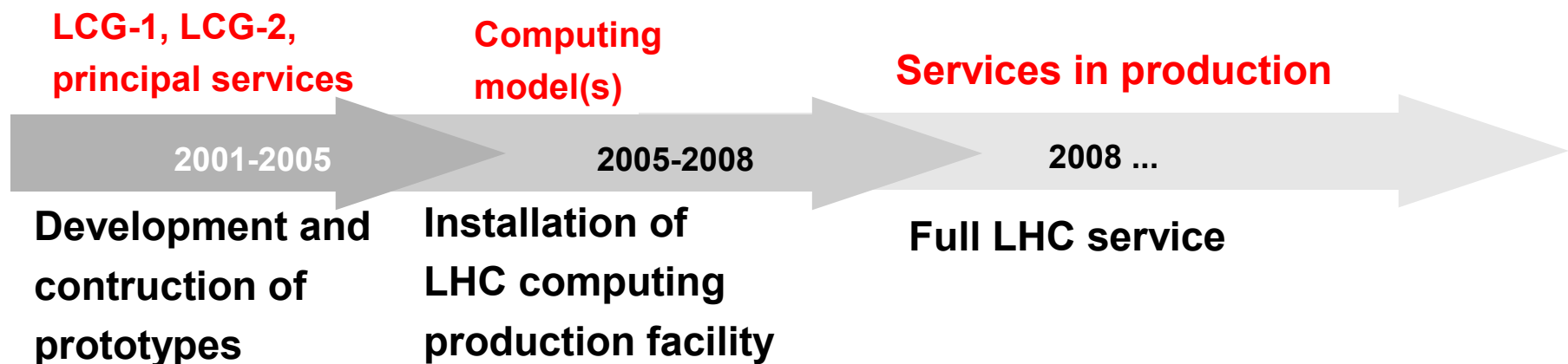


Large-scale facility GridKa

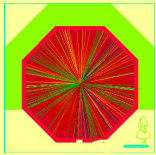


- Requirement by LHC and other international particle physics experiments
- Project proposed in 2001 and started 2002
- Project planning oriented at the 3 phases (W)LCG timeline

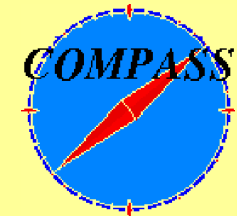


GridKa supported experiments (VOs)

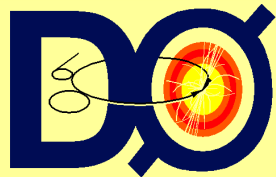
LHC



SPS fixed target



Tevatron



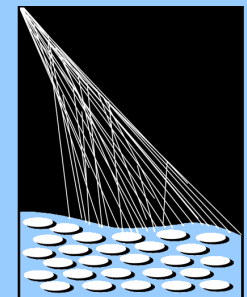
**B factories
(SLAC, KEK)**



BABAR

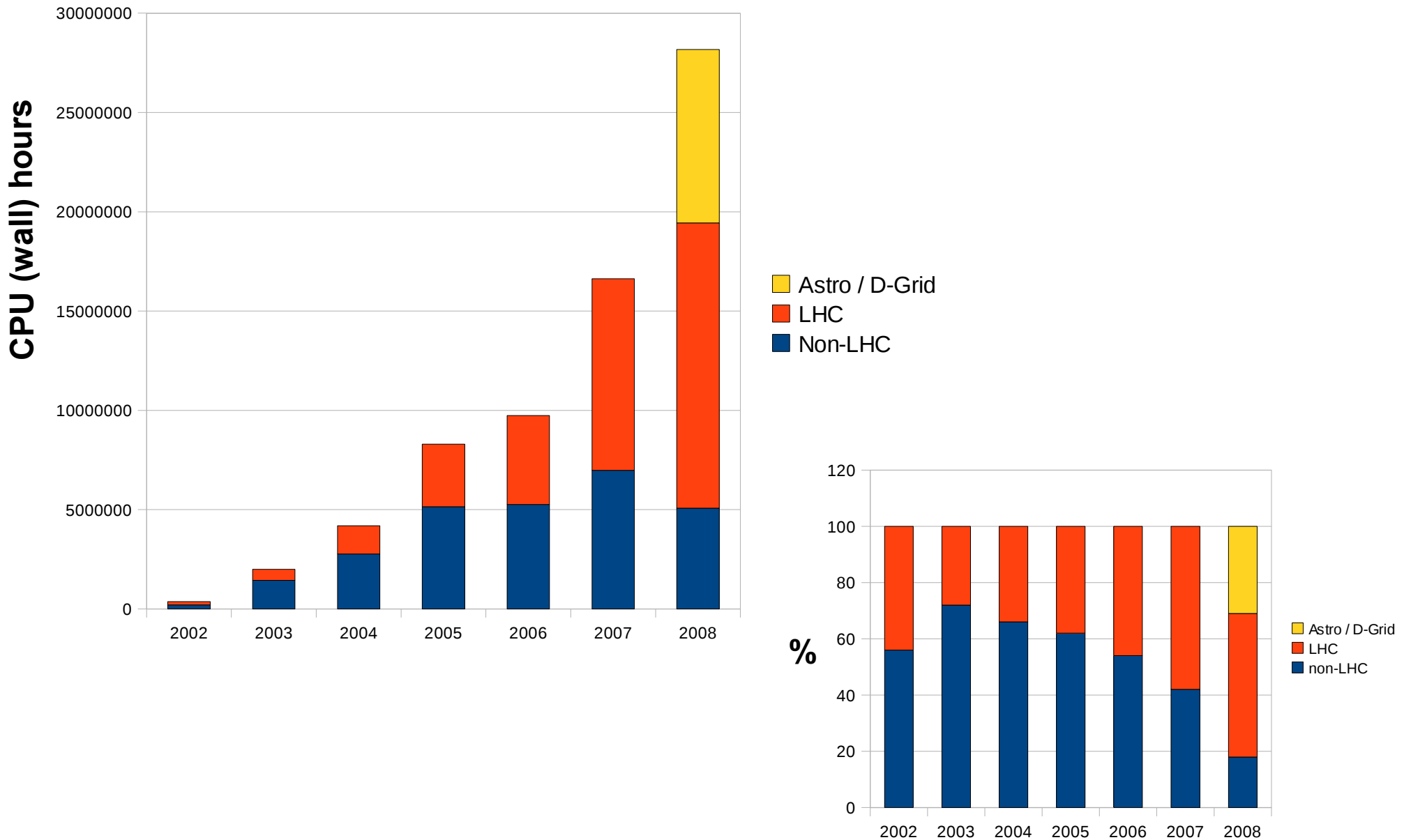


Astro particle



**PIERRE
AUGER
OBSERVATORY**

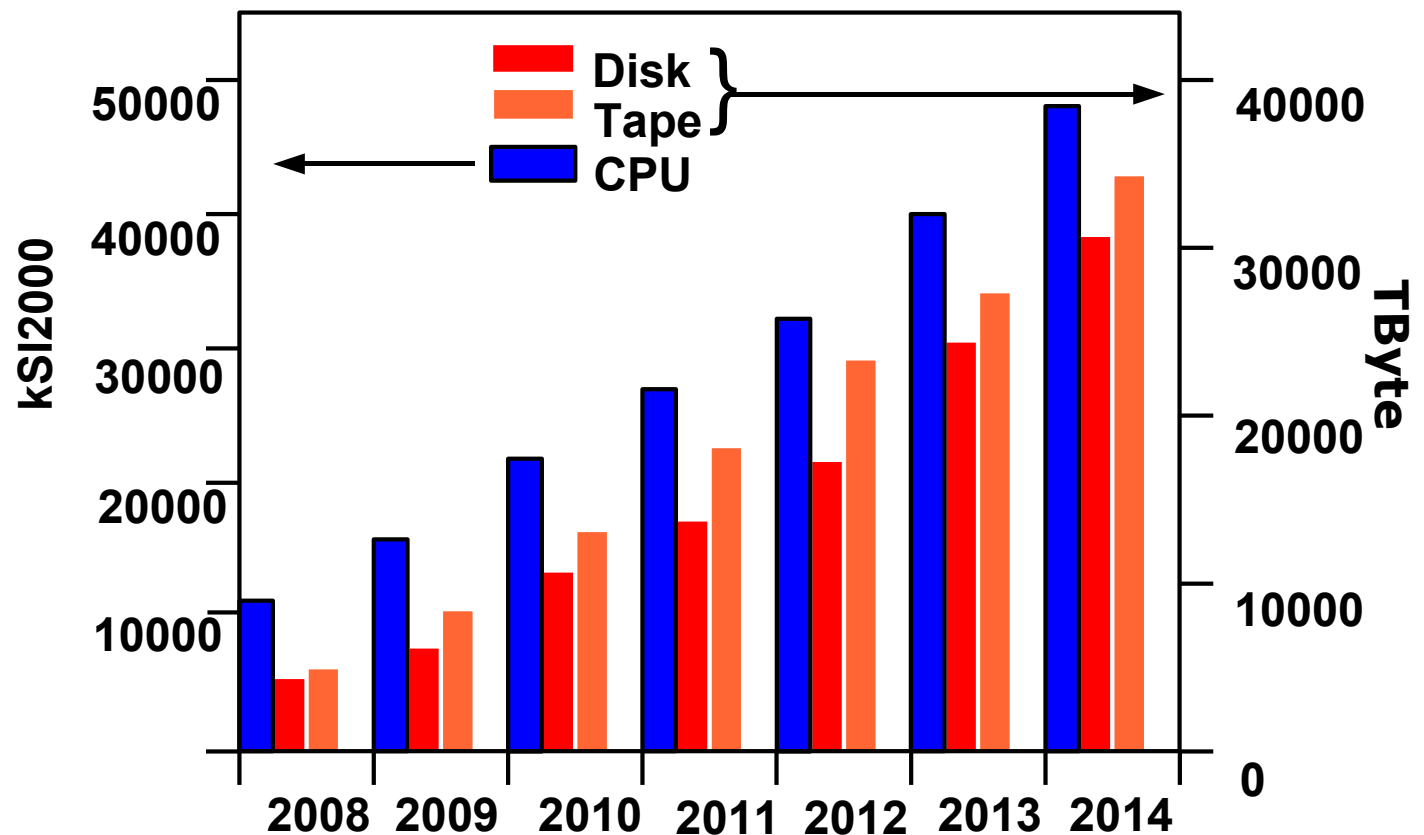
CPU usage 2002-2008



GridKa goals

Provide Resources for LHC and non-LHC HEP until end of the data analysis.

- Upgrade resources to specific needs.
- Meet WLCG milestones.
- Use efficient technology
 - energy
 - performance



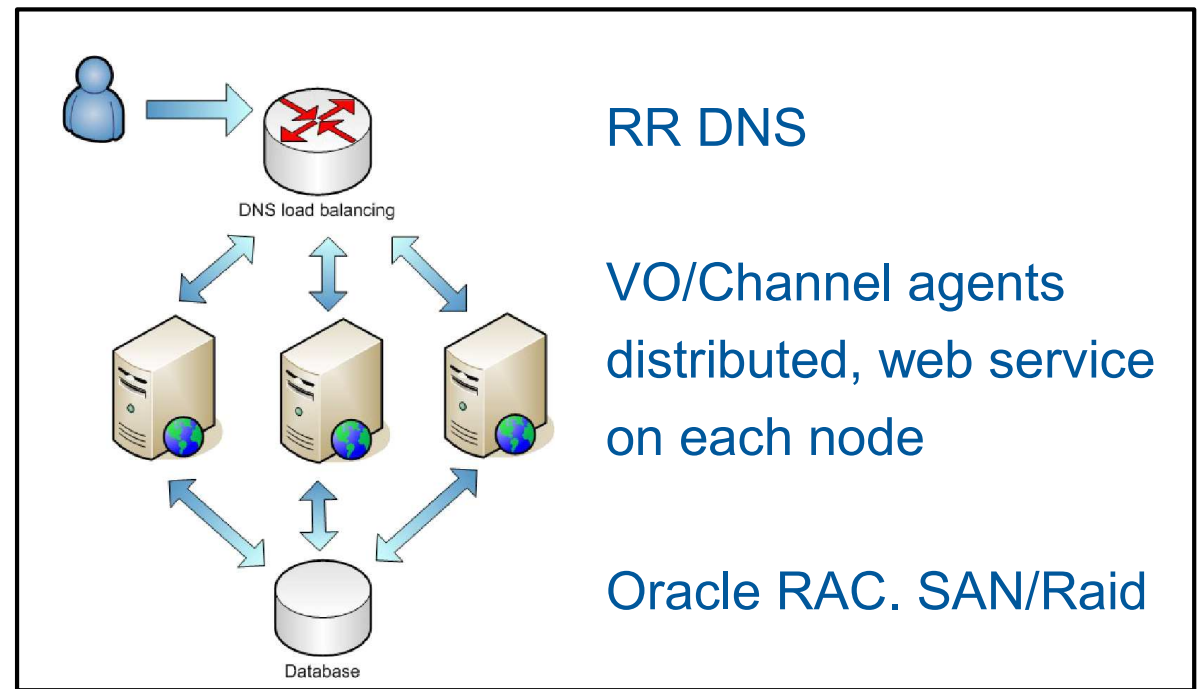
GridKa goals

Provide local and regional Grid services

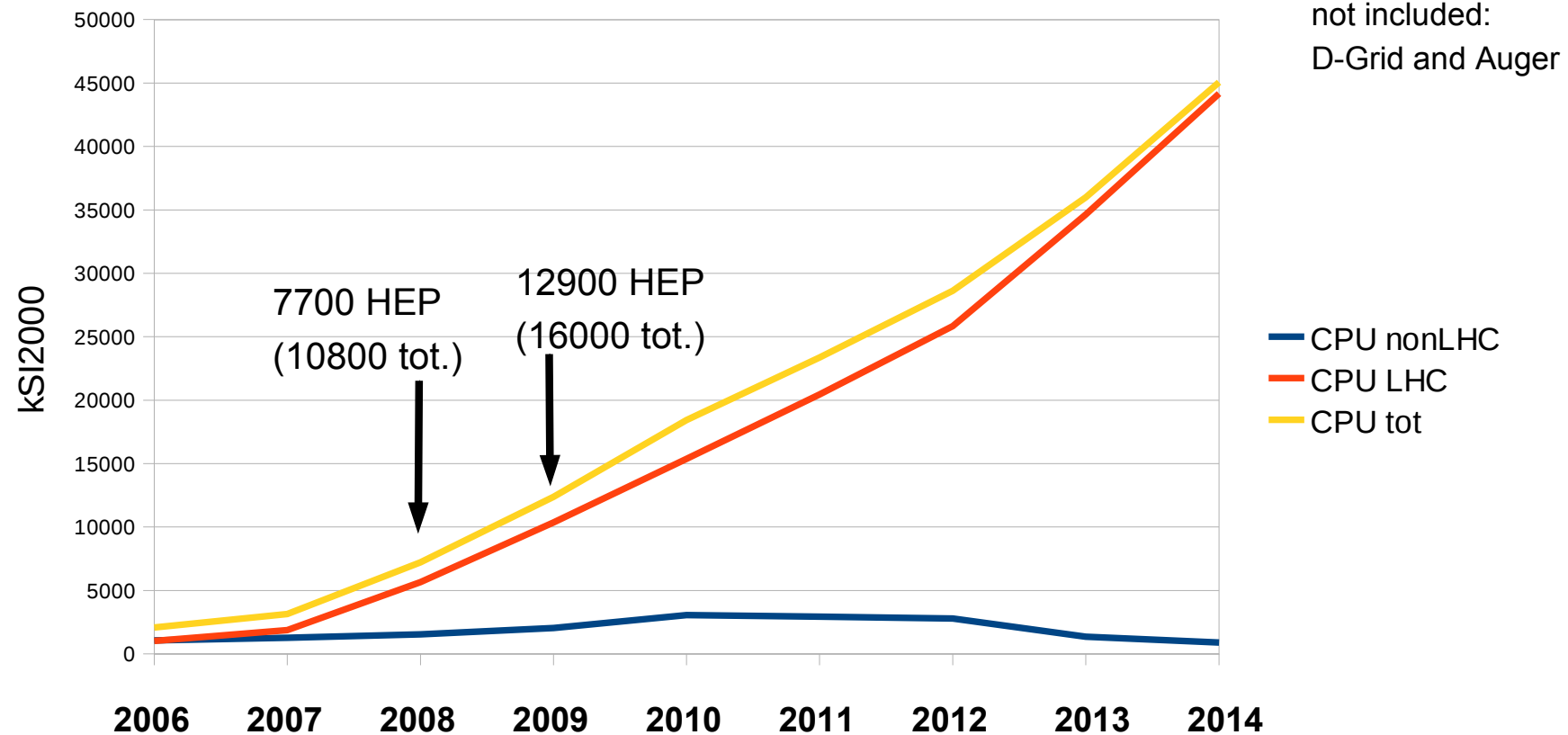
- Improve service quality and scalability
 - scale with local resources, regional (cloud) resources, users
 - redundant setup, load balancing techniques etc.

Examples

- FTS
- LFC
 - 1 phys. node
 - 1(+x) virt. node(s)
 - Oracle RAC

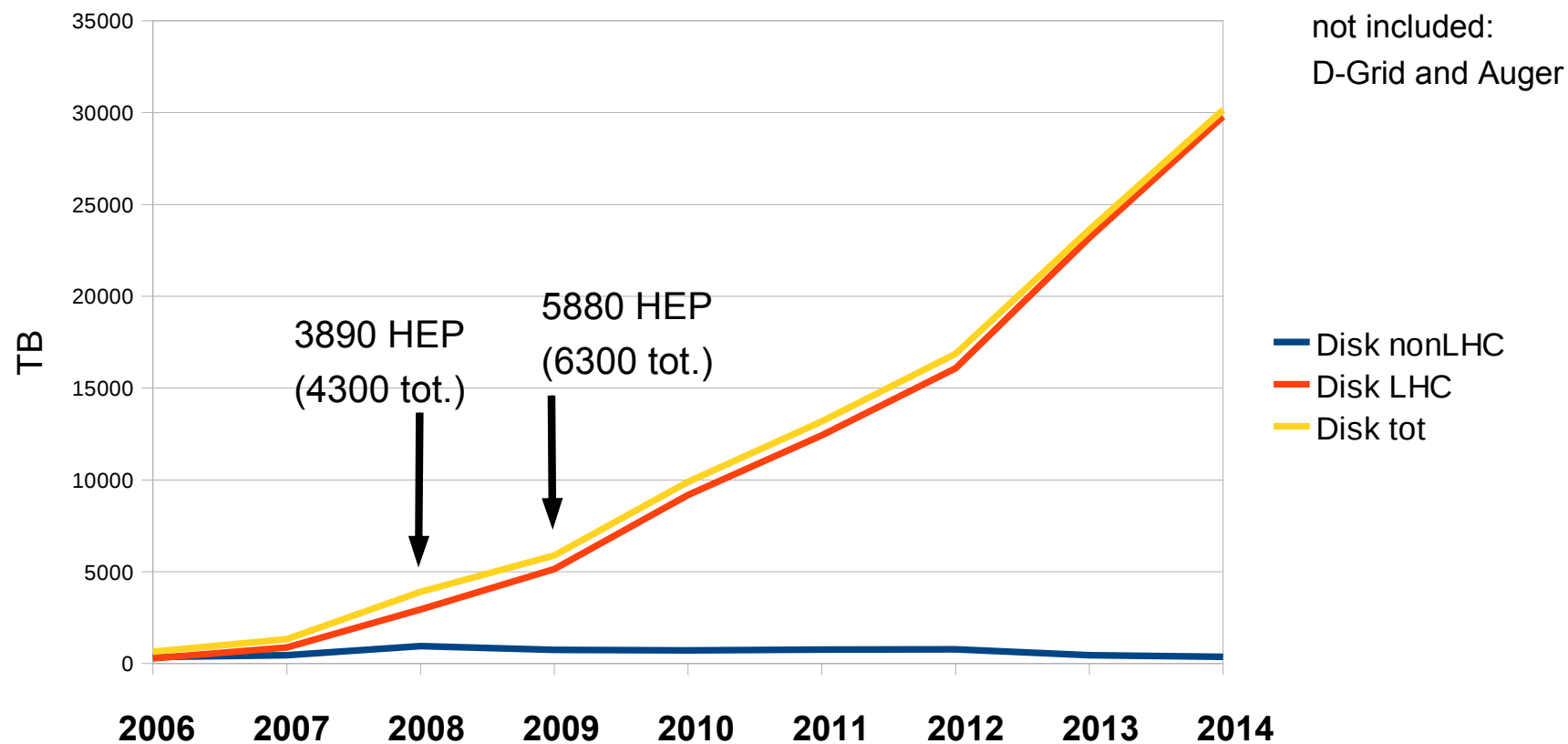


GridKa Resources for HEP



2009 CPUs installed. Currently burn-in.

GridKa Resources for HEP



**2009 disk systems racked and cabled.
Currently configured and tested.**

GridKa regional core services

- **FTS**
 - 3 servers (frontend + agents)
 - 3 servers Oracle RAC (shared w/ LFC)
 - SAN / Raid + backup
- **LFC (not LHCb)**
 - 1 server + 1 virt. Machine (frontends)
 - can quickly be extended by additional virt. machines
 - Oracle RAC (see above)
- **LFC (LHCb, streaming)**
 - 1 frontend
 - Oracle RAC backend (2 nodes, shared w/ LHCb 3D service)

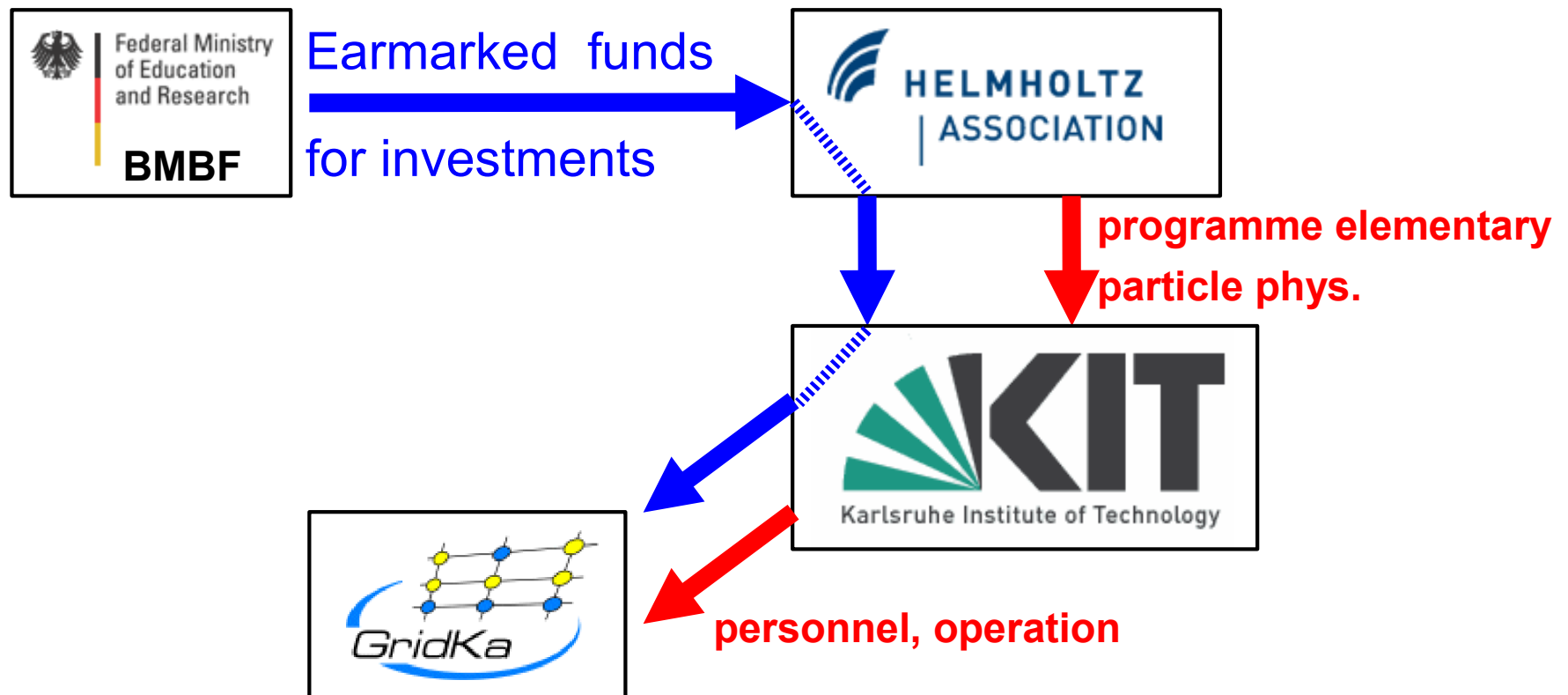
GridKa regional core services

- **3D database services for Atlas and LHCb**
 - **2 servers Oracle RAC each (Atlas: 1 additional machine soon)**
- **CMS proxy service (squid): 2 machines**
- **Top-level BDII**
 - **4 servers**

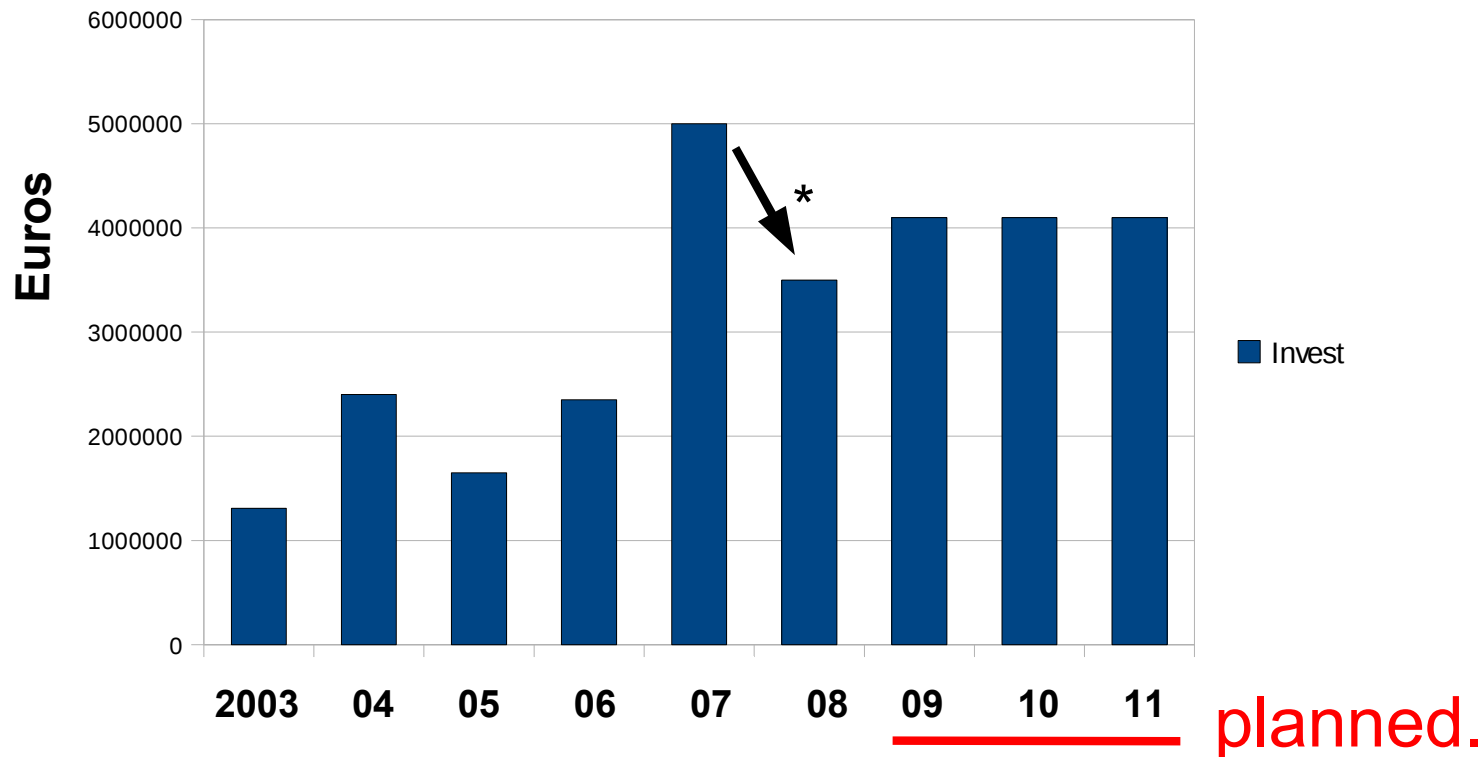
GridKa funding

'Earmarked' money from BMBF for investment

Personnel, operational costs from program ET



GridKa investments 2003-2011

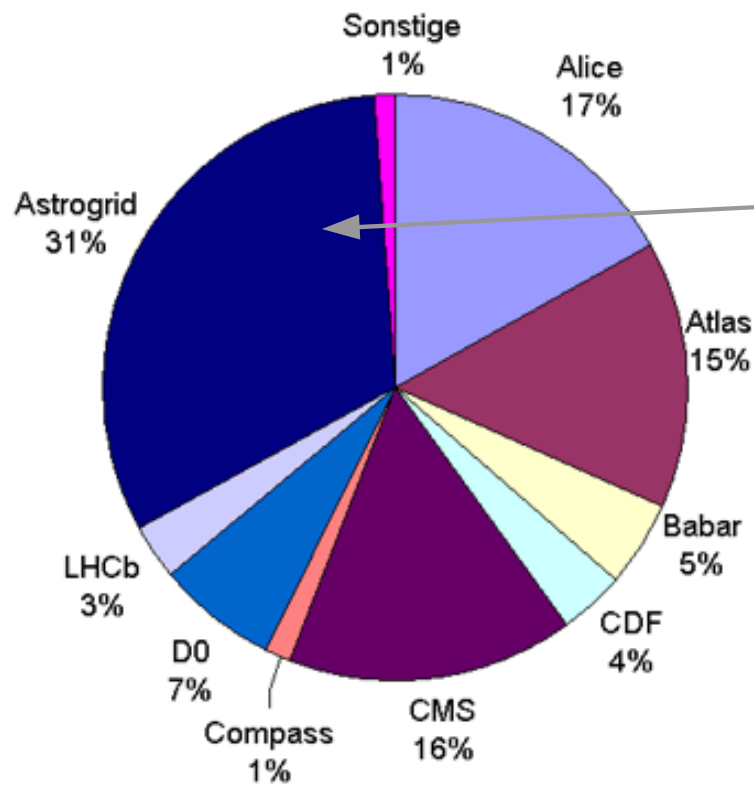


*) Additional funding in 2007 available, to be invested in 2007. Filling “gap” in 2008.

GridKa CPU usage 2008

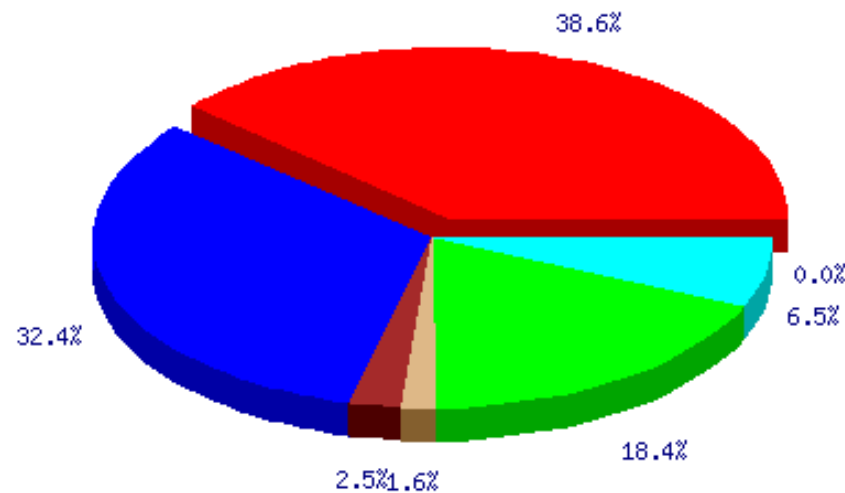
GridKa 1.1. - 31.12.2008

28177745 CPU hours (wall time)



Opportunistic use through
GT4 frontend.

DE-KIT Normalised CPU time per VO
ALL VOs. January 2008 - December 2008



(C) CESGA 'EGEE View': DE-KIT / normcpu / 2008:1-2008:12 / SITE-VO / all (x) / ACCBAR-LIN / i

2009-02-11 10:24 UTC

GridKa CPU usage 2008

GridKa 1.1. - 31.12.2008

20414173 CPU hours (cpu time)

