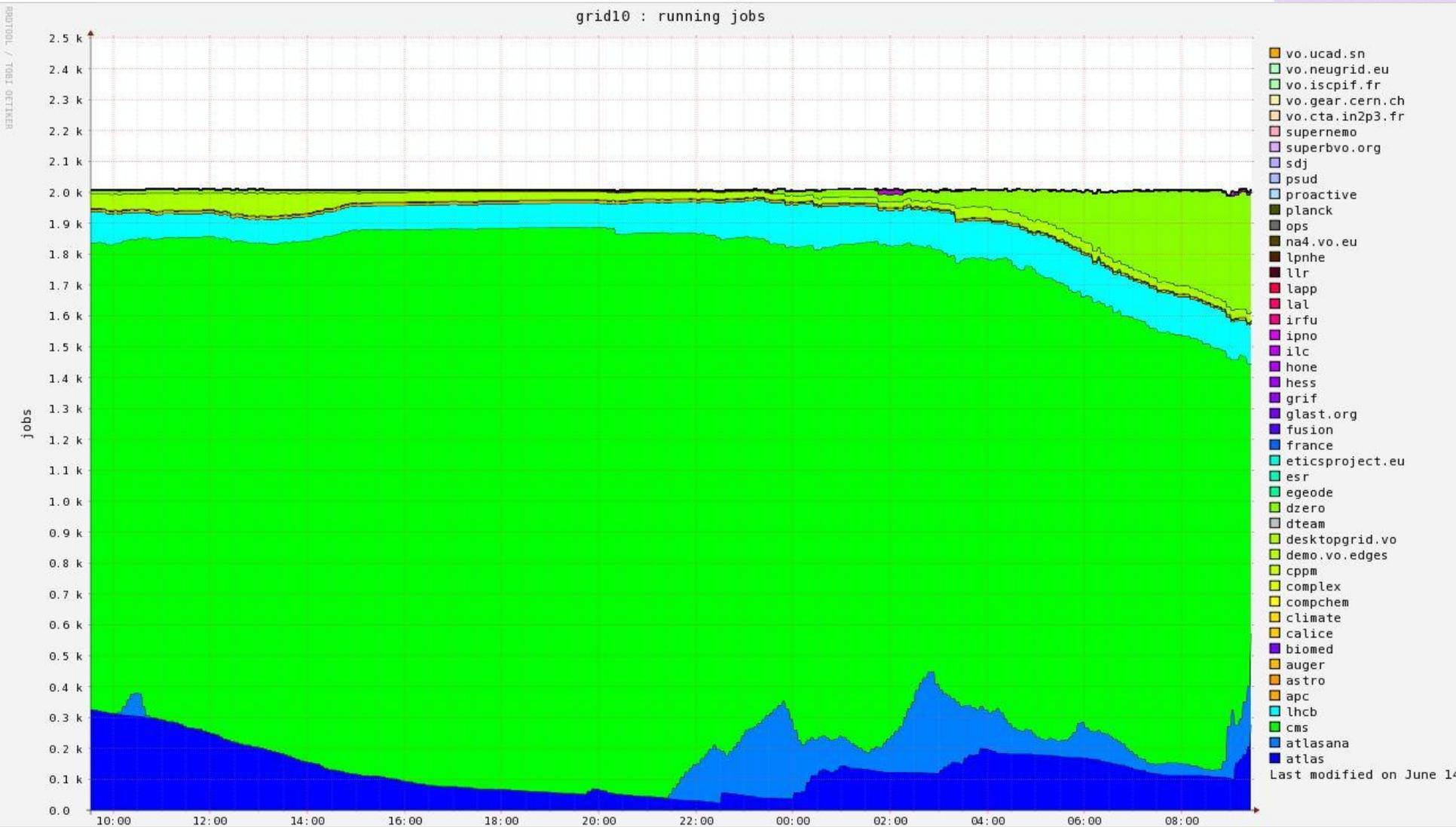
ATLAS view (2/2)

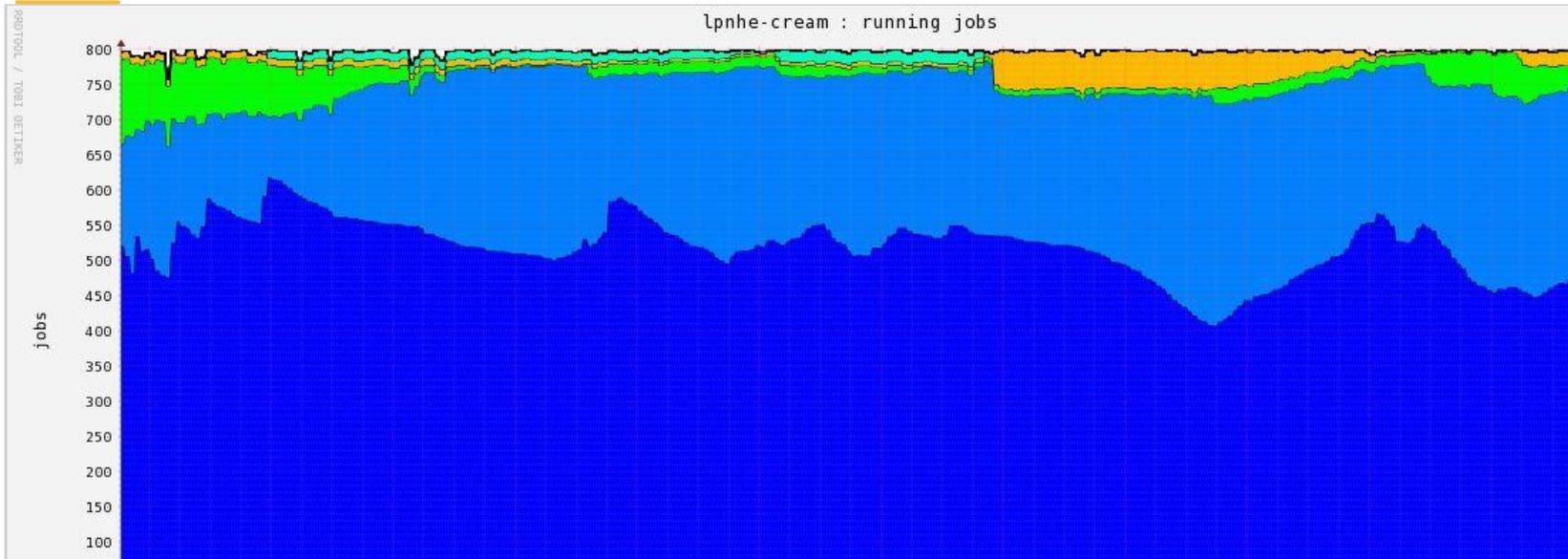
(last 12 months)

GRIF	Pledges	Accounting	Delivered
IRFU	4761774	16338911	343%
LAL	4625440	7804851	169%
LPNHE	4696473	8532464	182%
total	14083689	32676226	232%

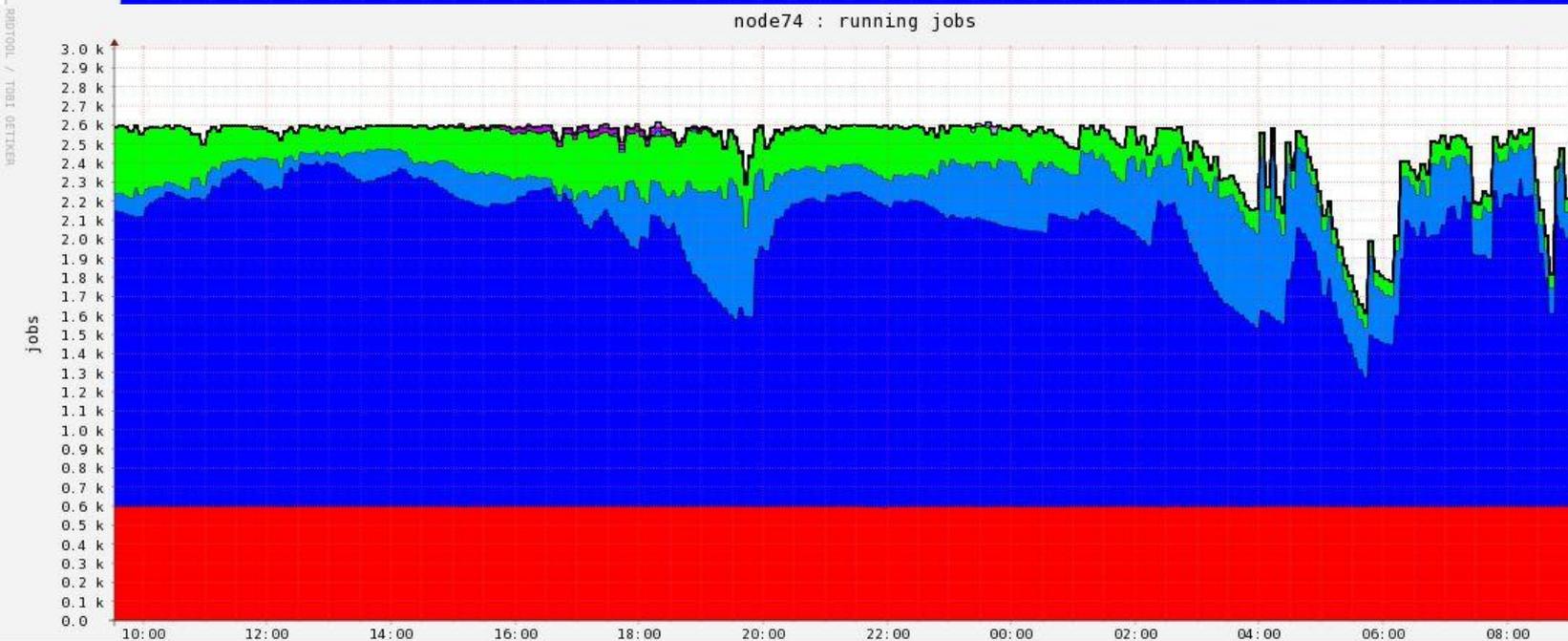
Exemples de Monitoring tools 1/3





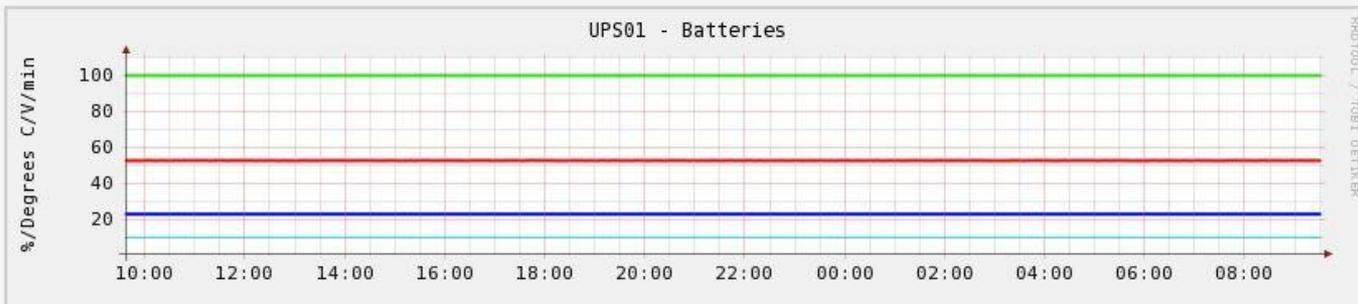
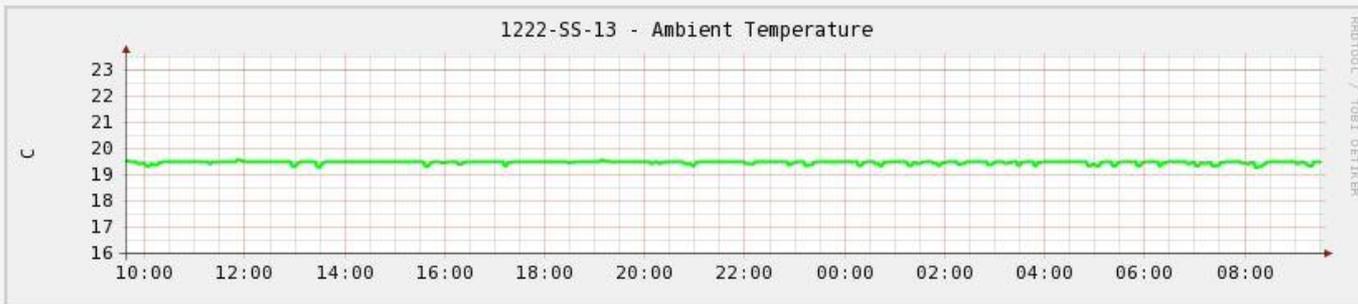
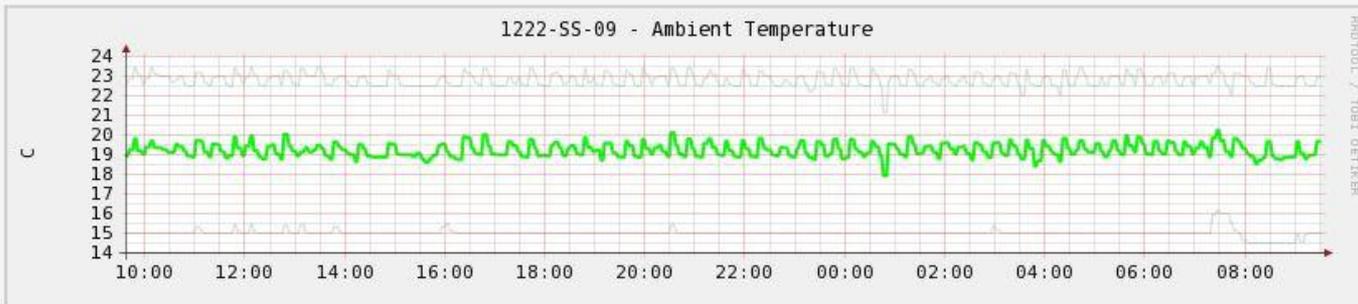
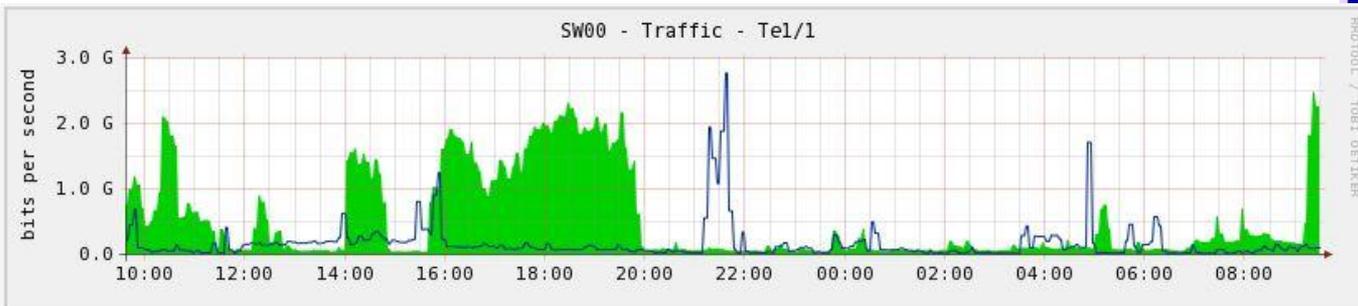


- vo.cta.in2p3.fr
 - ops
 - lpnhe
 - llr
 - lal
 - irfu
 - ipno
 - hess
 - grif
 - france
 - esr
 - dzero
 - dteam
 - calice
 - auger
 - apc
 - lhcb
 - cms
 - atlasana
 - atlas
- Last modified on June 14

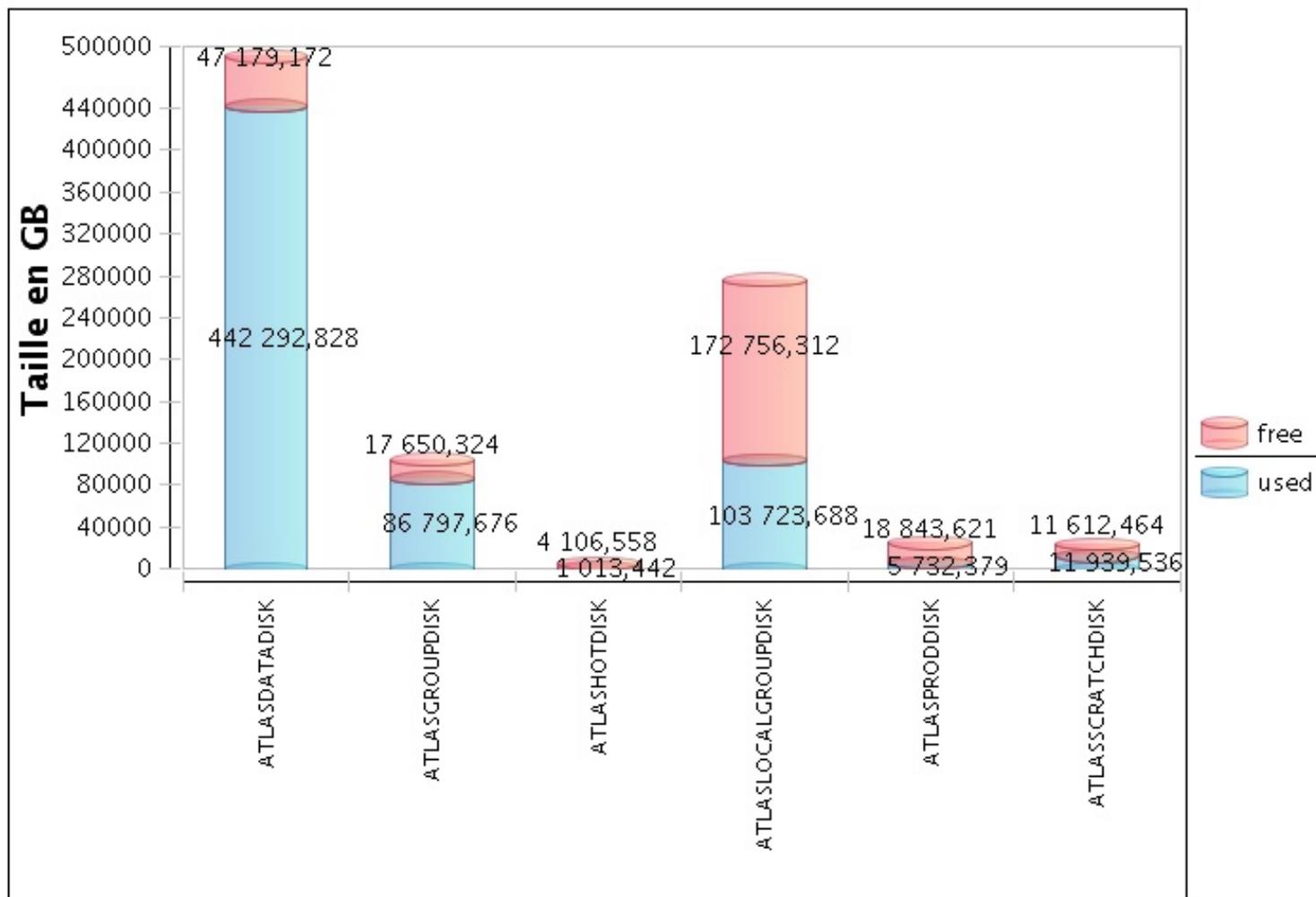


- vo.neuGRID.eu
 - vo.cta.in2p3.fr
 - sdj
 - ops
 - lpnhe
 - llr
 - lal
 - irfu
 - ipno
 - ilc
 - hess
 - grif
 - geant4
 - fusion
 - france
 - formation.idgri
 - dzero
 - dteam
 - biomed
 - apc
 - cms
 - atlasana
 - atlas
 - alice
- Last modified on June

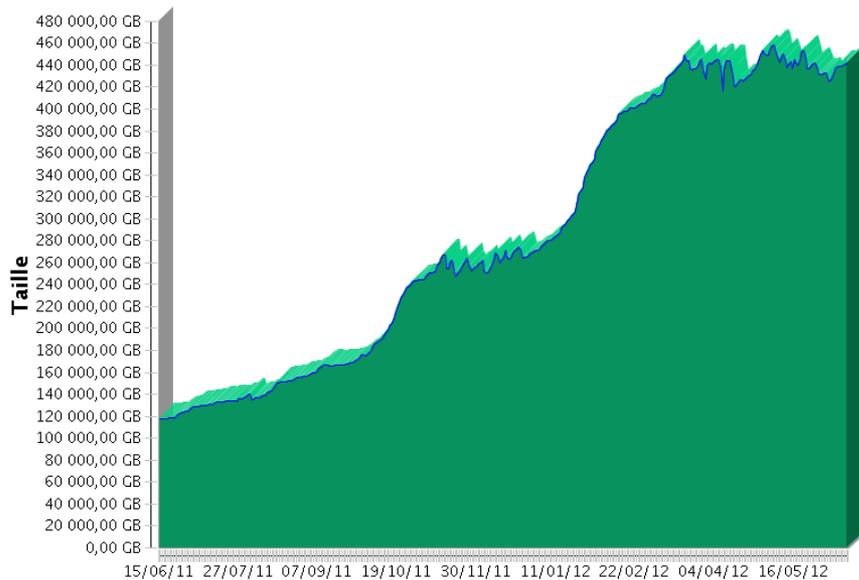
Exemples de Monitoring tools 2/3



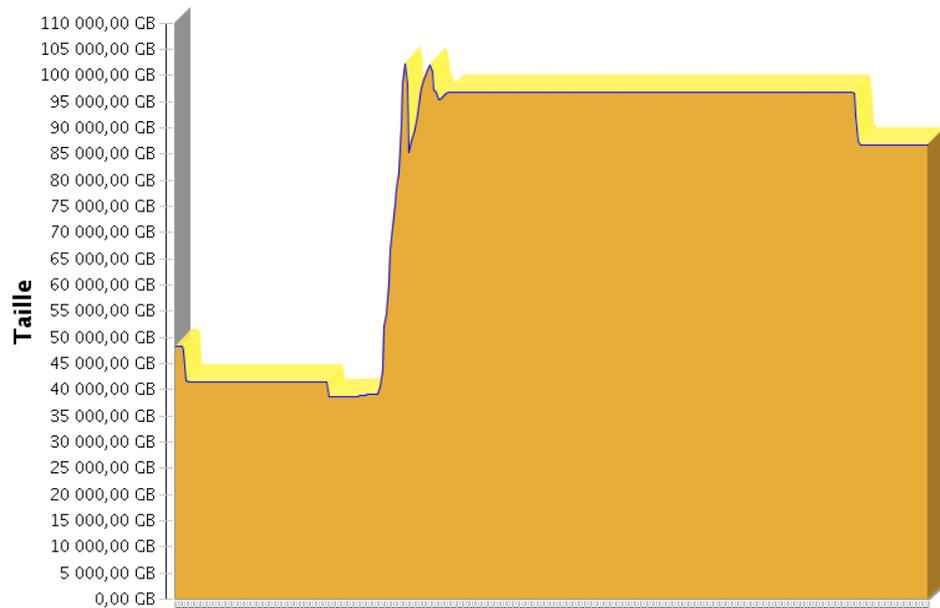
IRFU Atlas Status



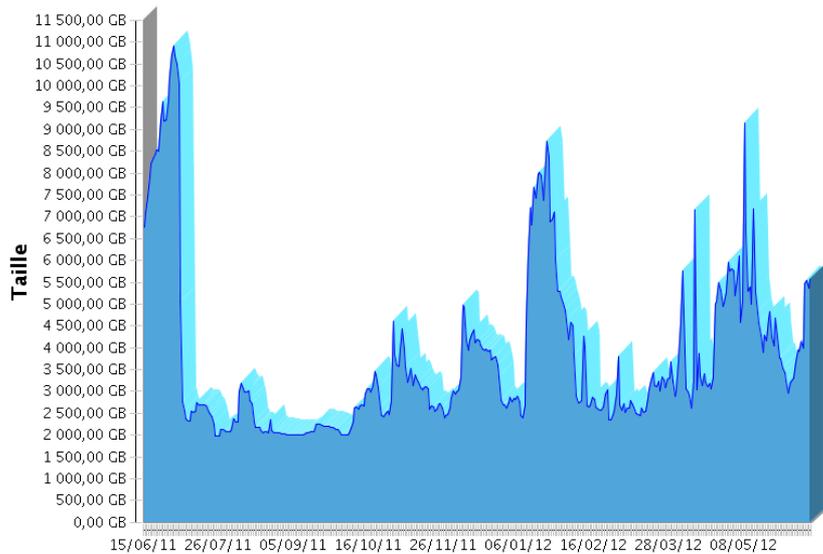
ATLASDATADISK



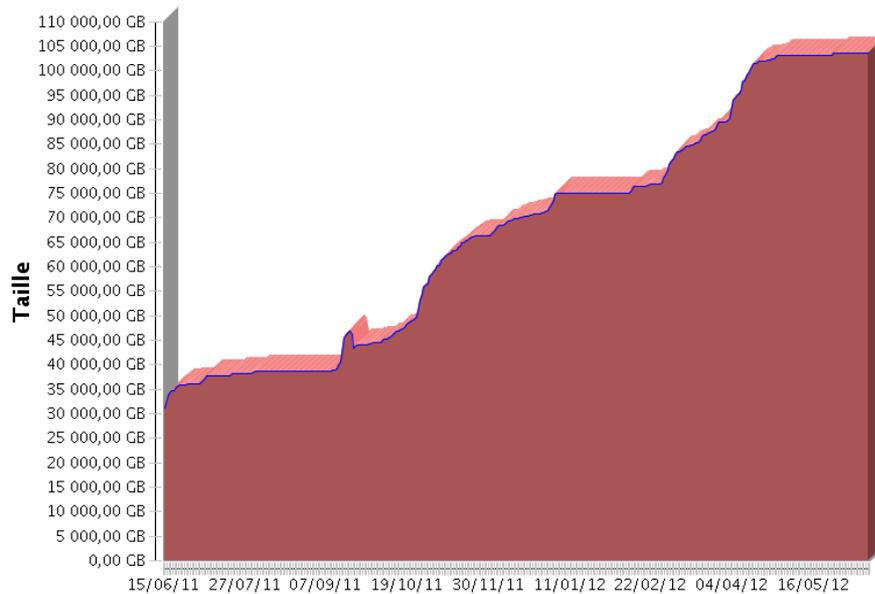
ATLASGROUPDISK

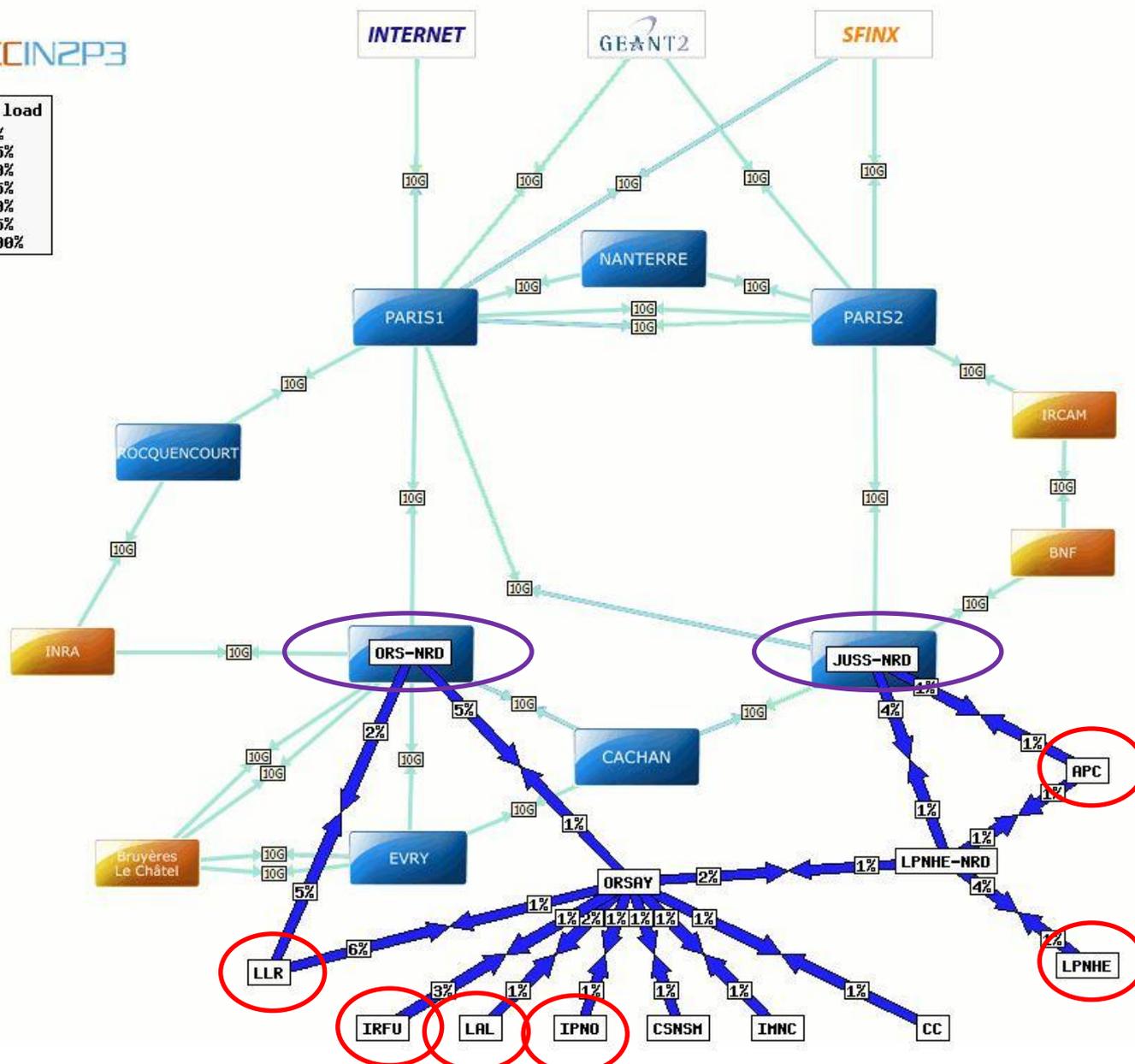


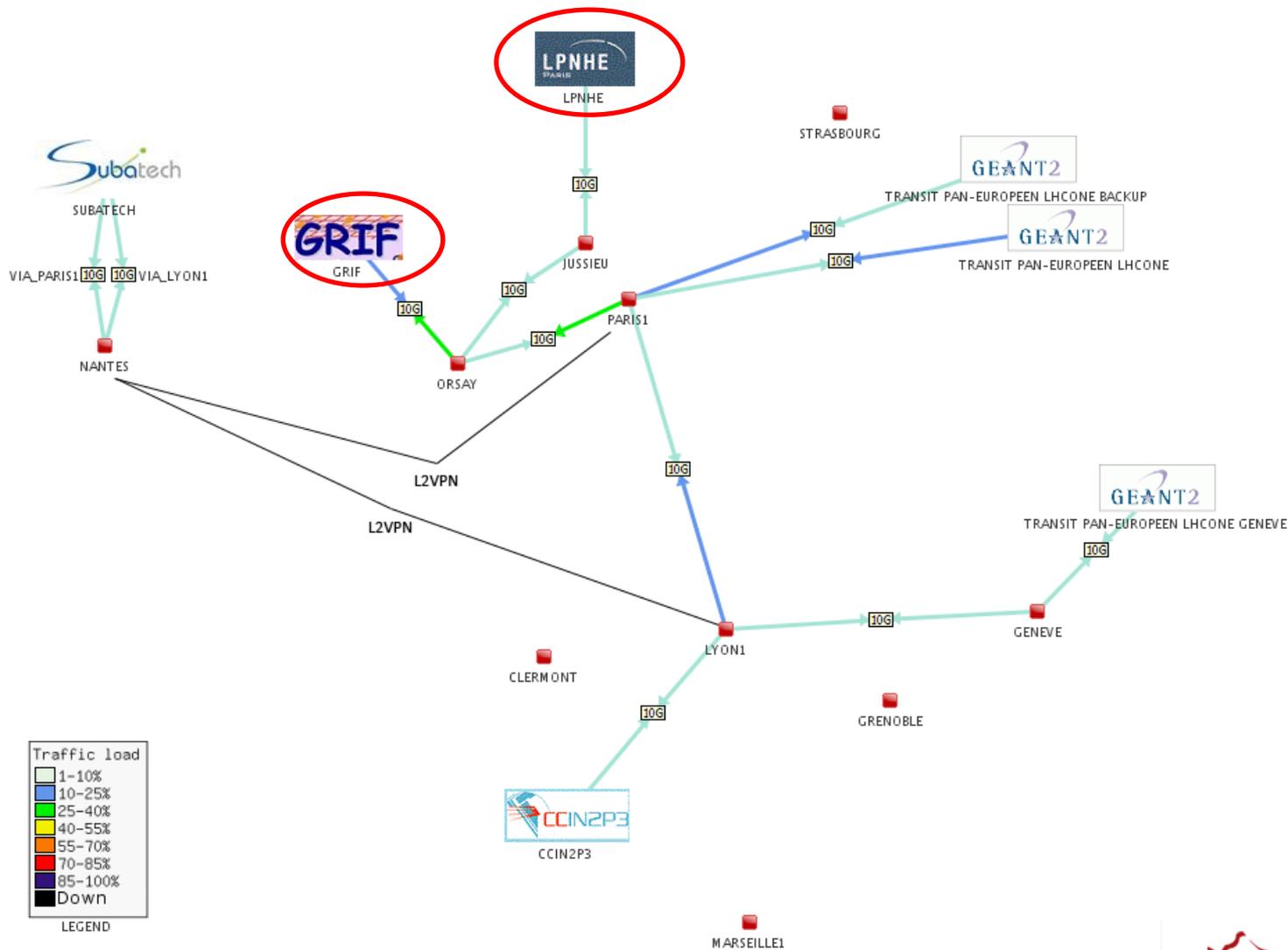
ATLASPRODDISK



ATLASLOCALGROUPDISK







Last update: Thu Jun 14 09:24:42 CEST 2012



Perspectives

- Tests with GPU's at LLR (GRIDcl project)
manly devoted to ALICE and CMS heavy ion reconstruction but could also benefit to ATLAS if people interested...
- Project of upgrade of the computing rooms:
 - At Ecole Polytechnique (LLR)
 - installation of new water cooled racks
 - At Orsay (IPNO, LAL)
 - building of a new extendable common computing room
 - phase 1 → 100m² and 400kW of power (electricity and cooling)

Conclusions



- GRIF is a distributed grid node including a shared Tier2/Tier3 for the 4 LHC VO's.
- GRIF is serving around 200 local users → **reactivity** and **flexibility** to user problems (**proximity**)
- Major advantages of such a configuration are:
 - Redundancy of resources → **robustness of access** to resources for the users
 - A shared technical team → **robustness of the services**, common share of technical tasks (**solidarity**)
 - **Visibility** in terms of offered resources