

LHC*b* Grid Issues Discovery and Solution

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Topics of the Presentation

- LHC*b* and the Grid Operation
- Short Description of DIRAC
- Focus on Transfer, Application and LCG/gLite
- How the problems are discovered
- How the problems are fixed

LHC*b* and the Grid



- **DIRAC** - **D**istributed **I**nfrastructure with **R**emote **A**gent Transfer **D**ata
 - Data Management
 - Production
 - MonteCarlo and Reconstruction
 - Analysys
 - User Jobs
 - Test
 - Testing and Development of new Functionlaties

Data Management Trouble shooting

- [LHCb Service Monitoring Page](#)
 - T1 X T1 Channels matrix
- <http://lhcb.pic.es/DIRAC/TransferAccounting/>
- Failures are fixed requiring intervention through the GGUS portal
- LHCb DIRAC TransferLogs Summary ([web](#)/[local](#))

DIRAC or LHC*b* Applications problems

- These are manually discovered looking at the DIRAC Monitoring Page ([web/local](#))
 - Actions are triggered through the DIRAC-developers mailing list (a dozen of people)
 - The Logs are stored on dedicated service machine (httpd, gridftpd) for further analysis ([example](#))
 - We are working to use DashBoard to present all this information

LCG/gLite

- We developed a monitoring system based on DIRAC accounting information
 - Logging info per aborted jobs are stored on an AFS area.
 - The reasons of failures are encoded in a 3 digits notation and stored in a local (DIRAC) data base. The available information is
 - OwnerDN
 - guid
 - Date
 - Destination
 - Failures codes
 - An efficient way to monitor this failures in an automatic and visually pleasant way is still missing ([anyway there is a web interface!](#))

And SAM/FCR?

- LHCb - first among the HEP experiments - built its own experiment specific test for Service Availability Mechanism (SAM).
- SAM framework is currently used for installing/check application software.
- LHCb never used FCR for automatic exclusion of faulty sites :
 - To maximize the use of computing power from the Grid
 - To avoid that just a temporary problem caught by SAM would turn into lost of valuable resources
- SAM will be soon considered as yet another source of alarms (like the old GAn operator (no necessarily from LHCb) will take care of facing all SFT discovered problems by submitting GGUS tickets accordingly

[TransferAccounting](#)

Details

Production ID:

Site:

 ANY
 DIRAC.atsareg-test.fr
 DIRAC.Lyon.fr
 DIRAC.UCD.ie

Job Status:

App Status:
 All
 Boole execution, step 4
 Boole step 4 started
 Brunel execution, step 1

Owner:

Max results:

Job Ids:

Jobs updated after:

			successfully			04:12:02	
1453215	outputready	Unknown	Waiting for data transfer	LCG.Padova.it	00001534_00017810	2007-02-14 18:35:10	lhcbprod
1464570	outputready	Unknown	Waiting for data transfer	LCG.LPN.fr	00001650_00000002	2007-02-14 12:40:33	lhcbprod
1464571	outputready	Unknown	Job failed to safe its output	LCG.NIKHEF.nl	00001650_00000003	2007-02-14 14:00:18	lhcbprod
1464572	outputready	Unknown	Data transfered successfully	LCG.Edinburgh.uk	00001650_00000004	2007-02-14 15:57:09	lhcbprod
1464573	outputready	Unknown	Job failed to safe its output	LCG.NIKHEF.nl	00001650_00000005	2007-02-14 13:23:51	lhcbprod
1464574	outputready	Unknown	Data transfered successfully	LCG.HG-06.gr	00001650_00000006	2007-02-14 11:34:03	lhcbprod
1464575	outputready	Unknown	Data transfered successfully	LCG.LPN.fr	00001650_00000007	2007-02-14 14:15:36	lhcbprod
1464576	outputready	Unknown	Job failed to safe its output	LCG.NIKHEF.nl	00001650_00000008	2007-02-14 13:49:05	lhcbprod
1464577	outputready	Unknown	Data transfered successfully	LCG.EELA-CIEMAT.es	00001650_00000009	2007-02-14 15:39:38	lhcbprod
1464578	outputready	Unknown	Job failed to safe its output	LCG.NIKHEF.nl	00001650_00000010	2007-02-14 14:46:27	lhcbprod
			Data			2007-02-14	

DIRAC TransferAccounting Log Server - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://lhcb.pic.es/DIRAC/TransferLogs/

Getting Started Latest Headlines DIRAC Monitoring (Pr...

DIRAC Monitoring (Production) Gmail - Inbox (414) DIRAC TransferAccounting Log S...



[CERN](#)

[CNAF](#)

[GRIDKA](#)

[IN2P3](#)

[NIKHEF](#)

[PIC](#)

[RAL](#)

Summary of Transfer Errors for Today (2007-02-15)

Error Count	Error
40611	Total
29713	Destination URL for copy is not retrieved .n.nError: CGSI-gSOAP: Could not open connection ! .nlcg_cp: Connection refused
4488	lhcb-lcg-cp: error while loading shared libraries
1767	Error: \$
1193	Failed to get the source file size
548	Failed to get local copy
399	Failed to register in catalog LFC
352	CGSI-gSOAP: GSS Major Status: General failure
255	Communication error on send
249	Destination URL for copy is not retrieved .n.nError: CastorStagerInterface.c:2457 Device or resource busy
209	Timeout: [1-9]
135	BDII Connection Timeout
101	lgc_cp: Transport endpoint is not connected
75	Destination URL for copy is not retrieved .n.nError: lgc_cp: No such file or directory