Enabling Grids for E-sciencE

Analysis of L&B and JP packages

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Motivation

To make the gLite (or at least L&B and JP) really light :)

What

- reduce the number of module dependencies (both internal and external)
- internal cleanup

How

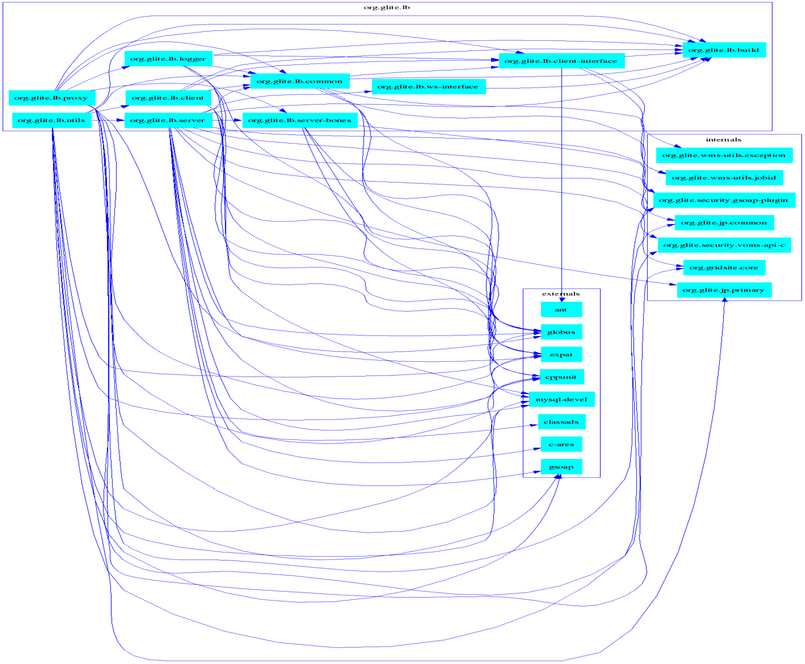
- direct configuration change
- split (or join) modules
- code reshuffle

When

- Stage 1 - clean 3.1 branch - April 2007
- Stage 2 - clean HEAD - June 2007

Workplan strategy

1. start with functional ETICS (branch) configurations, namely `glite-lb_branch_1_3_3_RC31_2` and `glite-jp_branch_1_3_0_RC31`
2. start removing redundant dependencies with the following preferences:
   - in configurations
   - in Makefiles
   - in the code
3. check by building all modules separately as well as by building the whole subsystem, both LB and JP
4. clone *branch* configurations to *tag* ones (`etics-tag` will be functional "next week" :-)
5. merge to HEAD - to start Stage 2



org.glite.lb
org.glite.lb.build
org.glite.lb.logger
org.glite.lb.client-interface
org.glite.lb.common
org.glite.lb.ws-interface
org.glite.lb.proxy
org.glite.lb.client
org.glite.lb.utils
org.glite.lb.server
org.glite.lb.server-bones
internals
org.glite.wms-utils.exception
org.glite.wms-utils.jobid
org.glite.security.gsoap-plugin
org.glite.jp.common
org.glite.security.voms-api-c
org.gridsite.core
org.glite.jp.primary
externals
ant
globus
expat
cppunit
mysql-devel
classads
c-ares
gsoap

L&B structure before cleanup

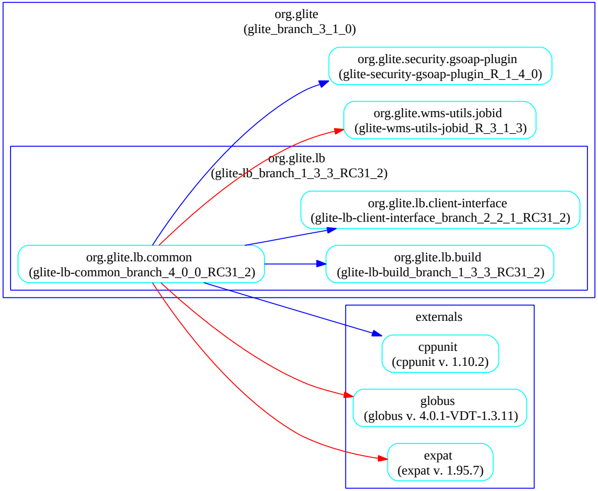
- There are now 70 edges (L&B only)
- Rough estimate: less than half is really needed
- Graph produced manually at the moment using graphwiz dot (text description → automatic graph generation)
- If we have the XML describing the configuration structure, we can generate the .dot file from it

etics-show-configuration-structure

Negotiation with Marc Begin, how it should work - it should output a structured XML describing a configuration structure (children and dependencies) of a given module or subsystem

```
<project name="org.glite" config="glite_branch_3_1_0">

   <module name="org.glite.lb" config="glite-lb_branch_1_3_3_RC31_2" alreadyvisited="True">
      <module name="org.glite.lb.common" config="glite-lb-common_branch_4_0_0_RC31_2"
            alreadyvisited="True" />
         <dependency name="expat" config="expat v. 1.95.7"
            project="externals" dependencyType="D" type="BR" />
         <dependency name="cppunit" config="cppunit v. 1.10.2"
            project="externals" dependencyType="D" type="B" />
         <dependency name="globus" config="globus v. 4.0.1-VDT-1.3.11"
            project="externals" dependencyType="D" type="BR" />
         <dependency name="org.glite.lb.client-interface" config="glite-lb-client-interface_branch_2_2_1_
            project="org.glite" dependencyType="D" type="B" />
         <dependency name="org.glite.wms-utils.jobid" config="glite-wms-utils-jobid_R_3_1_3"
            project="org.glite" dependencyType="D" type="BR" />
         <dependency name="org.glite.security.gsoap-plugin" config="glite-security-gsoap-plugin_R_1_4_0"
            project="org.glite" dependencyType="D" type="BR" />
      </module>

      <module name="org.glite.lb.client" config="glite-lb-client_branch_2_2_3_RC31_2" alreadyvisited="Fal
         <dependency .../>
      </module>

   </module>

</project>
```

org.glite.lb.common


org.glite
(glite_branch_3_1_0)
org.glite.security.gsoap-plugin
(glite-security-gsoap-plugin_R_1_4_0)
org.glite.wms-utils.jobid
(glite-wms-utils-jobid_R_3_1_3)
org.glite.lb
(glite-lb_branch_1_3_3_RC31_2)
org.glite.lb.client-interface
(glite-lb-client-interface_branch_2_2_1_RC31_2)
org.glite.lb.common
(glite-lb-common_branch_4_0_0_RC31_2)
org.glite.lb.build
(glite-lb-build_branch_1_3_3_RC31_2)
externals
cppunit
(cppunit v. 1.10.2)
globus
(globus v. 4.0.1-VDT-1.3.11)
expat
(expat v. 1.95.7)

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Ant (gLite build) vs. ETICS

Issue:

- completely remove the *ant* dependencies (was used to create Makefile.inc, copy some common files, etc.) - done

Challenging issue:

- clean the stuff needed for the "old" gLite build system, eg. completely remove project directory in all modules - stage 2?
- Aleš removed `org.glite.lb/project/dependencies.properties` and in 30 minutes he got a complain that the build fails!! When do we stop using the "old" gLite build?

Stage 1 Issues

What have we already done:

- removed the *ant* dependencies
- partially removed unnecessary external dependencies (*expat, mysql-devel, cppunit, c-ares)*

What else needs to be done:

- clean the rest of external dependencies (*gsoap, gsoap-plugin, classads, ...*)
- neverending ETICS issues...

Stage 2 Issues

Globus issues

- now we use especially GSS and some misc. functions (globus_libc_gethostname(), proxy credentials handling, ...)
- we want to create `org.glite.security.gss` module with gLite GSS (now part of `org.glite.security.gsoap-plugin`)
- and remove *globus* dependencies, the only allowed will be probably B(uild) and R(un)-time dep. for org.glite.security.gss, nowhere else
- wrappers around non GSS globus functions will be needed

Other issues

- avoid *gsoap* dependencies when it is not really required
- create and use `org.glite.lb-utils.*` modules with `context, db, jobid, server-bones, trio` submodules, they contain "L&B and JP common" stuff - created on HEAD