



DIRAC Project Status

DIRAC Project



- ▶ DIRAC roots
- ▶ DIRAC Consortium
- ▶ DIRAC users
- ▶ Setting up DIRAC Software project
- ▶ Coming releases

- ▶ DIRAC project was born as the LHCb distributed computing project
 - ▶ First, as a MC production engine
 - ▶ Then extended for all the other LHCb distributed computing tasks

- ▶ DIRAC was reorganized to separate generic and LHCb specific functionality in 2008-2010
- ▶ Since 2010 DIRAC became an independent project
 - ▶ With LHCb staying the main client of the project
 - ▶ Main DIRAC developers are also LHCb experiment members



DIRAC Consortium

- ▶ DIRAC Consortium is supposed to be a Collaboration of institutes, laboratories, universities contributing to development and using the DIRAC software
- ▶ Not binding to provide specified amount of resources and manpower
- ▶ DIRAC software copyright owner



DIRAC Consortium, cont'd

- ▶ Initially supposed to be signed by
 - ▶ CPPM
 - ▶ University of Barcelona
 - ▶ CERN

- ▶ Other institutes are welcome to join the Collaboration as soon as it is formed

- ▶ Negotiations are ongoing to find the most appropriate formula of the Agreement

- ▶ We saw 7 presentations yesterday
 - ▶ CREATIS/VIP (Virtual Imaging Platform)
 - ▶ Biomedical image processing
 - ▶ Using custom workflow engine with the DIRAC backend
 - ▶ ILC
 - ▶ Belle II
 - ▶ GISELA
 - ▶ CTA
 - ▶ CESGA
 - ▶ LHCb
- ▶ Half of them are “high energy physics” experiments, but others are coming from different domains

- ▶ Other projects are performing evaluation of the DIRAC middleware
 - ▶ SuperB, Frascati
 - ▶ Setting up a DIRAC installation
 - ▶ BES at BEPC, IHEP, Beijing
 - ▶ General purpose detector on e^+e^- accelerator
 - ▶ Several sites are configured and usable (gLite and DIRAC sites)
 - ▶ Now passing to scalability tests
 - ▶ Yandex site for LHCb
 - ▶ TREND, IHEP, Beijing
 - ▶ Astrophysics experiment



DIRAC installations

- ▶ **Per project installations**
 - ▶ ILC, Belle, Bes, CTA, SuperB, etc

- ▶ **Multigroup, multiVO installations**
 - ▶ Lyon CC, DIRAC installation for the french NGI users
 - ▶ Regional installations
 - ▶ Bordeaux University
 - ▶ Montpellier University
 - ▶ Marseille University

- ▶ **Other application domains**
 - ▶ ESR, Seismology (IPGP) supported by the Lyon installation



DIRAC installations

- ▶ **Montpellier HPC@LR GPU farm**
 - ▶ Access through a LoadLeveler batch system
 - ▶ Can be incorporated in heterogeneous workflows
 - ▶ GPU+HPC+Grod steps
- ▶ **SHIWA**
 - ▶ Workflow management platform
 - ▶ Collaboration with the Nice University and Budapest University
- ▶ **P-Grade**
 - ▶ Web Application portal framework
 - ▶ Large user base
 - ▶ Needs a decent job submission backend
 - ▶ Discussions are ongoing



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- ▶ **Tutorials**
 - ▶ 4 tutorials for the french NGI users, ~60 students in total
 - ▶ Positive feedback, follow-up DIRAC evaluations



DIRAC installations

- ▶ Lyon NGI installation
 - ▶ Grid user training program
 - ▶ The installation is available for real users
 - ▶ VIP DIRAC installation is migrating to the Lyon CC service
 - ▶ After a thorough independent evaluation
 - ▶ Contributing to the service maintenance
 - ▶ CC/Lyon is providing
 - ▶ MySQL service
 - Dedicated server, backups, etc
 - ▶ DIRAC installations in a number of VMs



DIRAC Site

► <http://diracgrid.org>

A screenshot of the DIRAC website homepage. The page has a dark blue header with the DIRAC logo and the tagline 'Community Grid Solution'. Below the header is a navigation menu with links for 'Home', 'News', 'Documentation', 'Support', and 'Developers', along with a search box. The main content area is divided into three sections: 'News', 'DIRAC events', and 'Recent posts'. The 'News' section contains three items: 'Registration for Second Meeting with DIRAC User Communities' (5 Apr 2011), 'DIRAC meeting in Barcelona' (3 Apr 2011), and 'New DIRAC Web Site' (3 Apr 2011). The 'DIRAC events' section shows a date 'May 12' and a time '9:00 AM - DIRAC Meeting with User Communities'. The 'Recent posts' section lists 'Discussion forums added' and 'First blog post'. The central part of the page features a large text block explaining the DIRAC project as a complete Grid solution, followed by a diagram of the 'DIRAC Overlay System' showing a 'User Community' interacting with 'Grid A' and 'Grid B' through various services and resources. Below the diagram, there is another text block mentioning the 'Workload Management System with Pilot Jobs'.



DIRAC Project Site

- ▶ Simple, functional, more stuff is being added
 - ▶ Based on WordPress Content Management System
 - ▶ Plethora of plugins, active development community

- ▶ What is available
 - ▶ News feed
 - ▶ Calendar of events
 - ▶ Blog for various useful informations

- ▶ Entry point to many other sources
 - ▶ Docs
 - ▶ Forums (aka mailing lists)
 - ▶ Support
 - ▶ Developer
 - ▶ Implemented as Google groups
 - ▶ Users have to register to be able to post questions, comments
 - ▶ Repos



Code Management

- ▶ **Twitter – twitter.com/DiracGrid**
 - ▶ Annonouncements, news

- ▶ **The DIRAC project site will keep evolving**
 - ▶ Do we need more mailing lists in addition to the forums ?
 - ▶ What other information is useful for addition ?
 - ▶ CafePress shop link
 - ▶ Team description
 - ▶ etc

- ▶ **Guides**
 - ▶ User Guide
 - ▶ Developer Guide
 - ▶ Administrator Guide
 - ▶ Contents is being updated constantly

- ▶ Tutorials are provided in the Github DIRACGrid organization Wiki pages
 - ▶ Used successfully in the French NGI training program
 - ▶ Useful source for individual learning



Code Management

- ▶ Git as code management technology
- ▶ Github repository <http://github.com/DIRACGrid>
- ▶ The development procedures that we would like to adopt are well supported by the Github services
 - ▶ Team development
 - ▶ Tracker
 - ▶ Wiki
- ▶ See Adri's presentation for details

- ▶ The current production release is v5r13p2
 - ▶ v5r14 is out with the updated installation tools, mainly for testing.
- ▶ The coming v6r0 release will be prepared with the new tools
- ▶ The v6r0-pre1 is already generated and is going through tests now
- ▶ All the DIRAC development contributors are invited to get familiar with Git, Github and the DIRAC way of using it



Conclusions

- ▶ DIRAC project is taking shape as a general purpose Open Source grid middleware provider
- ▶ DIRAC Consortium Agreement is in the works
- ▶ The DIRAC user base is growing and more communities are performing evaluations
- ▶ The new project management is being set up
 - ▶ Project site, Git repository, forums, etc
- ▶ The coming new releases will be created with the new development tools.