



## **CZ Cluster Summary**

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## L&B maintenance and development

Enabling Grids for E-sciencE

## **Bug fixes**

- only minor issues on 3.0
- all critical fixes ported to 3.1

## Migration to gSoap 2.7.9b

- multiple versions in security.gsoap-plugin
  - motivation: migration between gsoap versions difficult
  - encapsulation of gsoap library more versions can co-exist
  - all lib sources in CVS not clean but avoids multiple dependencies
  - build-time gsoap dependence only for examples
- L&B and JP migration
  - more difficult than expected
  - almost done this week



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## L&B maintenance and devel. (2)

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#### Non-DAG collections

- support ready in L&B, available at preview testbed
- reporting aggregate collection state
  - not declared to be urgent
  - something reasonable should be reported either
- events coming from WMS being evaluated

### L&B database purge

- getting more and more urgent
- reported as configuration bug #23608, detailed info provided
- already overgrown database
  - standard (on-line) approach does not work smoothly (timeout)
  - database is not shrinker
  - work on rescue (off-line) script in progress



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### **Build problems**

- turned to be trivial (libtool needs "gcc" named compiler)
- hopefully fixed now

### Broken functionality in 3.1

- difficult to reproduce
- combination with specific Globus and VOMS versions
- tracked down to be a name clash between these
- fixed in VOMS



- slow progress, mostly due to Etics issues
- two planned stages
  - conservative: prune 3.1 dependencies with minimal L&B code changes
  - more aggressive: split modules, reshuffle code, etc.
- details in Jan's talk tomorrow
- overall deadline (June) still realistic

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#### **Motivation**

- standing requests for additional job types
  - advance reservations
  - Condor
  - PBS (META Center Czech grid)
- unified view on job state
  - convenient for users
  - aggregate information from multiple domains
    - ▶ gLite + Condor + PBS + data transfer



## Non-gLite jobs in L&B(2)

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## Changes in L&B core

- generic support for multiple job types
  - using job\_type field in registration event
  - job-type specific switch to call state machine
- "grey" jobs
  - registration needn't be the first event anymore
  - put events in quarantine, invisible for queries
  - either validated by registration or deleted after timeout
- extended authorization
  - Kerberos, UNIX identity, ...
  - currently grid-mapfile
  - foreseen mechglue (multiple mechanisms under GSS)

### Job-type specific events and states

- defined in T files
- except of state machine everything is generated automatically



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## Non-gLite jobs in L&B(3)

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## Log cruncher

- we cannot rely on instrumenting third-party code anymore
- new component, lightweight counterpart to gLite Log Monitor
- generic part
  - read log files, handle their rotation
  - keep persistent state for recovery
- job-type specific modules
  - detect events in the log
  - crate and send L&B events

#### **Current state**

- most L&B core changes done
- PBS support works quite wel
  - correct event ordering is still an issue
- work on Condor support started
  - more difficult log file parsing
- paper submitted for HPDC grid monitoring workshop



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- followup of successful Challenge 1
- focus on co-operation
  - challenge workflow is split into 3 parts
  - participants exchange provenance data on the parts
  - the same queries should be answered
- first stage (define interchange format) done in February
- to be concluded at HPDC workshop in June
- participation in Provenance Challenges linked in NA5 list of standardization activities

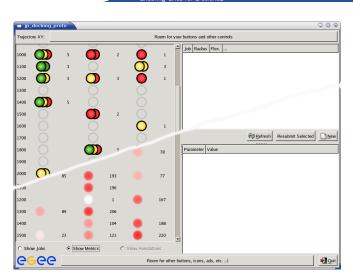
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- pilot application in computational chemistry
  - interaction of protein with multiple small molecules, eg. potential drugs
- many related jobs, Job Provenance used to keep the track
- focus on application user attributes
- supported search for interesting patterns



## User forum demo (2)

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#### Status

- main goals
  - have a local I &B and IP build
  - define internal procedures for configuration management
  - start gLite restructuring
- first attempts around EGEE conference (September)
- systematic effort since November
- approx. 40 person-days spent
- rather tiny results
  - we are able to build current 3.1 configurations
  - we have cumbersome procedures for config management
- good news either there is some progress



#### Reasons

- lack of documentation
- unstability of Etics client
  - the issues are blocking despite being solved fairly quickly
  - 0.7.3 (quite recent) is the first quasi-stable version
- terrible inefficiency of Etics client
  - getting better, 0.7.3 is already tolerable
- bad support for configuration management



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- bad support for configuration management
- orientation on integration, not friendly to developers
  - I'd be glad if this statement is reputed at this meeting



### **Etics client inefficiency**

- communication with Ftics server
  - order of minutes in this phase when checking out L&B
  - maybe too much "ping-pong", streaming bigger chunks prefered
  - bandwidth is not problem, latency is (we've got 20ms)
- etics-checkout --merge can take up to 1 hour!
- strace witness on etics-\* commands

  - say 'Done!'
  - do nothing usefull for upto several mins, consuming 100% 3GHz CPU
  - call exit(2)
- very annoying when done dozens times a day



## **Configuration management**

- etics-tag does not work at all
- etics-configuration is the most buggy part of client
- editing .ini is tedious and error prone
  - difficult to read format (eg. order of properties)
  - multiple occurences of version information
  - web interface is not an option for routine usage
- lack of configuration history (CVS-like), including comments
- missing support for "branch" configuration
  - including easy "create release config now" functionality
  - support for merging branch configurations
- unclear semantics of property inheritance, configuration overriding etc.
  - we faced false circular dependencies detected
  - we don't know whether it is feature or bug
- local dependencies (not from repository) welcome



## Proposed tutorial

- start with local build of a specific (last known working) configuration of a subsystem
- fix a repoted bug, check the fix, and commit into CVS
- let another developer checkout the current code from the branch, and augment the bug fix evenutally
- create new tags and configurations, assuming the bug fix spans multiple components