gLite Middleware Status

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On behalf of JRA1

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www.eu-egee.org
www.glite.org

Information Society

Outline

- Processes and Releases
- Subsystems Status
- Deployment Status
- Testing Status
- Metrics
- Related Sessions
- Summary

gLite Processes

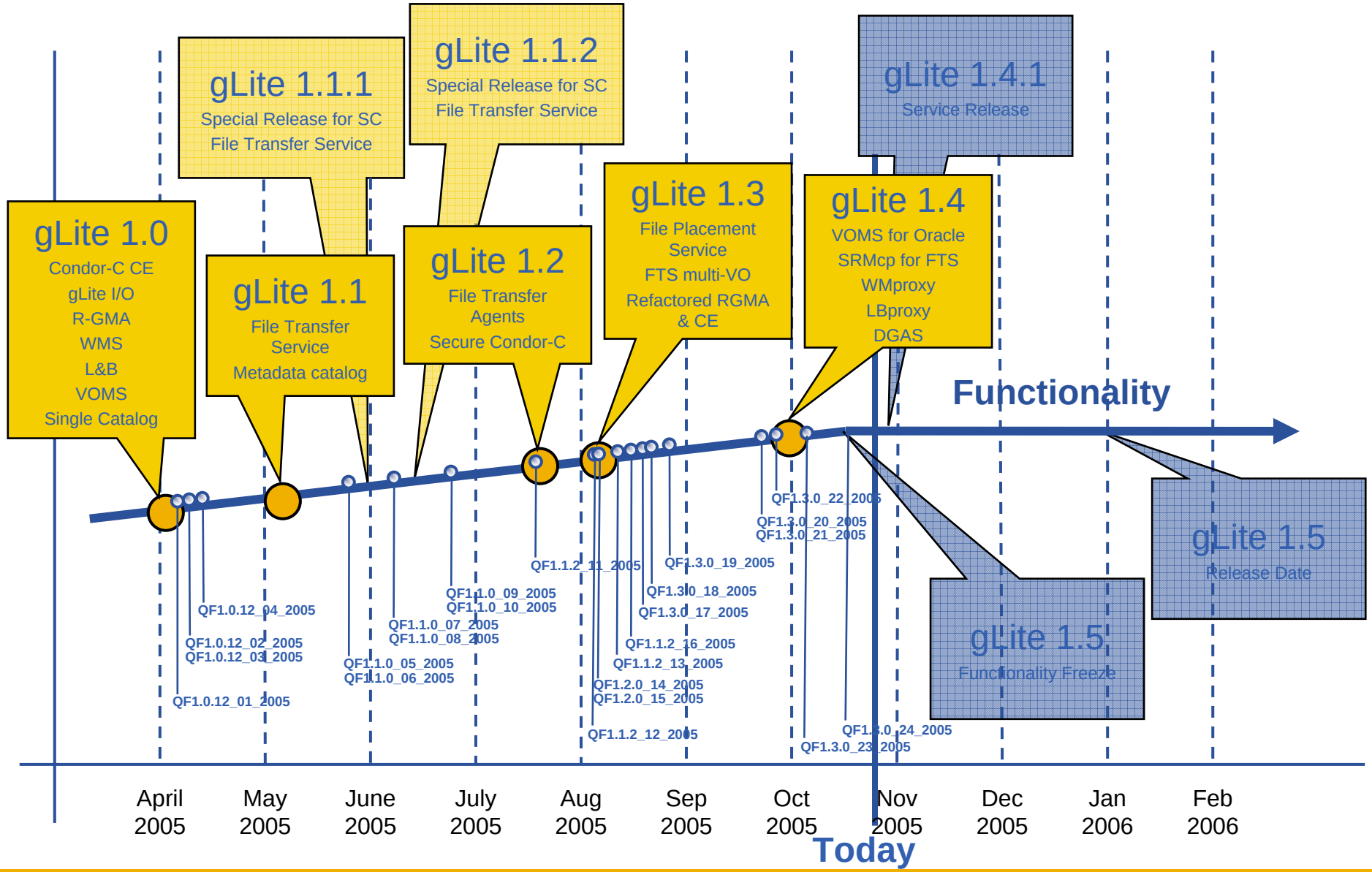
- **Architecture Definition**
  - Based on Design Team work
  - Associated implementation work plan
  - Design description of Service defined in the Architecture document
    - Really is a definition of interfaces
  - Yearly cycle
- **Implementation Work plan**
  - Prototype testbed deployment for early feedback
  - Progress tracked monthly at the EMT
- **EMT defines release contents**
  - Based on work plan progress
  - Based on essential items
    - So far mainly for H… and BioMed
  - Decide on targ… gs
    - Takin… ough time for int…
- **Integ… produces Release C… ased on received tags**
  - …Smoke Test, Deployment Modules, …figuration
  - Iterate with developers
- **Testing Team**
  - Test Release candidates on a distributed testbed (CERN, Hannov… perial College)
  - Raise Critical bugs …
  - Iterate with Inte… lopers
- **Once Relea… te passed function…**
  - …am produces documentation, …es and final packaging
  - …nce the release on the glite Web site …d the glite-discuss mailing list.

Deployment on Pre-production Service and/or Service Challenges
- Feedback from larger number of sites and different level of competence
- Raise Critical bugs as needed
- Critical bugs fixed with Quick Fixes when possible

- **Deployment on Production of selected set of Services**
  - Based on the needs (deployment, applications)
  - Today FTS clients, R-GMA, VOMS

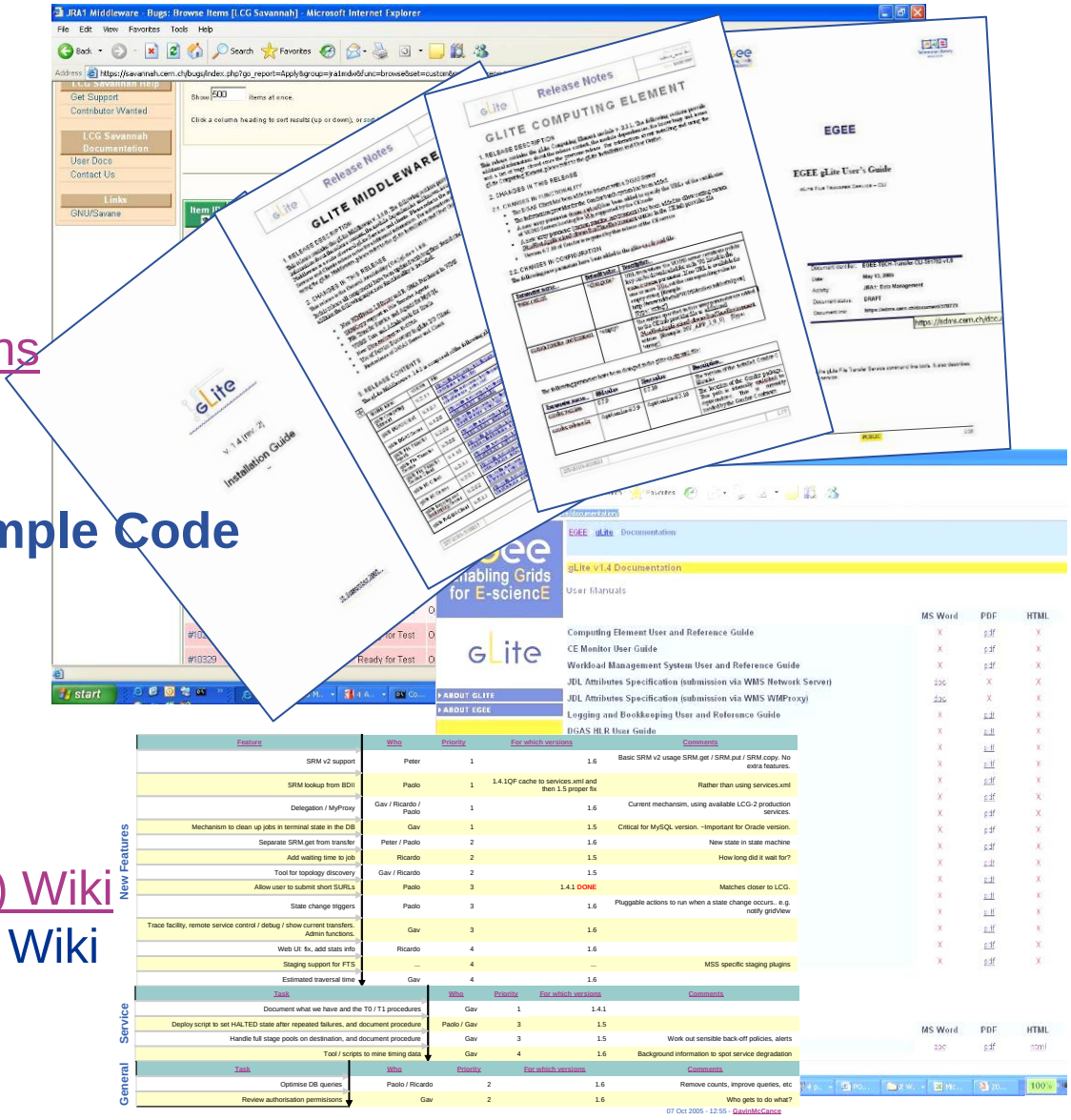
Since Athens, the focus has been on essential (simple) services and defect fixing – e.g. FTS, R-GMA, VOMS

gLite Releases and Planning



gLite Documentation and Information sources

- Installation Guide
- Release Notes
  - General
  - Individual Components
- User Manuals
  - With Quick Guide sections
- CLI Man pages
- API's and WSDL
- Beginners Guide and Sample Code
- Bug Tracking System
- Mailing Lists
  - gLite-discuss
  - Pre-Production Service
- Other
  - Data Management (FTS) Wiki
  - Pre-Production Services Wiki
    - Public and Private
  - Presentations



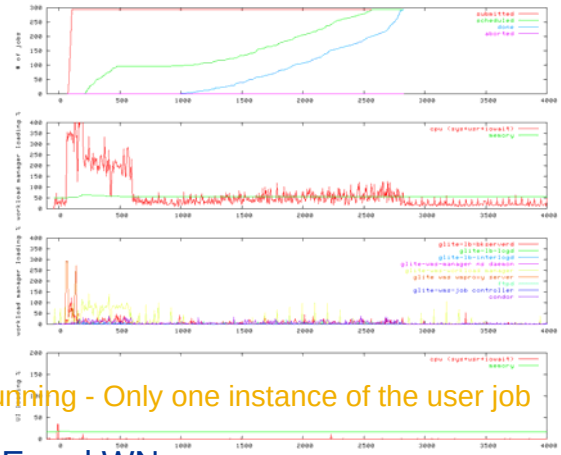
Job Management Services

- **VOMS and VOMS Admin**
  - Support for Oracle DB backend
  - Included in VDT

- **LB**
  - LB Proxy
    - Provides faster, synchronous and more efficient access to LB services to WMS services
  - Support for “CE reputability ranking“
    - Maintains recent statistics of job failures at CE’s
    - Feeds back to WMS to aid planning

- **CE**
  - BLAH
    - More efficient parsing of log files (these can be left residing on a remote machine)
    - Support for hold and resume in BLAH
      - To be used e.g. to put a job on hold, waiting for e.g. the staging of the input data
  - Condor-C GSI enabled
  - CEMon
    - Major reengineering of this service
      - Better support for the pull mode; More efficient handling of CEmon reporting
      - Security support
      - Possiblity to handle also other data
        - E.g. a GridIce plugin for CEMon implemented
      - Included in VDT and used in OSG for resource selection

Job Management Services



- **GPbox**
  - XACML-based policy maintainer, parser and enforcer.
  - Can be used for authorisation checks at various levels.

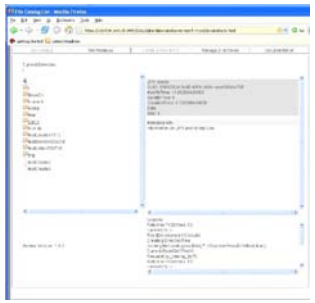
- **WMS**
  - WMProxy
    - Web service interface to the WMS
    - Allows support of bulk submissions and jobs with shared sandboxes
  - Support for shallow resubmission
    - Resubmission happens in case of failure only when the job didn't start running - Only one instance of the user job can run.
  - Support for MPI job even if the file system is not shared between CE and WNs
  - Support of R-GMA as resource information repository to be used in the matchmaking besides bdII and CEMon
  - Support for execution of all DAG nodes within a single CE - chosen by user or by the WMS matchmaker
  - Support for file peeking to access files during the execution of the job
  - Initial integration with G-Pbox - considering simple AuthZ policies
  - Initial support for pilot job
    - Pilot job which "prepare" the execution environment and then get and execute the actual user job

- **DGAS Accounting**
  - CEs can be instrumented with proper sensors to measure the resources used

- **Job provenance**
  - Long term job information storage
  - Useful for debugging, post-mortem analysis, comparison of job executions in different environments
  - Useful for statistical analysis

Data Management Services

- **gLite I/O**
  - dCache and DPM support added
  - Added a remove method to be able to delete files
  - Changed the configuration to match all other CLI configuration to service-discovery
  - Improved error reporting
  - Will be used for the BioMedical Demo
    - Encryption and DICOM SRM

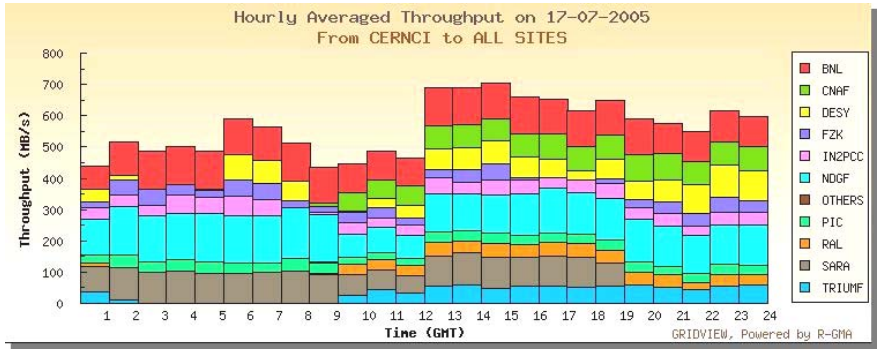


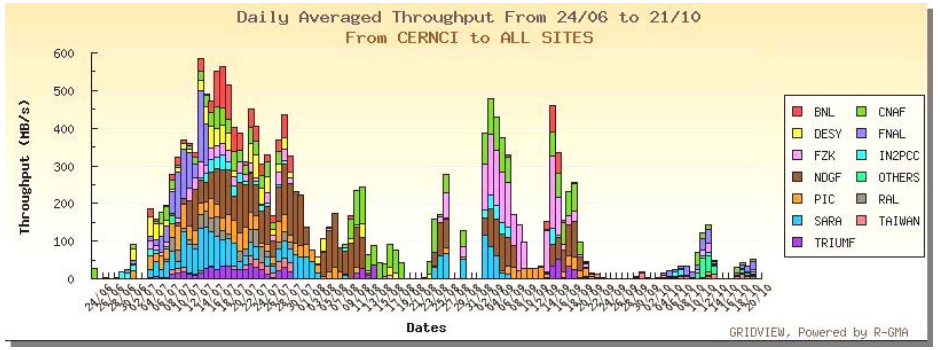
- **FiReMan catalog**
  - Oracle and MySQL versions available
  - Secure services, using VOMS groups, ACL support for DNs
  - Full set of Command Line tools
  - Simple API for C/C++ wrapping a lot of the complexity for easy usage
  - Attribute support
  - Symbolic link support
  - Exposing ServiceIndex and DLI (for matchmaking)
  - Separate catalog available as a keystore for data encryption (‘Hydra’)

- **AMGA MetaData Catalog**
  - NA4 contribution
    - Result of JRA1 & NA4 prototyping together with PTF assessment

File Transfer Service

- **Technology preview in gLite 1.0**
- **Full scalable implementation**
  - Java Web Service front-end, C++ Agents, Oracle or MySQL database support
  - Support for Channel, Site and VO management
  - Interfaces for management and statistics monitoring
  - Gsiftp, SRM and SRM-copy support
- Has been in use by the Service Challenges for the last 3 months. Robust, production quality service.





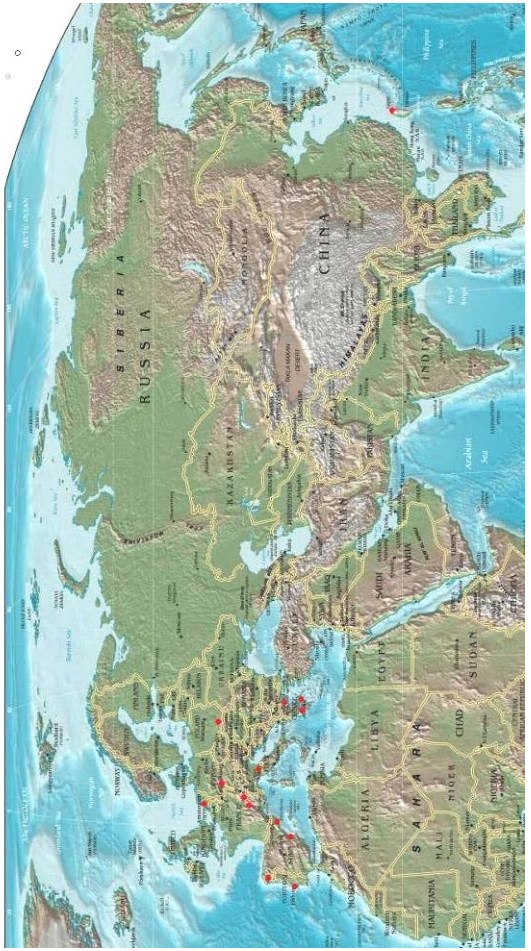
Information Systems

- **R-GMA**
  - Essentially bug fixes & consolidation
  - Merging LCG & gLite code base
  - Secure version

- **Service Discovery**
  - Was not part of gLite 1.0
  - An interface has been defined and implemented for 3 back-ends
    - R-GMA
    - BDII
    - Configuration File
  - Command Line tool for easy query and conversion between back-ends
  - Used WMS and Data Management clients

Status of gLite Deployment

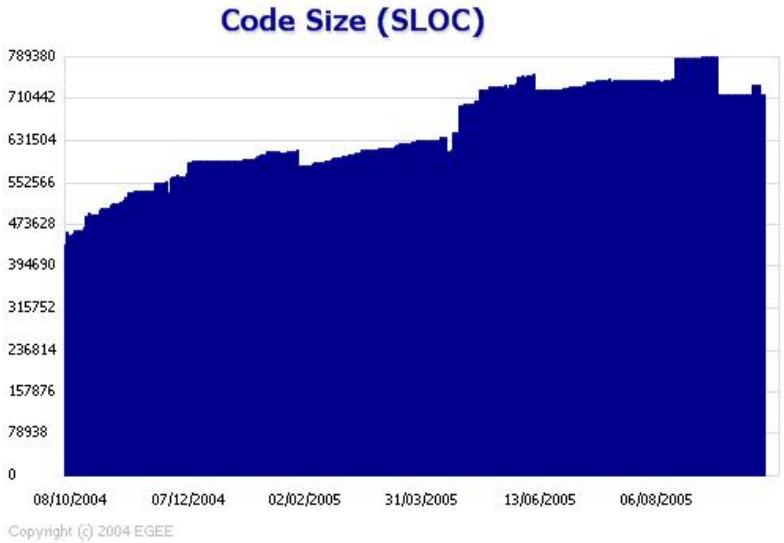
- **Production**
  - FTS
  - R-GMA (Monitoring & Accounting Data Aggregation)
  - VOMS
- **Preproduction Service**
  - 14 sites
  - CERN, CNAF, PIC CE's are connected to the production worker nodes
  - ~ 1M Jobs submitted
  - FTS, WMS/LB/CE, FireMan, gLite I/O (DPM, Castor), R-GMA
- **Others**
  - DILIGENT has deployed a number of those services as well

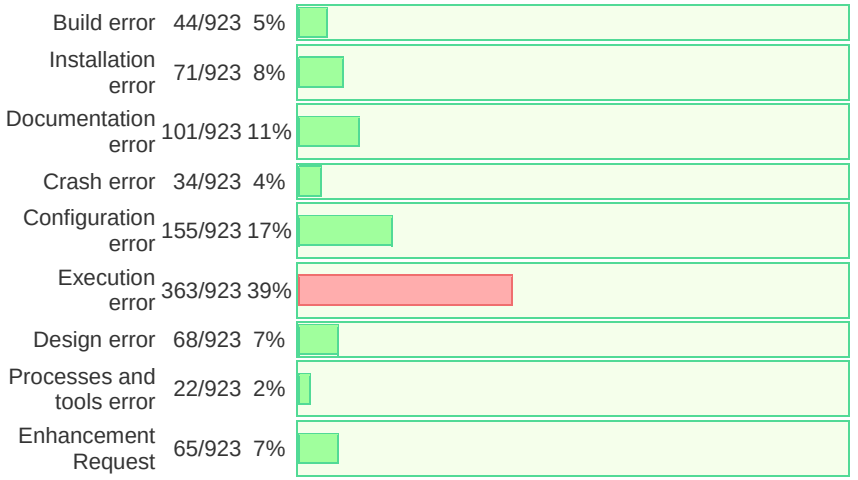


gLite Testing Status

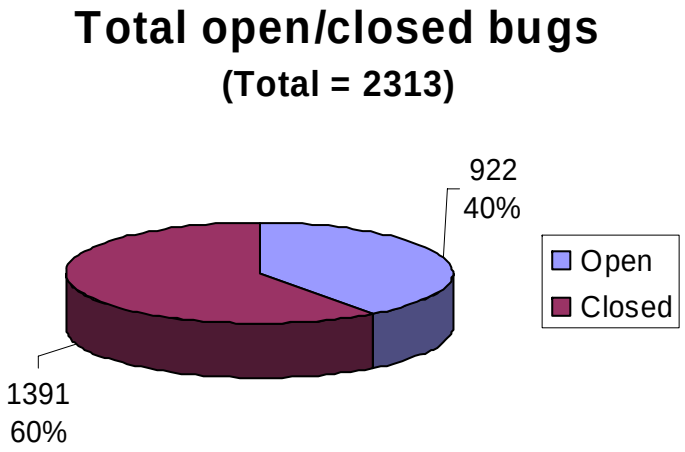
	Deployment	Test suite	Stress	Defect Regression	Defect verification	Test report
CE	✓	✓	✓	✓	✓	✓
I/O	✓	✓	✓	✓	✓	✓
L&B	✓	×	×	×	✓	×
WMS	✓	✓	✓	M	✓	✓
R-GMA	✓	✓	✓	M	✓	✓
VOMS	✓	✓	✓	M	✓	✓
FTS	✓	✓	×	M	✓	✓
Data Catalog	✓	✓	×	M	✓	✓
SD	✓	×	×	×	✓	×
DGAS	✓	×	×	×	✓	✓

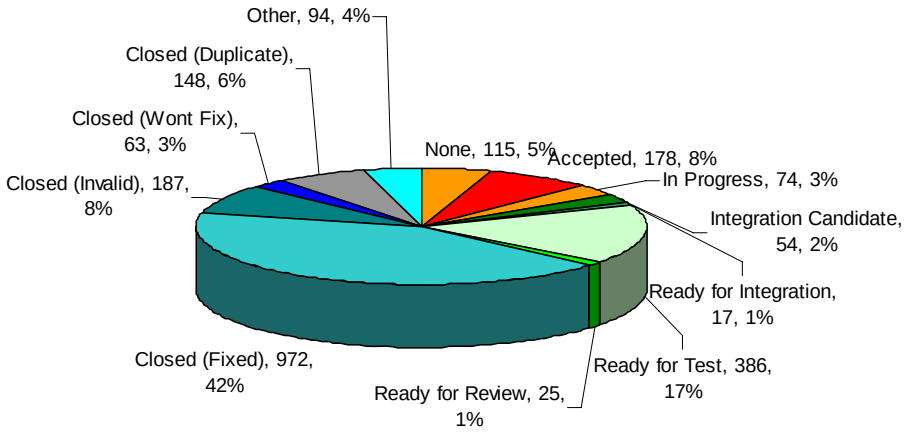
gLite 1.4 Metrics





Bugs by status



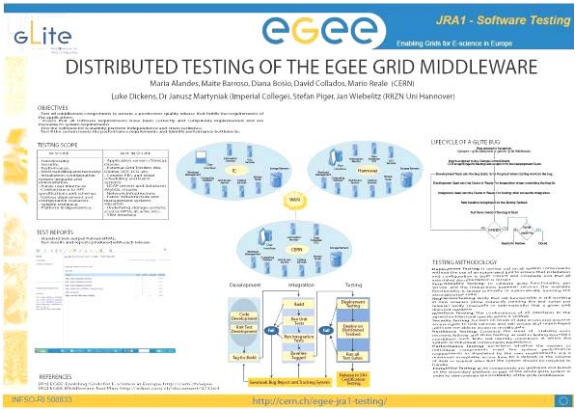


JRA1 Related sessions in Pisa

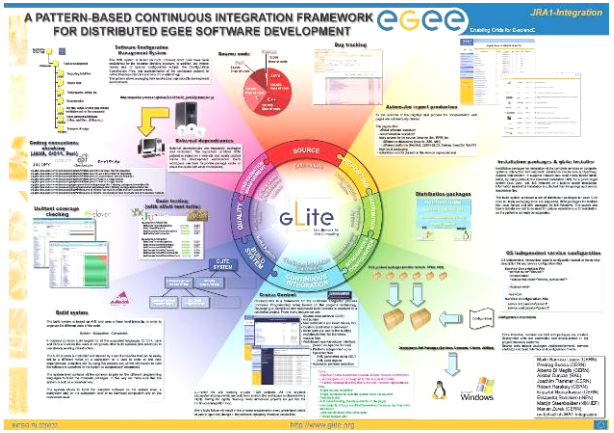
- SRM/DICOM and Metadata (Biomed)
- Pro*Active/gLite Bridge

- Experience in PPS deployment
- Deployment Tools

- ETICS Project



- Integration Poster
- Testing Poster



Summary

- **gLite releases have been produced**
  - Tested, Documented, with Installation and Release notes
  - Subsystems used on
    - Service Challenges
    - Pre-Production Services
    - Production Service
  - And by other communities (e.g. DILIGENT)

- **gLite processes are in place**
  - Closely monitored by various bodies
  - Hiding many technical problems to the end user

- **gLite is more than just software, it also about**
  - Processes, Tools and Documentation
  - International Collaboration

www.glite.org