

From research to production Grids

A developer's view

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3rd EGEE User Forum – Clermont-Ferrand

- **JRA1 activity concerns “Middleware Re-engineering”**
- **Provide**
 - a reference open-source implementation of the foundation services
 - Security, Computing and Storage Elements, Accounting, Information and Monitoring
 - selected higher-level services
 - workload management, replica management, file transfer
- **Focus on support to the production infrastructure**

TCG

Directives

External Software

```
1: #!/bin/sh
2: #
3: # This script is used to build the gLite
4: # software.
5: #
6: # The script is used to build the gLite
7: # software.
8: #
9: # The script is used to build the gLite
10: # software.
11: #
12: # The script is used to build the gLite
13: # software.
14: #
15: # The script is used to build the gLite
16: # software.
17: #
18: # The script is used to build the gLite
19: # software.
20: #
21: # The script is used to build the gLite
22: # software.
23: #
24: # The script is used to build the gLite
25: # software.
```

Software

Development



Error Fixing

Integration



ERIC

Deployment Packages

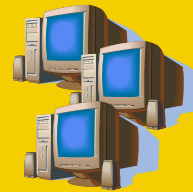


Integration Tests

Fail

Pass

Certification



Testbed Deployment

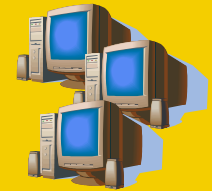


Functional Tests

Fail

Pass

Pre-Production



Pre-Production Deployment



Scalability Tests

Fail



Problem

Production Infrastructure

gLite

Release

Installation Guide, Release Notes, etc

Pass

- **Expectations were/are high**
 - aiming at a full-featured system and at a stable system are conflicting goals
- **The Grid is a complex system**
 - many sources of errors
 - many errors manifest only at a large scale
 - how to test?
 - difficult to anticipate all error situations
- **(Lack of) interoperability and standardization**
 - several solutions for the same basic problem are available
 - e.g. information systems and computing elements
 - but this is normal, research is on-going

- **There is still a need to research alternative solutions**
- **Example: how are jobs submitted to a computing resource?**
 - what abstraction should a Computing Element model?
 - how to collect information on the available resources?
 - push vs pull vs pilot
 - authorization
 - quality of service
- **While waiting for **the** solution, **a** solution has to be made available**
 - at the scale of the EGEE infrastructure
 - ready to change