

# EMI @ DESY Grid Center



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### Grid

The DESY Grid Infrastructure is based on the most recent **EMI** middleware. It contains all node types to make up a **complete** Grid infrastructure.

**Core services:**

6 x WMS	emi-wms-1.0.2-0.sl5.x86_64
4 x LB	emi-lb-1.0.0-1.sl5.x86_64
1 x LFC	emi-lfc_mysql-1.8.2-3sec.sl5.x86_64
4 x BDII	emi-bdii-top-1.0.0-1.sl5.x86_64
2 x GIIS	emi-bdii-site-1.0.0-1.sl5.x86_64
1 x PX	emi-px-1.0.0-1.sl5.x86_64
1 x VOMS	emi-voms_mysql-1.0.0-1.sl5.x86_64
2 x SCAS	glite-SCAS-3.2.2-0.x86_64

**Resources:**

1 x BATCH	torque-server-2.5.7-7.el5.x86_64
3 x CE	glite-CREAM-3.2.14-1.sl5.x86_64
4 x SE	dcache-1.9.12 (ATLAS) EMI-1
	dcache-1.9.12 (CMS) EMI-1
	dcache-1.9.12 (DESY) EMI-1
	dcache-2.2 (HERA) EMI-2

All VOs supported on one common Grid infrastructure. Virtual sharing of the DESY Grid Resources by all VOs.

### HEP

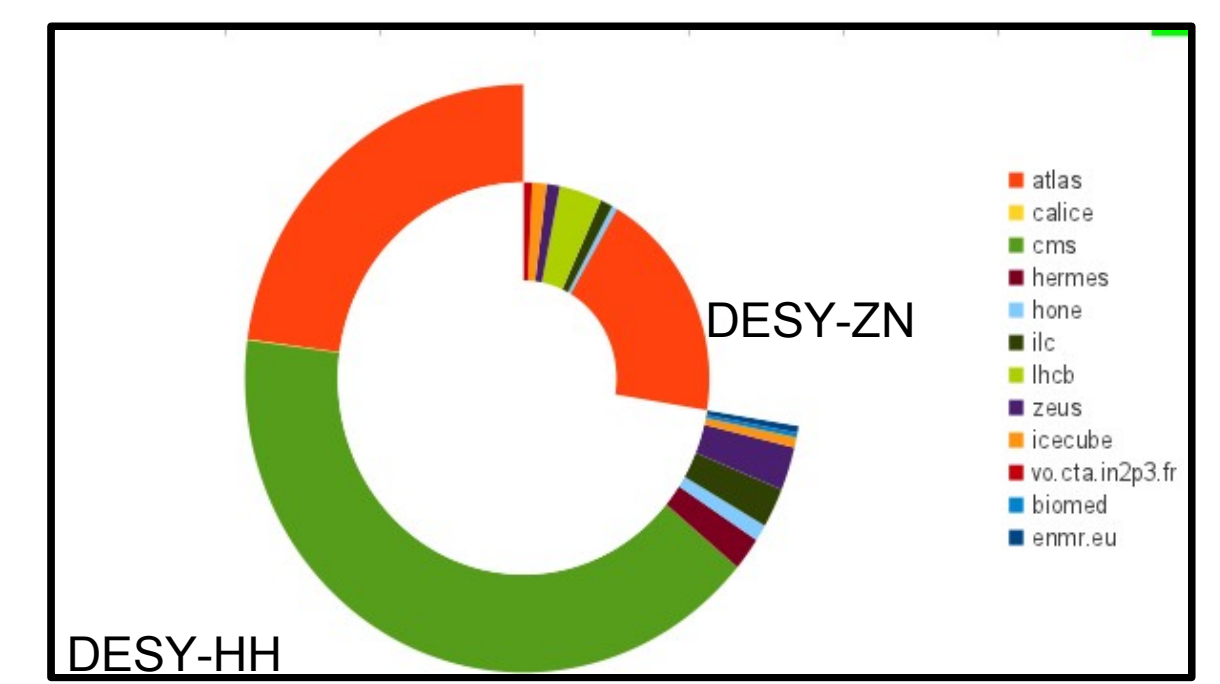
### Theory

### Photons

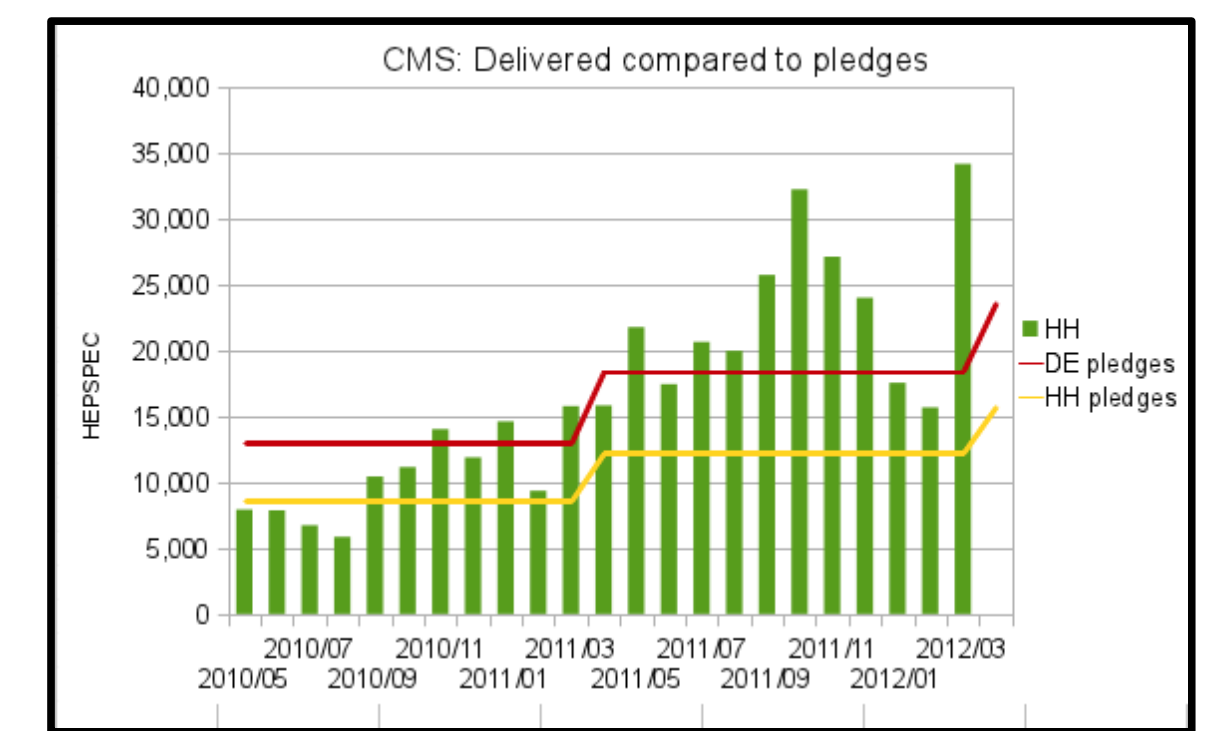
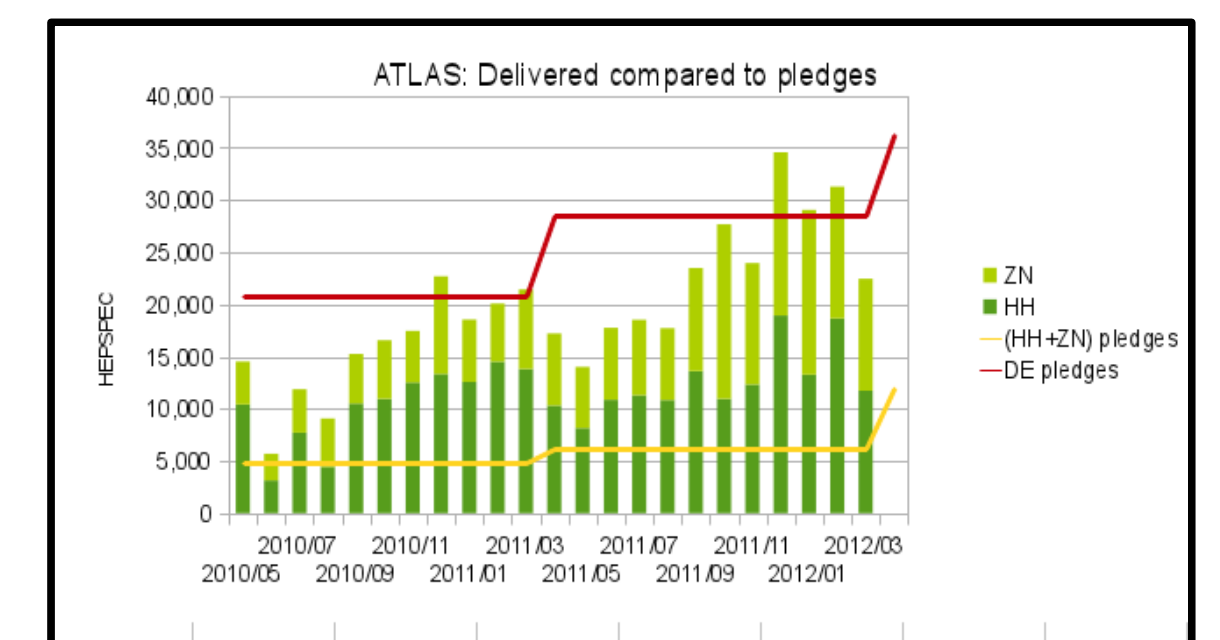
### Astroparticle

### Bio Users

Opportunistic and federated usage of CPU resources



Heavy user community delivered vs. pledged CPU resources

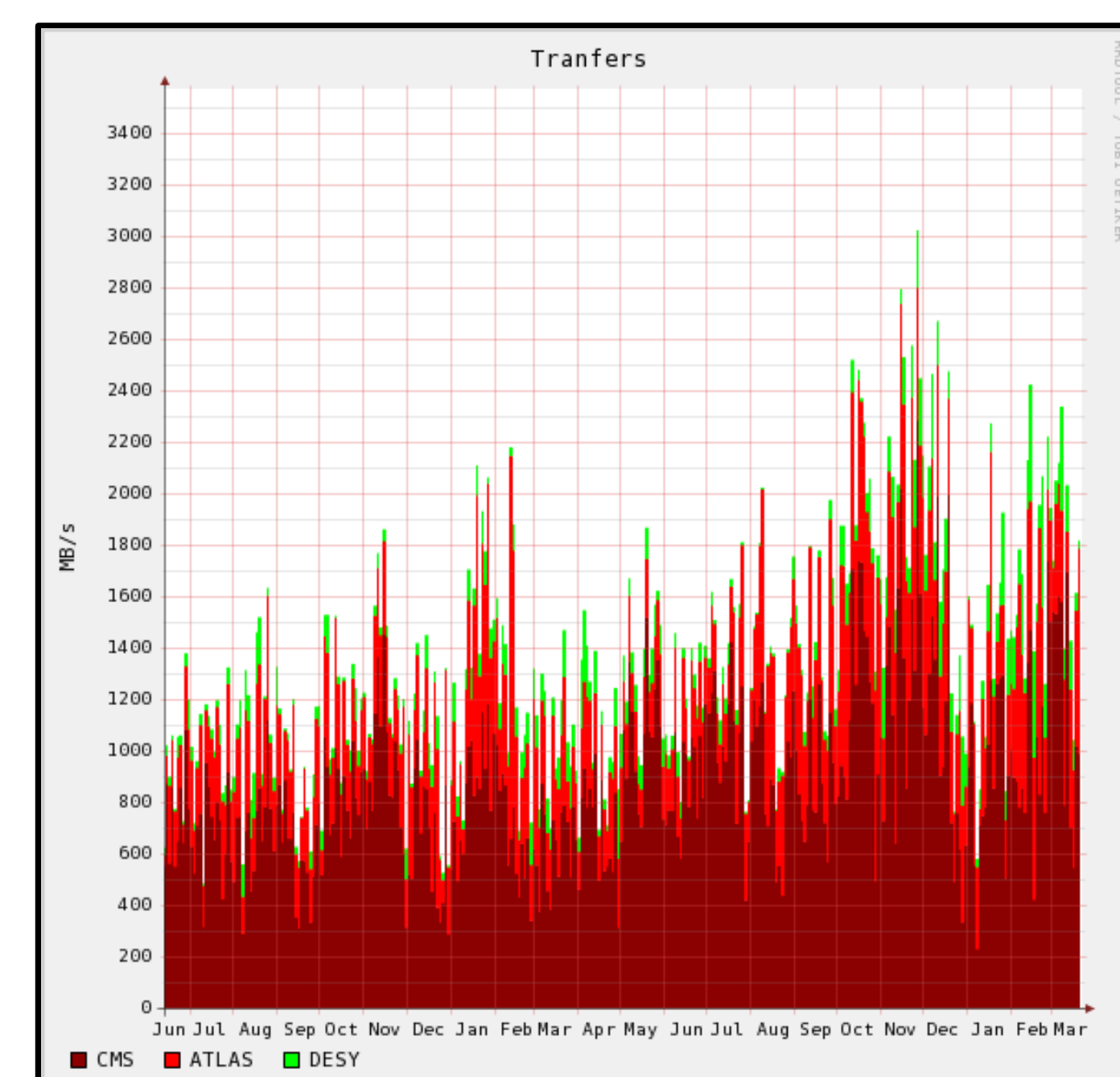
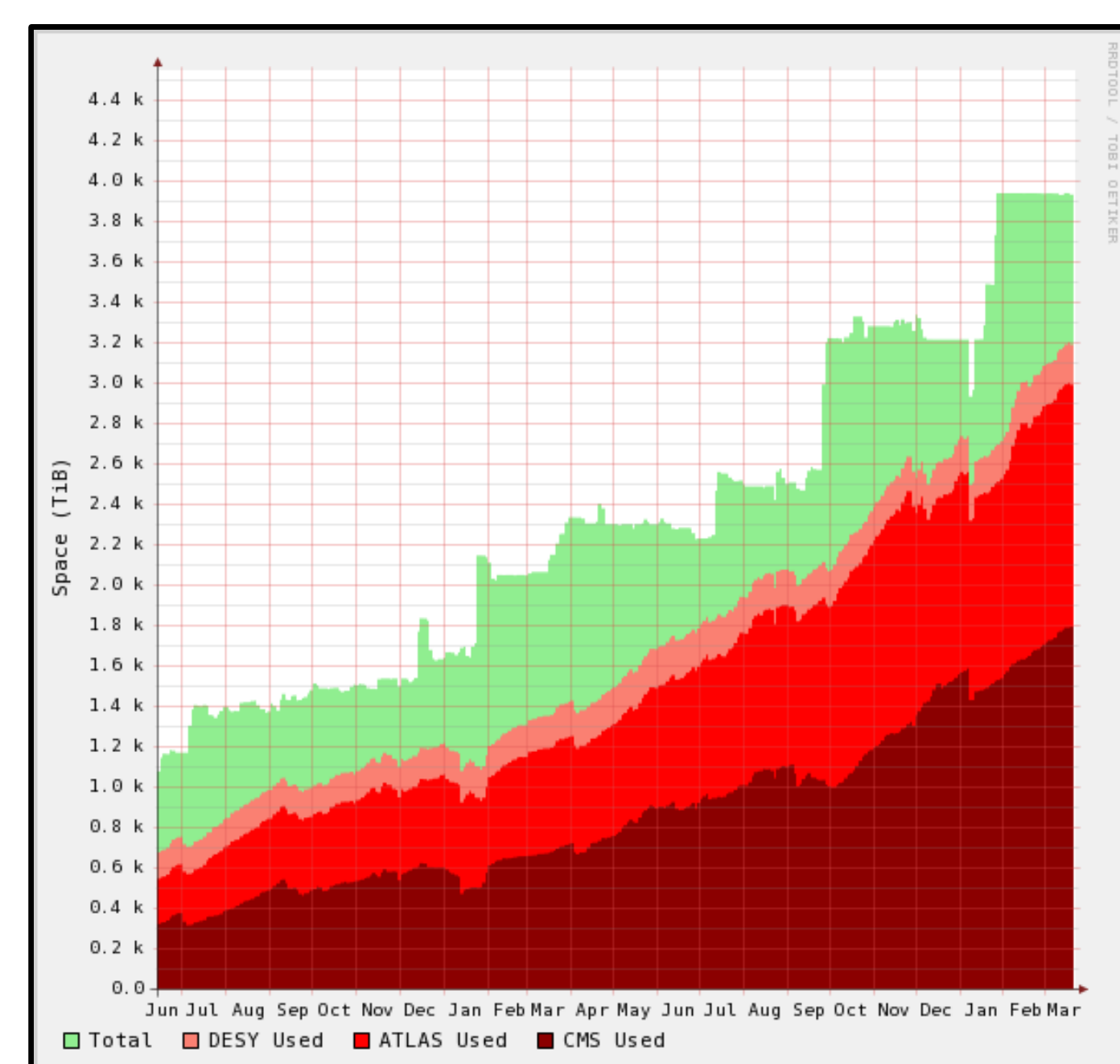


### Job Occupancy

DESY-HH running and queued jobs

MAUI MySched  
PBS / Torque

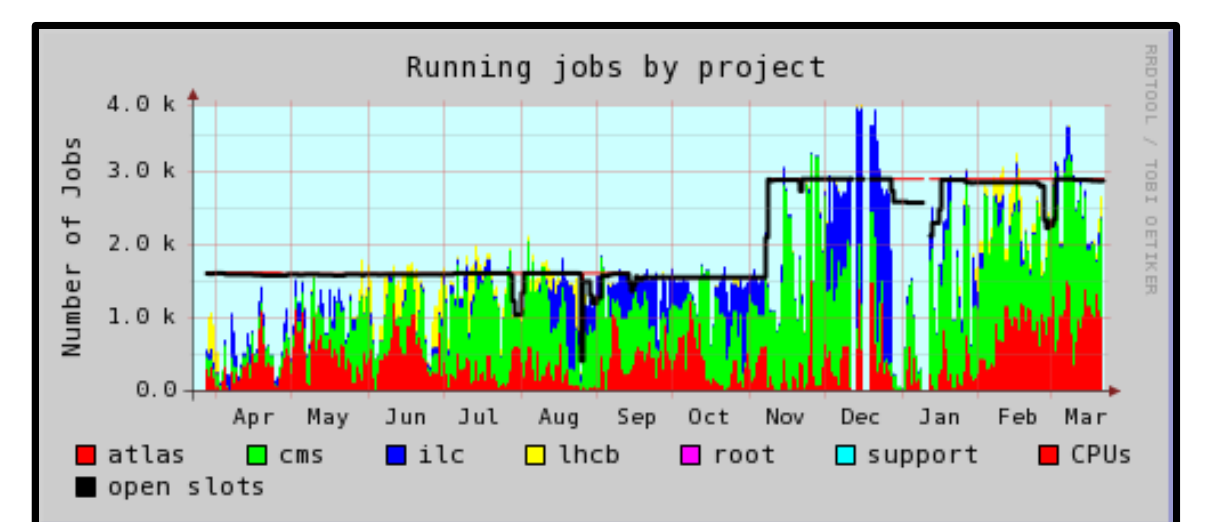
Storage resources on disk



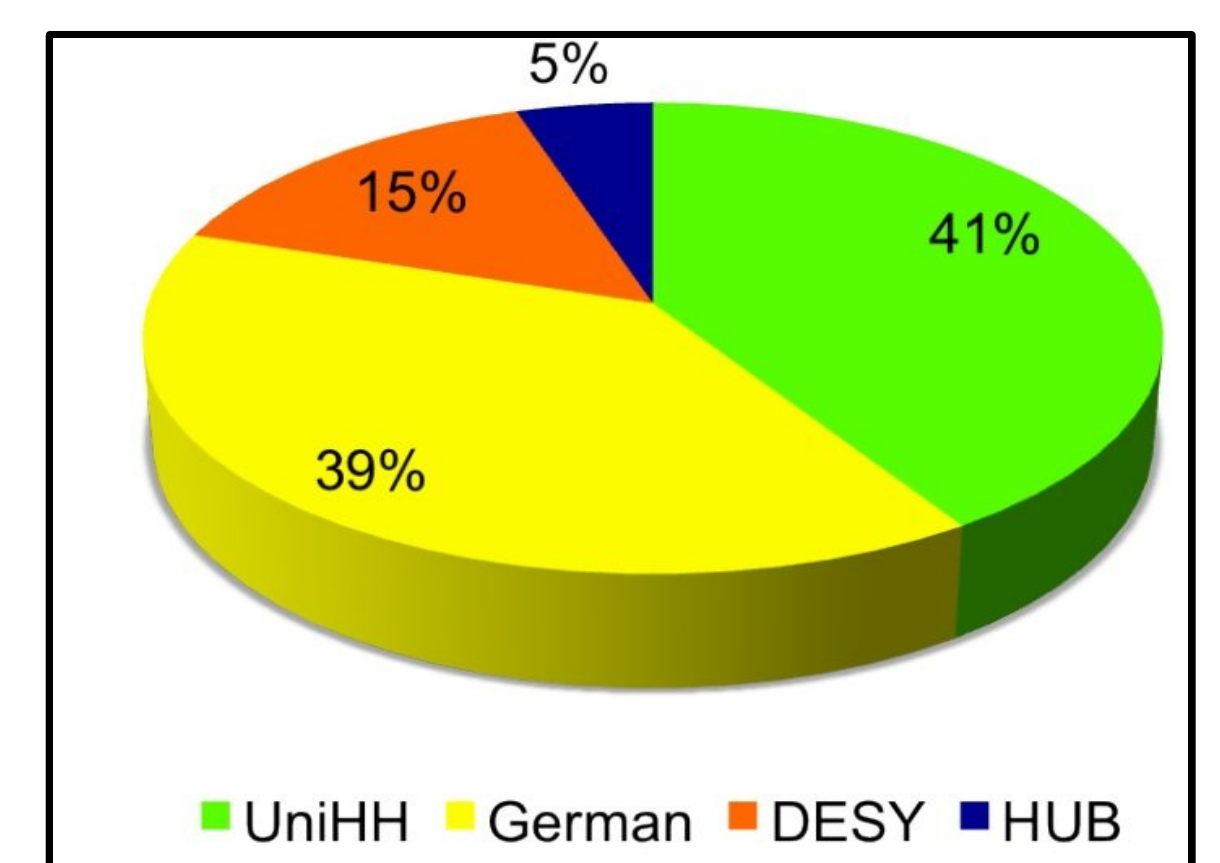
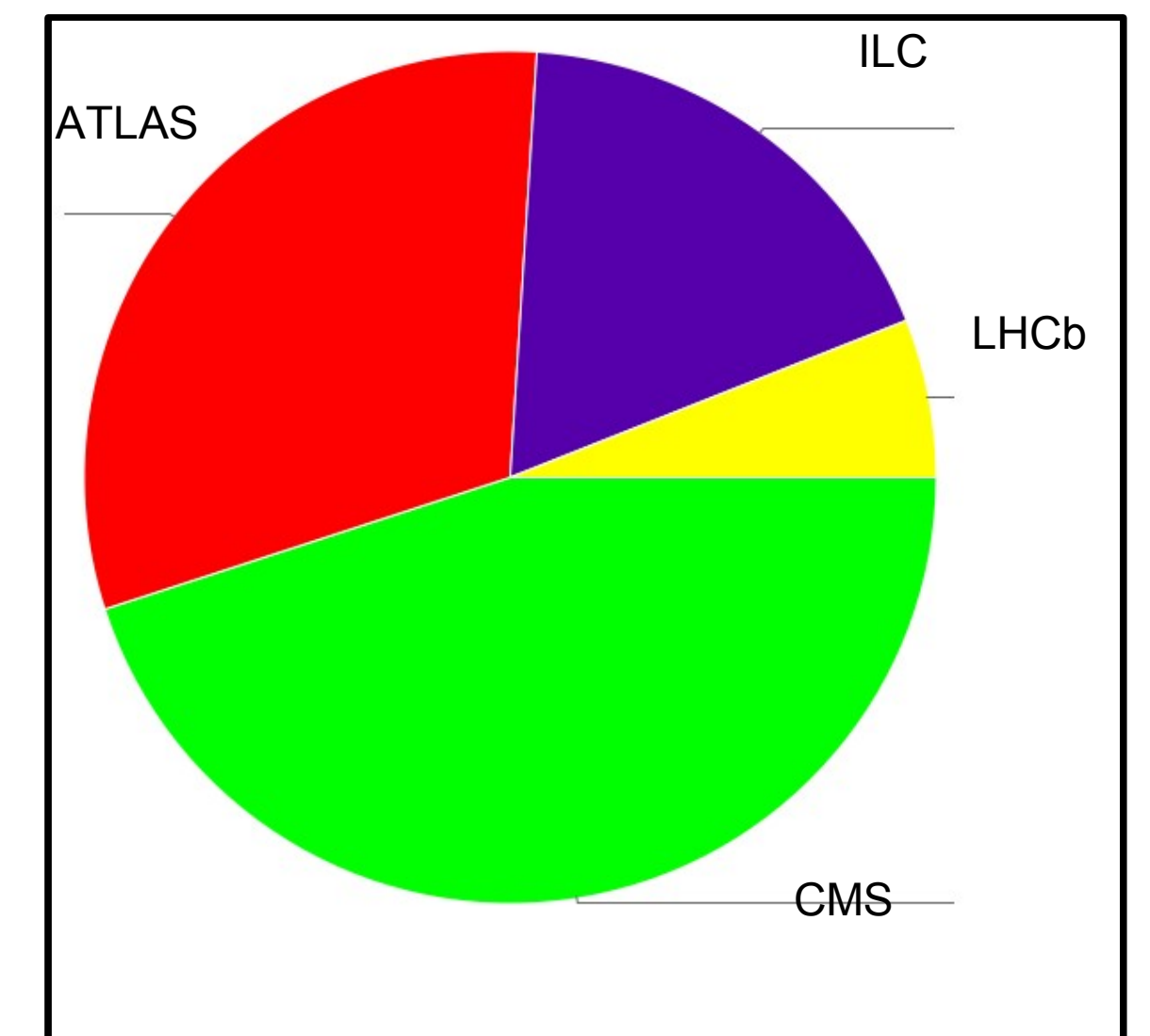
### National Analysis Facility (NAF)

- Provide members of German institutes with a generic multi-purpose analysis facility Atlas, CMS, LHCb and ILC current users
- Built, hosted and operated by DESY (Hamburg and Zeuthen)
- complementary access to storage
- tightly coupled to existing storage: Tier-2 dCache share which hosts analysis data
- Extension of existing Grid infrastructure
- Additional interactive resources: ~3000 cores & ~400 TB Lustre file system
- Evaluating high performance storage system Sonas as replacement for Lustre
- Support and documentation in close collaboration with experiments

NAF CPU Occupancy



NAF CPU usage of TeraScale users



**February – March 2012**

60TB data transfer from LCLS (USA) to DESY-dCache for the photon science community