The GridKa WLCG Tier-1 Center

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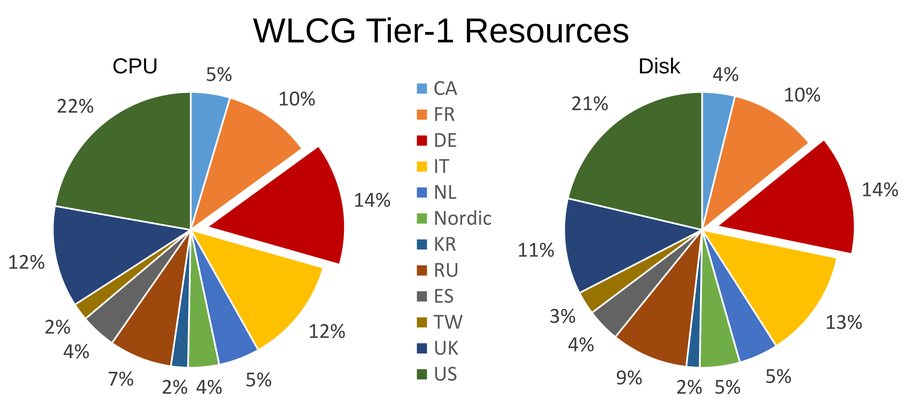
GridKa - A Cornerstone of WLCG

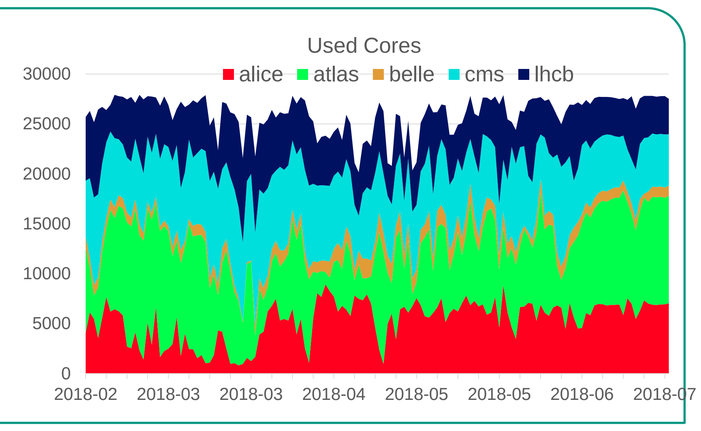
- Among the largest and best performing WLCG centers



Batch Farm

- 950 worker nodes
- 340 kHS06
- HTCondor

Poster by M. Fischer



Network

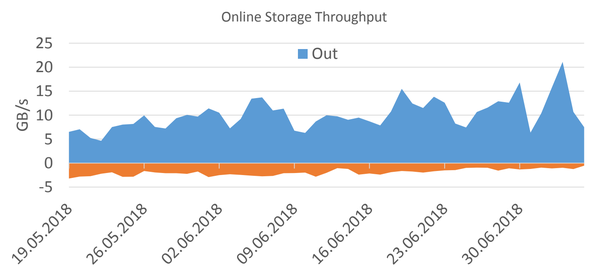
- GridKa – CERN 120Gbit/s (end of 2018)
- GridKa – LHCOPN/LHCONE/GPN 100Gbit/s
- Internal backbone 80-400Gbit/s

Poster by B. Hoeft

Online Storage

- 27PB software defined storage (IBM Spectrum Scale)
- dCache for ATLAS, CMS, LHCb, Belle II
- xrootd for ALICE

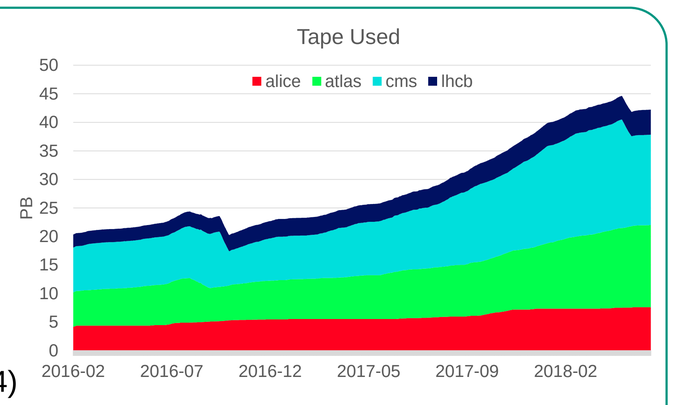
Talk by J. Sundermann (Wed T4)



Offline Storage

- 43PB on tape
- Oracle SL8500
- 17/24 T10000C/D drives

Poster by D. Lobontu
Talk by D. Ressmann (Mon T4)



R&D Activities

- Modeling and simulation of load balancing strategies for computing in HEP
  Talk by R. Caspart (Mon T3)
- Advancing throughput of HEP analysis work-flows using caching concepts
  Talk by C. Heidecker (Mon T4)
- New high-throughput analysis cluster with large cache at GridKa

Dynamic Resource Integration

- Transparent batch system extension to HPC and commercial clouds
- Opportunistic “Tier-1 for a day”
- KIT participation in HNSciCloud

Talk by M. Schnepf (Wed T8)

Towards HL- LHC

- Demonstrated scalability of Compute, Storage and Network
- R&D at GridKa is part of the evolution & revolution required for HL-LHC
- 20% resource increase per year expected until Run4
- GridKa will be a cornerstone of WLCG also in the HL-LHC era