



DIRAC testbed for SuperB

SuperBDIRAC project

Bruno Santeramo

3rd DIRAC User Meeting
Marseille - 29/10/2012



Summary



- SuperB overview
- SuperB distributed computing needs
- Testbed DIRAC infrastructure for SuperB
- Testbed results
- Customizing DIRAC for SuperB: SuperBDIRAC
 - Production System
 - SQLAlchemy class for Bookkeeping database
 - Extending Webportal
- Comments
- Request for features
- Credits



SuperB overview





SuperB distributed computing needs





Testbed DIRAC infrastructure for SuperB





Testbed results





SuperB DIRAC





Production System





SQLAlchemy class for Bookkeeping database



- Overview in general SuperB DIRAC design
- Redirect to Milosz presentation



Extending Webportal





Comments





Requests for features





Credits



- Armando Fella – Pisa
- Bruno Santeramo – Bari
- Christian De Santis - Rome
- Giacinto Donvito - Bari
- Marcin Chrzaszcz - Kracow
- Miłosz Zdybał - Kracow
- Rafał Grzymkowski - Kracow

Thanks to DIRAC developers, expecially to
Andrei Tsaregorodtsev, Federico Stagni, Matvey Sapunov,
Krzysztof Daniel Ciba, Ricardo Graciani, Adrian Casajus



BACKUP SLIDES



SuperB DIRAC module installation status



- SuperB DIRAC → prototype
 - <https://github.com/managai/SuperB DIRAC> (testing purpose)
 - https://github.com/managai/DIRAC_tmp (testing purpose)
 - add menu in webportal named "Production Manager" and a new named "Home"
- Installation procedure customized
 - Works well but...
 - Install only vanilla DIRAC
 - SuperB DIRAC downloaded but not installed
- Support requested to developers
 - Received new tips and suggestions to consider...



SuperB DIRAC module installation status



- VMDIRAC installation test
 - VMDIRAC offered as official DIRAC extension
 - In theory, just editing installation .cfg file the module should be installed
 - In practice, still experiencing troubles
 - Same results trying to install SuperB DIRAC module
 - Once solved VMDIRAC installation procedure, SuperB DIRAC should be installed using same tips
 - Intense email interaction with DIRAC developers
 - Especially Adrian Casajus, Andrei Tsaregorodtsev, Matvey Sapunov
 - Solution seems close...
 - I hope :)



SuperB DIRAC module installation status



- Some considerations:
 - Webportal pages can be added directly editing DIRAC files
 - See Marcin works
 - Services, agents and Databases can be added in the same easy way ?
 - Test needed
 - SuperB DIRAC installation task fundamental for future
 - At present time, failure on this task can slow development of custom code



SuperBDIRAC module installation status



- Backup solution proposal
 - Fork entire DIRAC repo
 - Modify DIRAC
 - Webportal
 - Adding Systems, Services, Agents, Dbs, scripts needed in the right places
 - Custom installation procedure to install our own forked DIRAC version
 - Successfully tested
 - Consider it only a possible temporary solution
 - Useful to test new components
 - We must be ready to switch to SuperBDIRAC project
 - Only matter of SVN usage
 - Plus same configuration file I have to carefully edit



Marseille Meeting presentation



- Meeting in Marseille, 29-31 October 2012
 - <http://diracgrid.org/?p=208>
- Two presentations from SuperB
- Title proposal
 - DIRAC testbed for SuperB report (Bruno)
 - Will cover also SuperBDIRAC development
 - Integrating DIRAC with a PostgreSQL bookkeeping database via SQLAlchemy (Milosz)
- See next presentations of this meeting



Report on conversion with Andrei Tsaregorodtsev



- Bruno meets Andrei in Bologna on 19 October
- People to contact (experts on specific DIRAC components)
 - Matvey Sapunov (matvey.sapunov@cern.ch) → webportal
 - Adrian Casajus (adria@ecm.ub.es) → installation procedures
- Documentation on diracgrid.org written in reStructured markup language
 - <http://docutils.sourceforge.net/rst.html>
- DIRAC really need documentation
 - We have to write a verbose documentation, still on wiki, to acquire needed expertisement
- DIRAC Milestone basing on user need
 - In Marseille meeting will be established next developments to exploit
- Webportal based on
 - Pylos
 - Ajax
 - ExtJS (just reported by Marcin)
- Several new features (wait for Marseille meeting report)
- DIRAC adoption worldwide (France, Spain and Portugal, China, Russia(?), Italy(?))
- Opportunities for DIRAC experts :)



DIRAC testbed status



- `bbrbuild01.cr.cnaf.infn.it`
 - v6r5p5
 - production
- `sb-serv04.cr.cnaf.infn.it`
 - v63r5p5
 - Test
 - Webportal menu and page addiction
 - SQLAlchemy class based new commands
 - Sites info import
- `gridtest-05.ba.infn.it`
 - v6r5p7
 - VMDIRAC installation test



Webportal development next steps proposals



- Replicate WebUI menu and page structure
 - https://bbr-serv09.cr.cnafr.infn.it:8443/~webui_sb5/
- Main menu:
 - Production System (instead of SuperB)
 - Page: Home
 - Menu: Sessions
 - Page: sites management
 - Menu: FastSim
 - [See WebUI for pages]
 - Menu: FullSim
 - [See WebUI for pages]
- Configure properly permissions to page access
 - VOMSRole mapped via dirac group (see backup slide)



Milestone proposal



- October
 - SuperB DIRAC installation
 - SBK5 insert query via SQLAlchemy
 - Sbkprodrhas only read permission
 - Write and update permission necessary to replicate Site Management page
- October
 - Transformation System testing
 - Should be useful for workflow and Massive Data Transfers
 - Site Management porting under SuperB DIRAC
 - First FastSim job submission via SuperB DIRAC
 - Prototype (Expert or Shift) Init page
- November
 - Manage permission rules for Operations via SuperB DIRAC web interface
 - Production Requests page
 - Monitoring functionalities in SuperB DIRAC
- December
 - SuperB DIRAC able to perform complete MC production stack



Next meeting reminder



- Third DIRAC User Meeting
 - 29-31 October 2012
 - <http://diracgrid.org/?p=183>
 - Bruno Santeramo should participate
 - Someone else interested ?
- SuperB Collaboration Meeting @ Frascati
 - December 2012



Discussion time



- Proposal ?
- Suggestion ?
- Something not clear ?



Groups



Groups and Role in VO and DIRAC

Group/Role	Type	Description	VO share	DIRAC mapping
/superbvo.org	Standard User	Generic user group	0	sb_user
/superbvo.org/Role=ProductionManager	Production Manager	User role related to MC production management	20	sb_productionmanager
/superbvo.org/Role=SoftwareManager	Software Manager	VO Software administrator	0	sb_softwaremanager
/superbvo.org/Role=Analysis	Standard User	User role related to analysis task	0	sb_analysis
	DIRAC administrator	DIRAC administrator		dirac_admin
	DIRAC pilot job	Useful for DIRAC		sb_pilot



Collaborative tools update



- SVN: <https://sbrepo.pd.infn.it:8911/projects/WebUi/browser/trunk/DIRAC>
 - Uploaded SuperBDIRAC module
 - Uploaded Severus (modified to work with DIRAC)

- Severus/version24/modules/fileManager.py
 - Line 109
 - Original
 - *out = self.lcgUtil.lfcLs(path)*
 - Modified
 - *out = self.lcgUtils.lcgLs(path)*
 - Why?: Workaround because surl starting with lfn:/ supposed to be accessed from CNAF (so Severus drop initial lfn:/ from surl and try to access input file locally)

- DIRAC job wrapper install its own python environment
 - Python version 2.6.6
- Severus tested to work with Python 2.4
 - Severus perform an intial python version check
 - Version24 directory contains all components
- Proposal
 - Test modified Severus with Python 2.6
 - New code under version26 directory
 - Modify severus.py to enable Python 2.6 usage

- SBK5 queries to be prepared - via SQLAlchemy and/or REST interface
 - SELECT count(runnum) as tot FROM "<session_name>"_Job " WHERE (prod_series = '<prod_series>') AND (runnum BETWEEN "<minrun>" AND "<maxrun>") AND (status!='prepared')";
 - SELECT * FROM "<session_name>"_Job " WHERE (prod_series = '<prod_series>') AND runnum = '<runnum>';
 - UPDATE "<session_name>"_Job SET grid_job_id = "<job_id>", status = 'submitted', ts_submitted = cast(now) as timestamp(0) WHERE prod_series = '<prod_series>' AND runnum = "<runnum>" AND status = 'prepared';
 - UPDATE "<session_name>"_Submission SET bulk_job_id || ('<site>' => '<bulk_job_id>') WHERE uid = '<uid>' AND ts_prepared = '<timestamp>';



MC production via SuperB DIRAC



- Issue: SuperB DIRAC/ProductionSystem need to interact with SBK5
 - N.B. Now Severus can be properly launched only from CNAF (?)
 - SBK5 psql-like access only from CNAF
 - SBK5 access outside CNAF only via REST interface
 - Solution proposal:
 - Create a Service (temporary named SBK5Service) into SuperB DIRAC to cope (all?) SBK5 queries
 - Each site equipped with a DIRAC server and SBK5Service must be able to directly query SBK5
 - Enhance SBK5 REST interface by adding some views to simply perform needed queries from every DIRAC Server Instance
 - No changes to SBK5 access policy

- DIRAC webportal must replicate all WebUI features
- DIRAC/WebUI operations
 - Production creation → write
 - Production data retrieve → read
 - Request creation → write
 - Request data retrieve → read
 - Bulk job creation → write
 - Bulk job submission → read data for Severus
- Severus job wrapper
 - Job status report → write
 - Job Log registration → write



DIRAC API



- DIRAC offers a powerful set of API
 - We need a good quality documentation to speed up development
- API documentation
 - <http://diracgrid.org/files/docs/CodeDocumentation/API/index.html>
 - Epydoc generated – updated – maintained by developers



Useful links



- **DIRAC official site**
 - <http://diracgrid.org/>
- **DIRAC official forum**
 - <https://groups.google.com/forum/?hl=en&fromgroups#!forum/diracgrid-forum>
- **DIRAC repository**
 - <https://github.com/DIRACGrid>
- **DIRAC API documentation**
 - <http://diracgrid.org/files/docs/CodeDocumentation/API/index.html>
- **DIRAC testbed for SuperB wiki page**
 - http://mailman.fe.infn.it/superbwiki/index.php/Distributed_Computing/Dirac_testbed
- **DIRAC testbed webportals:**
 - bbrbuild01.cr.cnaf.infn.it
 - <https://bbrbuild01.cr.cnaf.infn.it:8443/DIRAC/>
 - sb-serv04.cr.cnaf.infn.it
 - <https://sb-serv04.cr.cnaf.infn.it:8443/DIRAC/>
- **Production WebUI**
 - https://bbr-serv09.cr.cnaf.infn.it:8443/~webui_sbk5/
- **SuperB resources (google Doc)**
 - <https://docs.google.com/spreadsheet/ccc?key=0AsjxRpEZ2zEIIdHU2cjh4YTdrajdYdlNmajdBVGZWLWc#gid=0>
- **SuperB Production Shifter Guide wiki page**
 - http://mailman.fe.infn.it/superbwiki/index.php/Distributed_Computing/Production_Shift_Guide

WebUI workflow

