# TB1 – an application view

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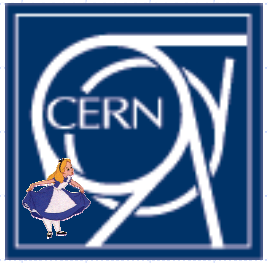

# Disclaimer

- This presentation does not contain any (self)congratulatory statement
  a. There will be time after the Review for this
  b. (Self)congratulation is not the priority now
- However applications do realise how hard everybody has been working and appreciate it
- This presentation is definitely not very good
  - I received the last slide this morning…
  - My application colleagues will correct me 😐

# LHCb feedback

- LHCb jobs are scripts containing the following commands
  - dg-job-submit — tested, input sandbox corrupted
  - dg-job-status — tested, works
  - dg-job-get-output — tested, does not work
- Not tested because above does not work
  - dg-get-logging-info
  - gdmp_register_localfile
  - gdmp_publish_catalog
  - gdmp_get_catalog
  - gdmp_replicate_get
  - gdmp_stage_to_MSS (CASTOR, HPSS)
  - gdmp_stage_from_MSS
  - gsiftpput
  - gsiftpget

# ATLAS feedback

- Only some 10 days before Xmas for validation
  - We want to use EDG tools in production in 2 months from now for DC1: if we cannot it is very bad for EDG in ATLAS!!
- Steps 1 and 2 of our validation OK, 3 started
  - Successful tests of WP1 (job summission, RB etc.) but not yet in real stress conditions
  - Test of WP2 just started
  - Only CERN and CNAF used for the tests
- Needed asap
  - Stable MW for basic functions of at least WP1,2,5 (MSS use)
  - Stable and uniform deployment on more sites (for Atlas DC1) and extension to non-EU users and sites
  - A procedure for installing the Atlas DC1 software kit (Objy and fake /afs)

# ALICE feedback

- Large quantity of tests performed
  - LDAP users server: setup and management
  - LDAP Replica Catalogue server installation and management
  - Application independent job
  - Application dependent job: simulation of an ALICE event
  - Application dependent job submission: ALICE environment creation and job submission
  - Monitor a job status from its identifier
- Registration & access files in RC & MSS not done
- Testbed uniformity is a key issue
  - for applications' software default locations or, BETTER, "environments" MUST BE set everywhere
  - Need for common (or hierarchical) time server(s)

# CMS feedback

- What worked
  - Job submission
  - Resource matching
  - Sandbox file transfer, output retrieval (but see below)
  - Replica Catalog API
- What did not work
  - Testbed highly unstable
  - Some problems in the Resource Broker
  - Data corruption when transferring large files
- What is urgently needed
  - Multi-VO SEs
  - Command interface to SE I/O that also updates the RC
  - Instructions to use GDMP for data replication

# EO feedback

- Tested: Basic Job Submisson OK
  - dg-job-get-output problem
  - High throughput simultaneous jobs NOT tested
- Not Tested: RC / RM / GDMP
  - No clear procedure; end-to-end demo by ITeam not seen
  - Access to Ses: we assume its not ready for us to test yet
- CEs/SEs for EO VO installed at few sites: CERN, Lyon, NIKHEF
  - Testbed1 sites lacking in conformity
- Preparing to test IDL: Application Kits currently being installed
  - Grid-wide installation procedure?
- Documentation quality: verify that examples actually work
  - Prevented IPSL from testing GDMP
- Integration effort underestimated
  - Missing integration layer; installation procedures unclear; not automated; needs help of an expert

# Integration

- Lasted too long (Sept 1 – Dec 10)
  - A high level architecture would help to go faster
- Applications, now ***observers***, should become full members
  - See the Linux configuration & environment story!
- Terminated before one site was fully ***integrated***
  - This should be avoided in the future
- Some fundamental integration issues left to LCs and WPs
  - WP1-3, WP2-5 integration still under discussion
- WP6 should be more present as an integrated body
  - It needs to elaborate now a clear deployment plan
- Priorities for ITeam and applications are different
  - A report is in preparation

# Validation

- WP6 should act more effectively as intermediary between applications and MW
- The current effort on the documentation should continue
- ITeam@CERN disbanded before the sites 1 & 2 were up
- Deployment not uniform
  - See the long CNAF saga
- No distinction between development and production platforms
  - Need stable production where only show stoppers are corrected
  - Testbed blocked from Dec 21 to Jan 18 (now?) due to the change in GLOBUS version
- Applications had only 10 days before Christmas to validate

# Priority List of Applications

- Set of Commands that have to be working reliably on all testbed sites!
  - dg-job-submit
  - dg-job-status
  - dg-job-get-output
  - dg-job-list-match
  - dg-get-logging-info
  - gdmp_register_localfile
  - gdmp_public_catalog
  - gdmp_get_catalog
  - gdmp_replicate_get
  - gdmp_stage_to_MSS — CASTOR and HPSS
  - gdmp_stage_from_MSS — at CERN and Lyon
  - gsiftpput
  - gsiftpget

# Priority List of Applications

- LCFG works
  - Rather steep learning curve (docs are being improved)
  - Once it works, it is a GREAT tool: reinstall an SE with one button push + two commands (once it works!)
  - But still problems with Linux configuration (what is Linux?)
- File Storage & Replica Model priorities
  - Vision of what a Grid "SE" is
  - Vision about interaction between RM, SE, JDL, and GIIS
  - Consistent model of how to configure a GRID file server
  - Documentation of existing commands and how to use them in realistic jobs
  - Adequate information about files in IS schemas

# Priority List of Applications

- Data handling / transfer
  - We need soon at least two SEs installed and configured to test a complete file replication (with GDMP), including automatic file publishing into the RC
  - We should make sure that InputSandBox and OutputSandbox based file transfer works (Beta 21?)
- User environment should have
  - A unique directory where to run environment-variables settings scripts to set application environment
  - The same PATH and LD_LIBRARY_PATH set everywhere for system software (i.e., X library, gcc compiler, special libraries like CERNLIB, etc.)

# Exploiting the whole testbed1

- Reliable RunTimeEnvironment matching
  - Need a global view (GIS, Web Site) of all RTEs and their corresponding directory structure
  - Avoid always same-user on same-nodes: unwanted constraint in testing / anti-grid philosophy
  - Define SiteManager<->Application coordination
  - Improve inter-site coordination
- Need to setup and test multiple VO SE asap
  - SE shared by different VOs using different directories & different port #s (1 dir per VO, 1 port per VO)
  - 1 Linux-user per VO per SE with r/w access rights
  - 1 Linux-user-group per VO per SE
  - Use of globus-job-run to execute commands on the SE
  - Instructions & examples, especially on WN->SE transfers

# Actions on application side

- Continue testing TB1 as hard as we can
- Prepare a priority list for the Iteam
  - We already did and we are iterating on that
- Prepare a priority list for the various WP's
  - Compare with "Cal's list"
  - Discuss it at the weekly WP manager meeting
- Work at a common set of use cases in the context of SC2
  - This is intended to help the development of an architecture (or whatever you want to call the thing we need)
- Organise our feedack to the MW WPs & WP6
- Retire progressively the LCs from the WP6-like work they have been doing
  - WP6 should take over here

# The glass is half full

- Software has been produced and deployed
- It is being tested by the applications with mixed success
- Problems in Bugzilla are being addressed

# The glass is half empty

- The tesbed is highly unstable and too often unusable
  - We are constantly mixing production and test
- Coordination between different sites has to be improved
  - LCFG in Lyon is one example
- A global view of the different sites is missing
- High level design and configuration of several elements (particularly SE!) is not yet defined
  - We are designing, prototyping, integrating, validating, testing all at the same time…
- The role of several elements is still unclear (MDS vs RGMA, Spitfire …)
  - Architecture again
- Deployment plan and roadmap is needed

# Conclusion

- We will probably pass the review
- However we need to
  - Streamline and improve the whole WP6 operation mode
  - Improve the feedback from applications
  - Arrive at a proper global view of the testbed
  - Arrive at a proper global view of the architecture