L&B and PR Status and Plans

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Enabling Grids for E-sciencE

- major release (2.0) now (gLite 3.2)
- minor releases twice a year
- cumulative patch releases every 3 months if applicable
- critical bug fixes ad hoc

- 1.9.0 (path #1803) – in production
- 1.9.1 (patch #2848) – in certification
- 1.9.2 – planned in May
  - poor-man support for MSG
- 2.0 (gLite 3.2)
  - final "gLite restructuring" outcome
  - internal code cleanup
  - build cleanup
  - extended notifications (recent showstopper)
  - HTML/text/RSS interfaces
  - interlogger-server authz (via LCAS)

  - RC tags in integration builds
  - standalone L&B node to be released in May
  - integration with WMS to be planned

- 2.1 – late summer
    - preliminary IPv6 readiness
    - perliminary interface adherence to standards (BES, DAI, WS-Notify)
    - advanced authorization (finer superuser access – limit accessible fields eg. for monitoring tools)
    - elementary support for native (non-WMS) CREAM jobs
- 2.2 – Q1 2010
    - interface adherence to standards, further steps
    - advanced authorization (grant write access on job annotations, support job owner switching for pilots)

- infrequent bugs, releases ad hoc
- 1.4 – Q3 2009
  - rely on L&B proxy to keep mapping between job owner and proxy file
  - IPv6 ready (depending on MyProxy)
- 1.5 – Q1 2010
  - check that renewal can succeed on submission (bug #9609)
  - integrate VOMS renewal with MyProxy server

- multiple platforms
  - our code itself builds and works on SL(C)4/5, SuSE 10/11, Debian 4, 32/64bits
  - not tried with Etics (waste of time until officially supported)
- IPv6
  - not difficult, in progress, foreseen for L&B 2.1, PR 1.4
- documentation
  - extensively revised and updated wrt. L&B 2.0
- error handling (API)
  - C calls return errno-compatible code and free-form string with details
  - C++ throws similar exceptions
  - documented in Developer's Guide (improvements still possible)
- logging (daemons)
  - messages to syslog, debugging output to stderr
  - not in good shape, being rewritten to comply with JRA1 recommendations

egee

- L&B
  - C/C++ API: stable, almost backward compatible (jobid subsystem, more strict event checking)
  - native Java API (logging, queries, notifications): experimental, to appear in 2.1 or 2.2
  - CLI: new notification client (2.0)
  - WS: used by Java API, bugfixes, conservative extension (notifications)
- Proxyrenewal
  - C API and CLI, communicates via UNIX socket

- similar requirements of RTM and Dashboard
- formerly both queried L&B regularly
- common notification client – L&B harvester
  - subscribe for notifications on job state changes for all jobs
  - refresh notifications periodically, back up with queries
  - persistent wrt. restarts
  - sufficient performance and scalability
- server functionality extensions
  - "on JDL change" notification condition
  - flag send JDL with notifications
  - rotation of interlogger files
- RTM integration
  - store messages to RTM database
  - working prototype of full chain (upto map display of jobs)
- Dashboard integration
  - send messages to MSG
  - 2 weeks of sustained tests (600 jobs/hour), >99 % success rate

- HTML
  - list of user's jobs – `https://lb.server:port/`
  - details on a job status – `https://lb.server:port/unique_jobid`
  - needs credentials in web browser
- text
  - the same in plain text, useful for scripting
- RSS
  - info on recently finished, running, aborted jobs

- main goals
  - integrate with gLite in Etics without dirty tricks
  - allow standalone build
    - ▶ developers' daily work
    - ▶ "unsupported" platforms
    - ▶ third party use
- common `configure` script
  - shared by `lb`, `jp`, `lbjp-common`, `jobid` subsystems and our security components
  - master declaration of all dependencies
    - ▶ among our components, intra-gLite, and externals
  - `--{enable,disable}-{client,server,logger,...}` options to select subsets of components
  - `--with-XXX` options to specify dependencies
  - generates top-level and component-specific Makefiles

- download `org.glite.lb`
- `configure --mode=checkout --enable-XXX` to get required sources
- get required dependencies on your own
  - list is printed by `configure`
- `configure --enable-XXX --with-* ...`
- `make && make install`
- specific recipes at
  `https://erebor.ics.muni.cz/wiki/lb_build.html`

- create Etics configurations
  - configure --mode=etics --module=COMPONENT
    - ▶ generates .ini from template
    - ▶ dependencies taken from configure
    - ▶ very clean, minimalistic configuration
  - support "tagging" script
    - ▶ increment major/minor/revision/age as required
    - ▶ copy current configure to component for standalone build
    - ▶ tag in CVS
    - ▶ create configuration in Etics
  - similar script at subsystem level
- while etics-build
  - configure --module=AA --with-XX=${XX.location} ...
  - generates appropriate Makefile
  - component's copy of configure is used – standalone build
  - dependencies resolved by Etics

- no very formal processes
- deployment and functionality tests
  - install on clean virtual machine
  - follow L&B Testplan – semi-automated smoke test suite
- performance tests
  - adapted for each minor release
  - make sure no new bottlenecks are introduced
- pilot services exposed to users who are interested
- more details in SA3 session

- extend L&B user beyond WMS jobs
  - CREAM – task for Y2, increased priority
  - PBS on CZ national grid – recently deployed, more development expected
  - STORM async operations – started discussions
- revised architecture (L&B 3.0)
  - better integration with JP
  - site and VO L&Bs, data replication
  - motivated by CZ specific needs too
  - cannot be done with current manpower, will look for funding sources