www.eu-egee.org

Build Infrastructure & Release Procedures

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Build servers

- Hardware upgrade
  - Two new Dual Xeon 2.4GHz, 1GB of memory

- Migration
  - Moving the NIGHTLY/CONTINUOUS builds to the new/faster machines

- WinXP build server operational on low-end server

```
export CVSROOT=:ext:jra1mw.cvs.cern.ch:/cvs/jra1mw
export CVS_RSH=ssh
```

mkdir **WorkSpace_3**

cd **WorkSpace_3**

```
mkdir stage; cd stage
wget http://glite.web.cern.ch/glite/packages/
I20041105/stage/stage_I20041105.tar.gz
tar xzf stage_I20041105.tar.gz
```

cvs co **org.glite**

cvs co **org.glite.wms**

cvs co **org.glite.wms.ui.api-java**

cd **org.glite.wms.ui.api-java**

cd project/src
vi Hello.java; make

cd ../..
ant

BUILDS

- ## CONTINUOUS build
  - Workspace cleared every night
  - Full initial build
  - Incremental builds every 60 minutes
  - Build after CVS commit with the max delay of 60 minutes
  - 100% automated

- ## NIGHTLY build
  - Fully automated
  - Clean snapshot of the HEAD from CVS
  - WinXP in "beta" phase
    - "green" for JAVA components

BUILDS

- INTEGRATION (weekly) build
  - Must build (manual process)
  - src, tar.gz, RPMS, quattor templates
  - Installation scripts (per deployment module)
  - Release notes, Documentation, Configuration scripts
  - "stage" area provided as a tarball (all the libraries present)
  - More discussion later

http://www.glite.org

- Automatically created content
- Build history
  - 7 days presented on our web page
  - 15 days kept on the server
- SLOC Counter at:
  http://glite.web.cern.ch/glite/project/pm.asp#sloc
- Additional counters/metrics to be added
  - Average number of Methods per Class (MC)
  - Number of Change Requests Submitted (SCR)
  - … see the Configuration Management Plan

http://www.glite.org

EGEE > gLite

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gLite

gLite
Lightweight Middleware for Grid Computing

What is gLite?

gLite (pronounced "gee-lite") is the next generation middleware for grid computing. Born from the collaborative efforts of more than 80 people in 11 different academic and industrial research centres as part of the EGEE Project, gLite provides a bleeding-edge, best-of-breed framework for building grid applications tapping into the power of distributed computing and storage resources across the Internet.

Want to know more about gLite? Read the following presentation.

gLite News

New gLite web site unveiled (13/09/2004)
The new gLite web site has officially gone online on Monday 13 September. The web site offers a single point of access to public documentation, installation packages and guides and loads of other useful information. The web site has been developed by the gLite Integration Team with the collaboration of all project members using original web templates form TERENA.

gLite People

The gLite software is produced as part of the EU EGEE Project funded by the European Communities. The following academic and industrial research centres are collaborating to the development of the software organized in three different Activities: JRA1 (data management, workload management, monitoring, accounting, computing element, logging and bookeeping), JRA3 (security) and JRA4 (network monitoring and provisioning).

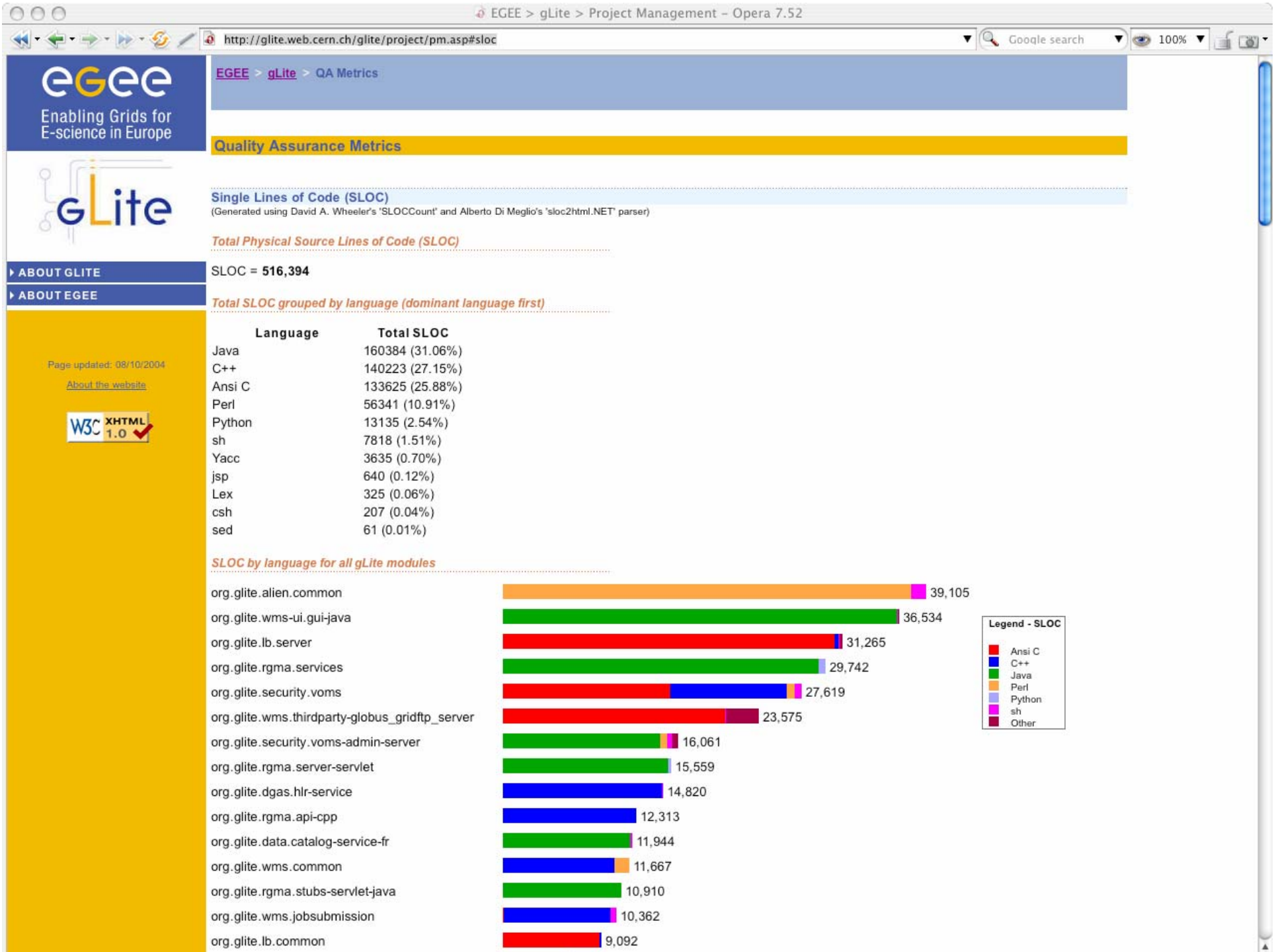|	
CERN	The European Organization for Nuclear Research (CERN)
INFN	Istituto Nazionale di Fisica Nucleare (INFN), Italy
DATAMAT	Datamat Spa, Italy
CESNET	CESNET, Czech Republic
CNRS	Centre National de la Recherche Scientifique (CNRS), France
CS	CS Systeme d'Information (CSSI), France
KTH-PDC	Royal Institute of Technology, Center for Parallel Computers (KTH-PDC), Sweden
UNIVERSITEIT VAN AMSTERDAM	Universiteit van Amsterdam (UvA), Netherlands
UNIVERSITY OF HELSINKI	University of Helsinki (UH.HIP), Finland

http://glite.web.cern.ch/glite/project/pm.asp#sloc ▼ 🔍 Google search ▼ 👁 100% ▼

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gLite

▶ ABOUT GLITE
▶ ABOUT EGEE

Page updated: 08/10/2004

About the website

W3C XHTML 1.0 ✔

EGEE > gLite > QA Metrics

Quality Assurance Metrics

Single Lines of Code (SLOC)
(Generated using David A. Wheeler's 'SLOCCount' and Alberto Di Meglio's 'sloc2html.NET' parser)

Total Physical Source Lines of Code (SLOC)

SLOC = **516,394**

Total SLOC grouped by language (dominant language first)

Language	Total SLOC
Java	160384 (31.06%)
C++	140223 (27.15%)
Ansi C	133625 (25.88%)
Perl	56341 (10.91%)
Python	13135 (2.54%)
sh	7818 (1.51%)
Yacc	3635 (0.70%)
jsp	640 (0.12%)
Lex	325 (0.06%)
csh	207 (0.04%)
sed	61 (0.01%)

SLOC by language for all gLite modules

Module	SLOC
org.glite.alien.common	39,105
org.glite.wms-ui.gui-java	36,534
org.glite.lb.server	31,265
org.glite.rgma.services	29,742
org.glite.security.voms	27,619
org.glite.wms.thirdparty-globus_gridftp_server	23,575
org.glite.security.voms-admin-server	16,061
org.glite.rgma.server-servlet	15,559
org.glite.dgas.hlr-service	14,820
org.glite.rgma.api-cpp	12,313
org.glite.data.catalog-service-fr	11,944
org.glite.wms.common	11,667
org.glite.rgma.stubs-servlet-java	10,910
org.glite.wms.jobsubmission	10,362
org.glite.lb.common	9,092

Legend - SLOC
- Ansi C
- C++
- Java
- Perl
- Python
- sh
- Other

http://glite.web.cern.ch/glite/packages/

EGEE > **gLite** > **Download packages**

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gLite

▶ **RELEASES**

LATEST BUILDS

PREVIOUS RELEASES

EXTERNAL DEPENDENCIES

▼ **ABOUT GLITE**

EGEE JRA1

EGEE JRA3

EGEE JRA4

▶ **ABOUT EGEE**

Page updated: 26/10/2004

About the website

W3C XHTML 1.0 ✔

Latest builds

Build type	Build name	Build date
1.0 series stable release		
1.0 series integration build	I20041020	Wed Oct 20 2004
1.0 series nightly build	N20041104	Thu Nov 4 2004
1.0 series maintenance build		

Previous builds

Releases

Build name	Build date

1.0 Series Stable Builds

Build name	Build date

1.0 Series Integration Builds

Build name	Build date
I20041020	Wed Oct 20 2004

1.0 Series Nightly Builds

Build name	Build date
N20041104	Thu Nov 4 2004
N20041103	Wed Nov 3 2004
N20041102	Tue Nov 2 2004
N20041101	Mon Nov 1 2004
N20041031	Sun Oct 31 2004
N20041029	Fri Oct 29 2004
N20041028	Thu Oct 28 2004

1.0 Series Maintenance Builds

All gLite Components

Component name	Build status	Build time	Source	Binaries	RPMs	noarchRPMs
org.glite	null	null	n/a	n/a	n/a	n/a
org.glite-bootstrap	passed	12/11/2004 02:02:55	n/a	n/a	n/a	n/a
org.glite.alien	passed	12/11/2004 03:04:53	n/a	n/a	n/a	n/a
org.glite.alien.admin	passed	12/11/2004 03:03:21	src	bin	i386rpm	n/a
org.glite.alien.classad	passed	12/11/2004 02:49:22	src	bin	i386rpm	n/a
org.glite.alien.common	passed	12/11/2004 02:51:15	src	bin	i386rpm	n/a
org.glite.alien.gas	passed	12/11/2004 03:01:46	src	bin	i386rpm	n/a
org.glite.alien.gssapi	passed	12/11/2004 02:59:57	src	bin	i386rpm	n/a
org.glite.alien.gui	passed	12/11/2004 02:58:26	src	bin	i386rpm	n/a
org.glite.alien.monitor	passed	12/11/2004 02:56:57	src	bin	i386rpm	n/a
org.glite.alien.perl	passed	12/11/2004 02:33:52	src	bin	i386rpm	n/a
org.glite.alien.rls	passed	12/11/2004 02:55:26	src	bin	i386rpm	n/a
org.glite.alien.srm	failed	12/11/2004 02:53:31	n/a	n/a	n/a	n/a
org.glite.ce	passed	12/11/2004 02:27:50	n/a	n/a	n/a	n/a
org.glite.ce.blahp	passed	12/11/2004 02:23:17	src	bin	i386rpm	n/a
org.glite.ce.ce-plugin	passed	12/11/2004 02:17:48	src	bin	i386rpm	n/a
org.glite.ce.lsf-plugin	passed	12/11/2004 02:19:35	src	bin	i386rpm	n/a
org.glite.ce.monitor	failed	12/11/2004 02:12:55	n/a	n/a	n/a	n/a
org.glite.ce.monitor-api-java	passed	12/11/2004 02:10:55	src	bin	i386rpm	n/a
org.glite.ce.monitor-client-api-c	passed	12/11/2004 02:25:24	src	bin	i386rpm	n/a
org.glite.ce.pbs-plugin	passed	12/11/2004 02:21:31	src	bin	i386rpm	n/a
org.glite.ce.wsdl	passed	12/11/2004 02:08:55	src	bin	i386rpm	n/a
org.glite.data	passed	12/11/2004 05:37:24	n/a	n/a	n/a	n/a
org.glite.data.api-perl	passed	12/11/2004 04:35:46	src	bin	n/a	noarchrpm
org.glite.data.catalog-api-java	passed	12/11/2004 04:03:11	src	bin	n/a	noarchrpm
org.glite.data.catalog-fas-api-c	passed	12/11/2004 04:12:33	src	bin	i386rpm	n/a
org.glite.data.catalog-fas-api-perl	passed	12/11/2004 04:37:30	src	bin	n/a	noarchrpm
org.glite.data.catalog-file-api-c	passed	12/11/2004 04:15:22	src	bin	i386rpm	n/a
org.glite.data.catalog-file-api-perl	passed	12/11/2004 04:39:23	src	bin	n/a	noarchrpm
org.glite.data.catalog-fireman-api-c	passed	12/11/2004 04:25:29	src	bin	i386rpm	n/a
org.glite.data.catalog-interface	passed	12/11/2004 04:00:44	src	bin	n/a	noarchrpm
org.glite.data.catalog-meta-api-c	passed	12/11/2004 04:18:39	src	bin	i386rpm	n/a

Integration testbed

- Automatic installation of integrated software for configuration testing
- Currently 6 machines running RHELv3 (+updates)
- Always start from the CLEAN REFERENCE OS installation
    - Scratch-return-to original configuration within minutes
- Smoke tests in collaboration with the testing team

- Repository
    - gLite Web server for now
    - quattor software repository in the future
        - No quattor service for RHELv3 at CERN
        - We may use in the future to automate/facilitate the installation and configuration testing

CruiseControl

- Framework for a continuous integration process
  - 167 modules (includes deployment components, subsystems)

  - Build time
    - ~ 2.5h if run sequentially (Dual Xeon 2.4GHz, 1024MB of memory)
    - ~ 6.5h (scheduled)
  - web-based interface
  - Custom label incrementers
    - Avoiding the confusion with tags/NIGHTLY builds

- New PRODUCTION server:

- New NIGHTLY BUILD server:

- Windows NIGHTLY BUILD server:

Please use the JRA1 integration page as the startpoint

http://egee-jra1-integration.web.cern.ch/egee-jra1-integration/cruisecontrol.asp

CruiseControl

- Current issues (we put lots of effort to solve them)

  - Sometimes we need to fix the configuration, dependency problems.
    Please use our scripts for subsystem/module creation - this could reduce our efforts significantly
  - Missing components
  - CVS problems in the past
  - CERN Listbox migration
    - Messages bounced to the senders
    - Impact on the CC notification mechanism
  - Quota
  - Slow machines
    - We just have migrated
    - Couple of most memory demanding RGMA modules suffered from the HW issues

QA

- JALOPY in
  - Build system
    - jalopied code is put into the `<module-dir>`/**src-jalopied** for reference
      (e.g. `<my-WorkSpace>`/org.glite.ce.pbs-plugin/**src-jalopied**/org/glite/ce/pbsplugin/MatchStrings.java)
  - CVS
    - Check against the coding convention
    - Mail notification
    - Commit always allowed (no source modification)

- CodeWizard
  - Present in the build system, but not activated
  - Requires AFS
  - CERN licence limitations: use from the **lxplus** machines (user space)

- Clover
  - To be finalized

QA

- QA infrastructure in place
  - Active QA team inside JRA1
  - Coding conventions discussed and agreed
  - We would be in favour of restricting the rules
 - Policy has to be decided

Release Management

- Based on CVS tags
- Close contact with the cluster release managers
  - Please **tag your components**. You may also want to tag the subsystems, but we can take care of subsystems for you.
  - Please **send** your tags before Friday 10:00 (am preferably)

1. A tag explicitly communicated by the release manager by Friday at 10:00
2. The same tag used in the previous integration build, if no tag is explicitly communicated
3. The latest successfully built tag on the nightly build server, if no tag is explicitly communicated and no previous integration build tag is available
4. The component is excluded from the build if none of the previous tags is available

Release Management

- Baseline
  - Snapshot of the code in CVS not yet completely finished
- Release
  - Snapshot … completely finished and functional; i.e. **ready** for integration and testing
- Branch
  - Useful for parallel development of the component taken from the given baseline or release tag for the bug fixes, new functionality, experiments. In the later stage could be merged to into the main dev. branch, persist as variants or die …
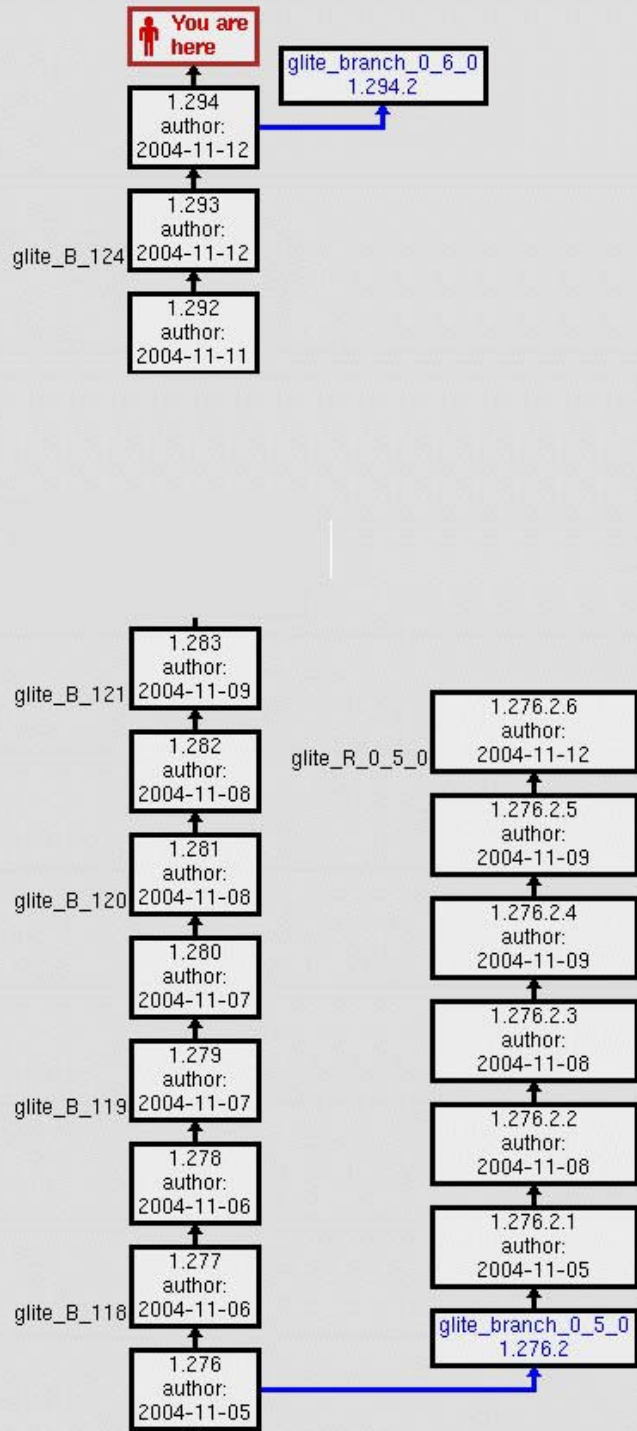
Release Management (tagging)

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- Tagging
  - Using the prepared ant targets (please)
    - `cd <subsystem-dir>`
    - `ant baseline_tag` or `ant release_tag`
  - Manual
    - Please make sure you are creating the properly formatted tag (should contain the build number)
      e.g. **glite-ce-monitor_B_1_4_22_76 (BASELINE), glite-ce_R_1_2_5 (RELEASE)**

    - For the **tagging** make sure you update accordingly the
      <component-dir>/project/**version.properties**
    - You are free to use your favourite tag format for your "private" use, but please stick to our standards as much as possible to make life easier

- Currently no automated global tag management toolkit, but considering that for the future
  - Bonsai
  - Web interface
  - …

Issues

- Builds on request (?)

- Artifacts area

- Configuration management

- SA1 packages requirements

- Subsystem DESCRIPTIONs present on the gLite web pages

- Additional build system script functionality

  - Move/remove component from the CVS

- Savannah pending issues/bugs

  - Jalopy empty java file processing

  - …