

GRID@IFIC

***Institut de Física Corpuscular
CSIC-UVEG
València, Spain***

S. Martí i García
(on behalf of the IFIC-GRID group)

RTN 3rd Generation as a probe for new physics
Paris, September 2004

Motivation and Goals

- Motivation the involvement in Grid Testbeds
 - Participation in LHC experiments (HEP):
 - ATLAS
- Objectives:
 - Development and exploitation of a Grid infrastructure in Valencia.
 - Physics analysis preparation for Grid computing.
 - Provide support and infrastructure for:
 - Development of Grid applications;
 - Test and validation of Grid applications.

Grid Projects



- **DATAGRID**

- EU funded (EU-IST 2001-2003)
- <http://eu-datagrid.web.cern.ch/eu-datagrid/>

- **CROSSGRID**

- EU funded (EU-IST 2002-2004)
- (<http://www.cyf-kr.edu.pl/crossgrid/>)

- **SPECIAL ACTION**

- Spanish Ministry of Science and Technology (MCyT 2001-2002)

- **LCG-ES** (LHC Computing Grid Project-Spain)

- Spanish Ministry of Science and Technology (MCyT 2002-2004)
- <http://lcg.web.cern.ch/LCG/>

- **EGEE**

- EU funded (EU-IST 2003-508833)
- <http://public.eu-egee.org/>



Resources: CPUs



- 192 CPUs
(134 IFIC + 58 ICMOL)
- 96 AMD Athlon 1.2 GHz
1Gbyte SDRAM
- 96 AMD Athlon 1.4 GHz
1Gbyte DDR
- HDD 40 GBytes
- Memory: 1GByte, PC 133
- FastEthernet and gigabit ethernet.



Resources: disk servers

	discos para datos	contr	CPU	Network	Capacidad RAID 1
gse01	20x80GB 2x120GB	IDE	2x Athlon 1.5 GHz	1x100Base-T 1x1000Base-SX	920 GB
gse02	16x120GB	SATA	2 x XEON 2.0 GHz	1x1000Base-T 1x1000Base-SX	960 GB
gse03	12x160GB	SATA	2 x XEON 2.8 GHz	2x1000Base-T	960 GB
gse04	12x160GB	SATA	2 x XEON 2.8 GHz	2x1000Base-T	960 GB
gse05	12x160GB	SATA	2 x XEON 2.8 GHz	2x1000Base-T	960 GB
gse06	12x160GB	SATA	2 x XEON 2.8 GHz	2x1000Base-T	960 GB
					5720 GB



Resources: tape servers

	Cells	Reading Units	Interface	Capacity (without comp.)
IBM 3583	54	1 x LTO Gen1 100 GB (sin compr.)	SCSI	5.4 TB
STK L700e700	690	4 x LTO Gen2 200 GB (sin compr.)	FibreChannel	138 TB



Current Grid Activities

- IFIC-València is involved in the following CrossGrid tasks:
 - **task 1.3** Distributed Data Analysis in HEP
 - **task 1.4** Weather Forecast and Air Pollution Modelling
 - **task 3.2** Grid Resource Management
 - **task 3.5** Integration, Testing and Refinement
 - **task 4.1** Testbed Setup and Incremental Evolution
 - **task 4.3** Infrastructure Support

Current Grid Activities

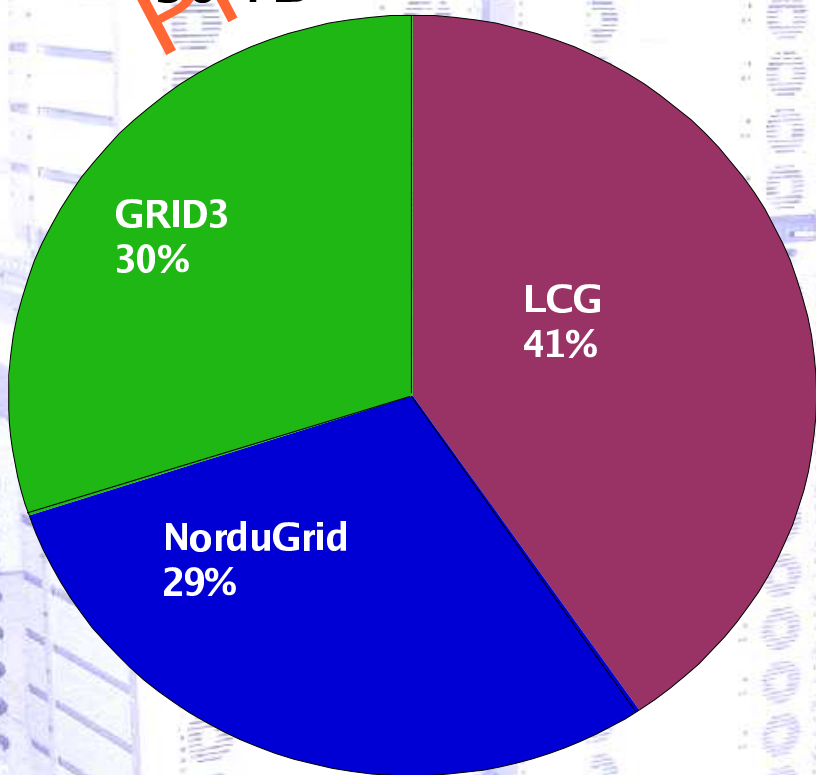
- During 2004 IFIC-València participates in the **ATLAS DATA CHALLENGE 2(DC2)** (flavour LCG)
 - Event productions at IFIC farm in order to provide samples for physics studies and for next DC2 stages
 - Try the new software and automated production system (which makes full use of Grid)
 - Test of the ATLAS computing model



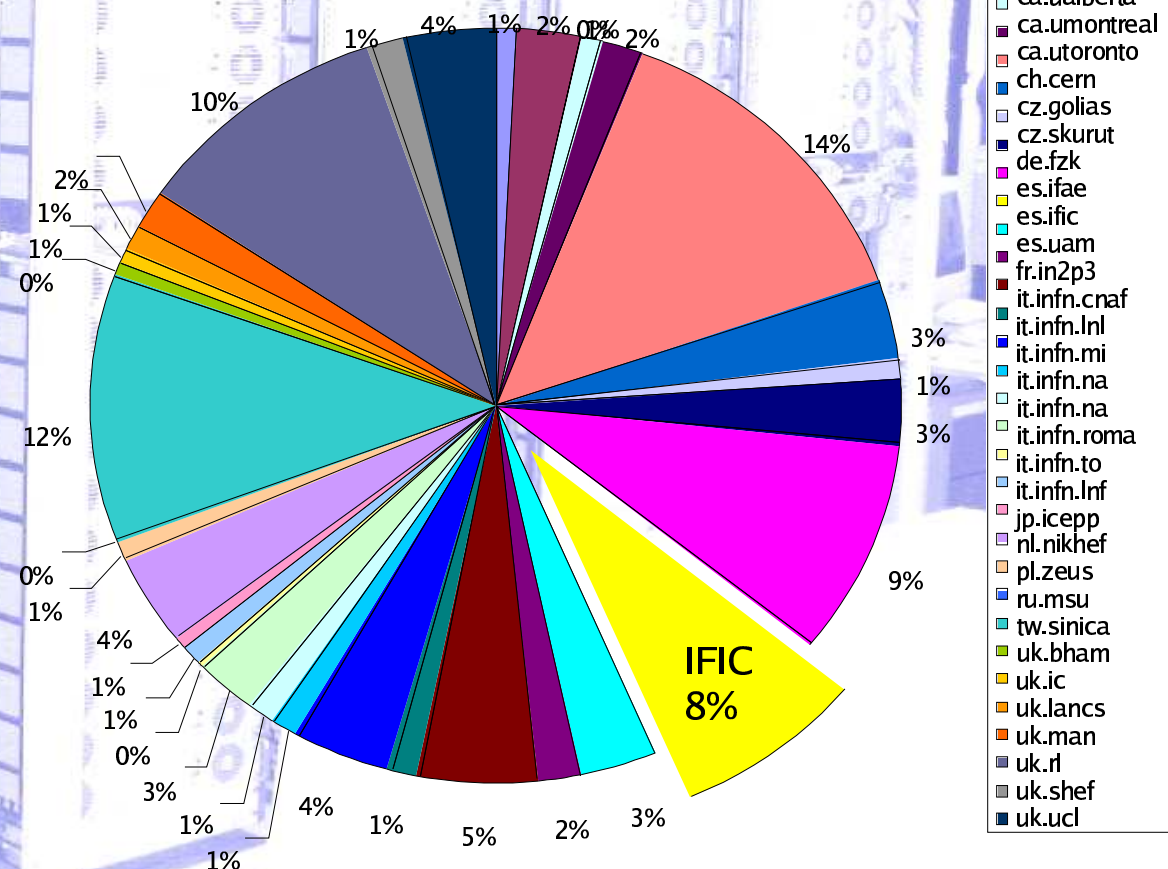
Data Challenge 2 Production

- 8 milion events (fully simulated)
- ~10,000 jobs
- ~30 TB

Preliminary!



LCG job distribution



Summary

- IFIC-València counts on an operating computing farm
 - 192 CPUs, 5.8 TB disk server, 140 TB tape silo
- Participation in several Grid projects
 - crossgrid
 - egee
 - ATLAS DC1 (2003)
 - ATLAS DC2 (running)
- System up and running

ATLAS DATA CHALLENGE 2

- Consider DC2 as a three-part operation:
 - part I: production of simulated data (July-September 2004)
 - running on “Grid” worldwide
 - part II: test of Tier-0 operation (October 2004)
 - Do in 10 days what “should” be done in 1 day with real data-taking
 - Input is “Raw Data” like
 - Output will be distributed to Tier-1s in real time for analysis
 - part III: test of distributed analysis on the Grid (Oct.-Dec. 2004)
 - access to event and non-event data from anywhere in the world both in organized and chaotic ways
- Requests
 - ~30 Physics channels (10 Millions of events) + several millions of events for calibration (single particles and physics samples)

Production Farm

