

CDF computing in the GRID framework in Santander

Santander HEP Group
IFCA (Instituto de Fisica de Cantabria, CSIC-UC)

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ICRB Meeting
4 September 2002



UNIVERSIDAD DE CANTABRIA

GRID activities

IFCA Santander present in EU-DATAGRID

- Participation in testbed (WP6):
 CA provider for SPAIN
 Team (~5 people) + experience with Globus + EDG (1.2.0)

IFCA/CSIC main partner for EU-CROSSGRID project

- Use of distributed O/R DBMS
- Data-mining: distributed NN (via MPI)
- Responsible for testbed (WP4) distributed over the Geant network across 11 European countries

National initiative: LCG-ES project

- Close to Tier-2 level resources, CMS “oriented”, including :
 MC production farm
 Physics Analysis

NEW Resources (hardware + personnel)

Available Resources

“New” Infrastructure:

- Cluster ~100 IBM servers (*~50% available for HEP*)
(dual 1.26 GHz, 640Mb-4GB RAM, 80 GB/server)
+ 4-way processor gatekeeper
- Gigabit local backbone
- Local Disk and Tape (10 Tb on disk, 10 Tb on LTO robot)
- Improved network connection:
155 Mbps Santander-Geant
2.5 Gbps into-Geant and to USA

Personnel (for whole GRID activity):

- 2 Grid “experts” + support from university computing architecture team
- 2 DBMS “experts”
- Several seniors with experience in HEP offline software (installation and processing)

Perspectives

Need to use the GRID framework

- synergy for activities, infrastructure use, personnel in DATAGRID/CROSSGRID and also activity in CMS

Funding requested for our activity in CDF computing:

- 1 dedicated person (*starting before end of the year*)
- 50 k\$/year on hardware (double by 2004 current resources)

Mixed model:

(trying to optimize funding possibilities/analysis objectives):

- Minimal resources at FNAL:
Disk on-line + CPU (basically for people at FNAL)
- Shared resources at Santander:
50% of current server cluster operated in GRID framework
Upgrade of on-line disk + additional computing nodes + tape

Interest of Collaboration

Physics channels:

- B-physics, top and Higgs searches

Possible Scheme (to be considered in discussion of contribution to CDF):

- MC Production in Santander GRID cluster (including limited tape storage)
- Production data analysis jobs in Santander also via GRID
- Initial user analysis jobs tested at Fermilab with limited resources
- Deploy a powerful Interactive Physics Analysis Facility in GRID framework, including significative resources in Santander
- Contribute to CDF Grid Activities with expertise on testbeds, and participating in EU-US initiatives