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
- ➜ ≈ 100 dual PIII nodes (≈ 6.5kSi95)
  ≈ 1 kSi95 for CDF
- ➜ ≈ 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
- ➜ ≈ 20 Athlon nodes (≈ 1kSi95)
- ➜ 1.5 TB FileServer

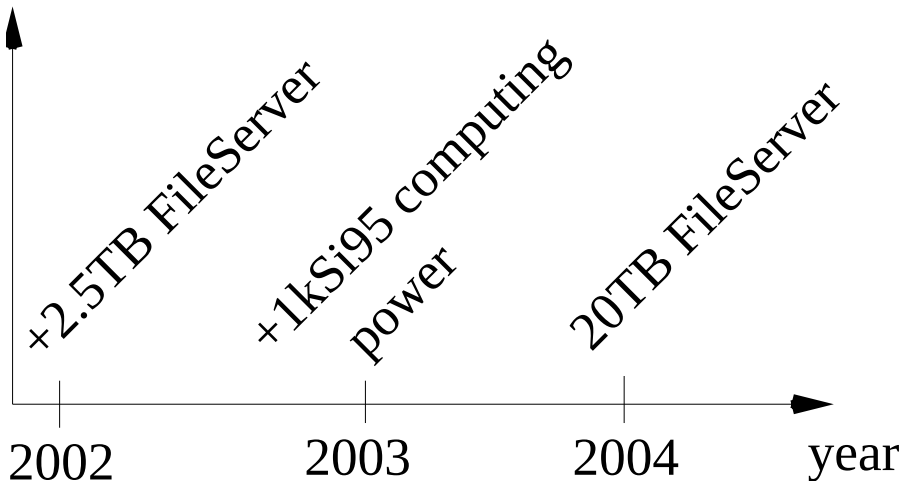
UPGRADE PLANS AND TIMESCALE

Tier1 at Research Site FZK

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

Tier3 at EKP (Karlsruhe University)

upgrade to joint CDF/CMS cluster (≈ 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