CDF-GRID IN KARLSRUHE

Plans for the CDF - Grid commitment
at Karlsruhe University

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Facilities in Karlsruhe

Research Site FZK

- One of Germanys large scale research sites
- Hosts Tier1 for GermanGrid project (for FermiLab, LHC, SLAC)
- Authorised CA for GermanGrid
- Involved in Grid development (CrossGrid)

EKP (Karlsruhe University)

- So far, sucessfull commitment to CDF (Si, Tracking, Alignment, ConsumerFramework and top-physics)
- *Further plans:* Own computer cluster (Tier3) for physics analysis and Grid test bed

Computing resources now

Tier1 at Research Site FZK

- joint cluster / storage facilities for FermiLab, LHC, SLAC
- $\approx$ 100 dual PIII nodes ($\approx$ 6.5kSi95)
  $\approx$ 1 kSi95 for CDF
- $\approx$ 25 TB disk space
  3TB for CDF
- Tape storage:
  8TB for CDF
- Grid/Globus backbone

Tier3 at EKP (Karlsruhe University)

- Existing cluster for CMS, can be used by CDF
- 2 dual-Athlon portal machines for CDF
- $\approx$ 20 Athlon nodes ($\approx$ 1kSi95)
- 1.5 TB FileServer

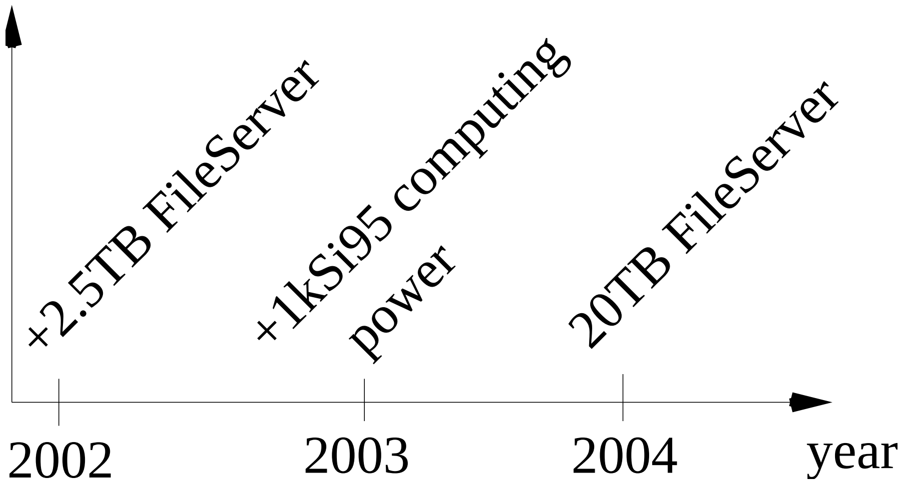
Upgrade plans and timescale

Tier1 at Research Site FZK

- ➜ further $\approx$ 13.7kSi95
  + $\approx$ 2.5kSi95 for CDF (2003)
- ➜ +150 TB storage on tape until 4/2003
  + $\approx$ 20TB for CDF (2003)
- ➜ Disk space:
  + $\approx$ 15TB for CDF (2003)
- ➜ further upgrade until 2007 planned

Tier3 at EKP (Karlsruhe University)

upgrade to joint CDF/CMS cluster ($\approx$ 100,000 US$)



SOFTWARE CONFIGURATION

- ➜ Standard CDF software environment with Kerberos support both at EKP and FZK (successfully running at production level at EKP)
- ➜ trying to install SAM on both EKP / FZK
- ➜ testing Globus tools for authentification / job submission

KARLSRUHE'S COMMITMENT

- ➜ Physics focus: B-physics, single top, search for new phenomena
- ➜ Proximity of EKP $\longleftrightarrow$ FZK provides ideal conditions for Grid test bed under *realistic experimental conditions.*
- ➜ Use research site FZK to:
  - ➜ Store significant amount of CDF data / MC simulation
  - ➜ Provide Tier1 computing power e.g. for MC-Production, analysis jobs (as an in-kind contribution accounted by CDF finance)
- ➜ Use own cluster to:
  - ➜ Contribute to CDF Grid activities as test users (local installation, necessary adaptions, test runs)
  - ➜ provide benchmark physics analysis

Conclusion

Karlsruhe will provide

- ➜ significant storage capabilities
- ➜ Tier1 functionality at FZK available to CDF community
- ➜ a Grid test bed under realistic experimental conditions