



LHC Computing Grid Project – LCG

Review November 2003

GTA Introduction

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Review Structure

- Objectives
 - To put the *GTA* in the context of the overall *LCG* project
 - To explain the major issues facing the project in this area
 - To indicate the future strategy for the *GTA* area

- Agenda
 - Overall Introduction and Experiments Experience
 - *GTA* Achievements
 - Future Challenges
 - *GTA* Relationships
 - EGEE



Grid Technology Area

- The structure of the LCG project has been well documented and discussed
 - <http://www.cern.ch/lcg>
- The GTA has its own web pages containing much information
 - <http://www.cern.ch/lcg/gta>
- The GTA area went through a number of transitions
 - Until August 2002 was driven by the EDG project leader.
 - From August 2002 was driven by the current GTA manager (David Foster)
 - From April 2004 will be driven by the EGEE middleware manager (Frederic Hemmer)



GTA Personnel

- **Prior to August 2002**
 - Solely the EDG Project Leader
- **From August 2002 to May 2003**
 - Solely the current *GTA* Manager
- **From May 2003**
 - 1 FTE was added (Massimo Lamanna) to work on *GTA* issues in general.
- **From June 2003**
 - 1 FTE was added (Kathrin Paschen) to work on emerging modeling problems.
- **In July 2003 the OGSA Engineering team was established under the *GTA***
 - Rotating people from Moscow State University, Dubna and the Academia Sinica Taipei contributed plus one student from the EDG.

The *GTA* has been only a small area within the overall project in terms of staffing



LCG Grid Technology

- LCG does not develop and therefore does not control the middleware technology evolution.
- But, within the project we do need to:
 - Identify the starting technologies (2003) to be deployed.
 - Identify the evolution strategy (2004-2006).
 - Identify the long term support strategies.
 - Work towards future middleware solutions that are coherent, acceptable and supportable.
- The GTA has worked on a number of well defined projects to enable the above objectives which will be described later
 - Technology Tracking
 - Technology Selection
 - Technology Evaluation
 - System Design



A Short Glossary of Terms

- **Technologies**
 - Globus - Basic Grid Technology
 - CONDOR - Long time distributed batch system
 - VDT - Virtual Data Toolkit (Software = Condor + Globus)
 - GT3 - Current release of the globus toolkit based on web services and OGSI and OGSA specifications
- **Projects**
 - EDG - European DataGrid Project, provides higher level grid functionality based on VDT.
 - Nordugrid - Northern countries grid project based on Globus.
 - iVDGL, GriPhyN, PPDG = Trillium (NSF and DOE funded).
 - DataTag - EU/NSF Funded project for wide area grid testbed.
 - EGEE - Enabling Grids for E-science in Europe.
 - LCG - LHC Computing Grid based on VDT + some components of EDG.
- **Grids**
 - EDG Testbeds (development, application etc) used for testing the latest EDG release 2.0
 - LCG Certification (or current and future) for certifying the release.
 - LCG Deployment testbed for testing installation and deployment.
 - LCG Production environment.
 - GRID3 - VDT based grid for tier-1 and 2 centers but not only HEP.