



# The DESY Grid Centre



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## Grid

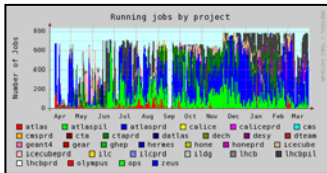
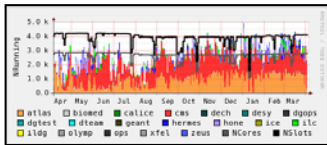
The DESY Grid Infrastructure is based on the most recent **GLITE** middleware. It contains all node types to make up a **complete** Grid infrastructure.

**Core services** are Workload Management Systems (**WMS**), Information Index (**BDII**), Proxy Server (**PX**), Catalog Services (**LFC**), VO Management (**VOMS**).

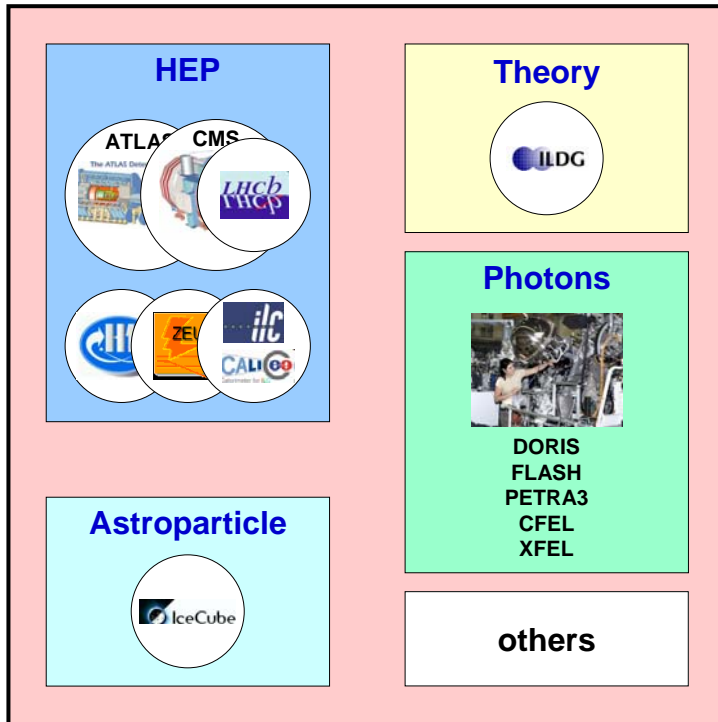
**Resources** are published by the site Information Service (**GIIS**) and provided by Computing Elements (**CE**) with Worker Nodes (**WN**), and dCache-based Storage Elements (**SE**) as a front-end to the hierarchical mass storage system.

## Job Occupancy

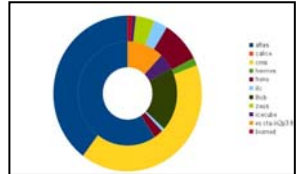
DESY Hamburg and Zeuthen



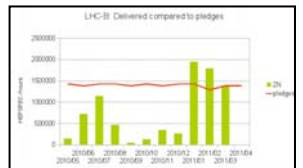
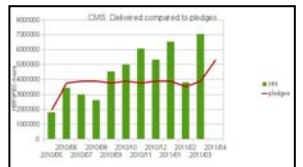
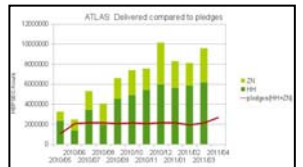
**All VOs supported on one common Grid infrastructure. Virtual sharing of the DESY Grid Resources by all VOs.**



**Opportunistic and federated use of CPU resources**

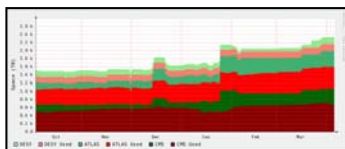
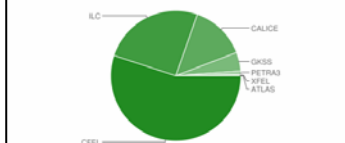


**Heavy user community delivered vs. pledged CPU resources**



## Storage resources tape and disk

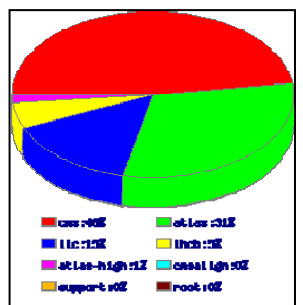
TAPE USAGE at DESY-HH (Apr.2011)



## National Analysis Facility (NAF)

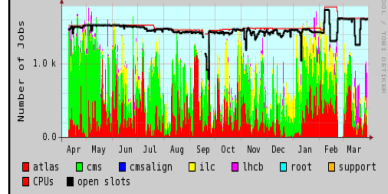
- Provide members of German institutes with a generic multi-purpose analysis facility Atlas, CMS, LHCb and ILC current users
- Built, hosted and operated by DESY (Hamburg and Zeuthen)
- complementary access to storage
- tightly coupled to existing storage: Tier-2 dCache share which hosts analysis data
- Extension of existing Grid infrastructure
- Additional interactive resources: ~1500 cores & ~150 TB Lustre file system
- Support and documentation in close collaboration with experiments

**NAF CPU usage of TeraScale users**



## NAF CPU Occupancy

Running jobs by project



Measurement of the Underlying Event Activity with the Jet Area/Median Approach at 0.9 TeV

The CMS Collaboration

### Acknowledgements

We would like to thank Matteo Cacciari, Gavin Salam and Sebastian Sapeta for their precious help in understanding the theory and their useful suggestions. We also thank the National Analysis Facility (NAF) administrators and WLCG for providing the excellent and reliable computing infrastructure necessary to carry out this analysis.

