Provisioning of Grid Middleware for EGI in the framework of EGI-InSPIRE

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LIP, CSIC, CESGA
Outline

- Introduction
- Interaction with the Software Providers.
- Global tasks coordinated by Ibergrid
  - Definition of UMD quality criteria
  - Verification of conformance criteria
  - Service deployment validation
- Summary and conclusions
Introduction: Overview

- EGI will use the Unified Middleware Distribution (UMD):
  - gLite, ARC, Unicore, Globus.
- Ibergrid global coordination tasks in EGI:
  - TSA2.2: Definition of the UMD quality criteria.
    - Aim: produce generic and specific component acceptance criteria for the UMD.
  - TSA2.3: Verification of conformance criteria.
    - Aim: Validation of UMD according to TSA2.2 QC definitions.
    - Pre-release component testing.
  - TSA1.3: Service Deployment Validation.
    - Aim: new software releases will be deployed safely and reliably to the production grid infrastructure.
    - This will be achieved through a managed staged roll-out of MW in Early Adopter sites.
Introduction: EGI tasks interaction

Define Quality criteria

TSA2.2

Define Quality criteria

Software Provider

New Certified ‘major’ or ‘minor’ release

New Certified ‘revision’ release

Verify Criteria

Fail

TSA2.3

EGI Middleware Unit & Software Repository

PASS

Ready for Staged rollout

TSA1.3

Release Rejected

Trial deployments in production

NGI Operations

Release to production

FAIL

M. David: Ibergrid 2010, 25 May 2010, Braga
### Introduction: Software Lifecycle

**SERVICE LIFECYCLE**

<table>
<thead>
<tr>
<th>Document requirements</th>
<th>Design Service Solution</th>
<th>Develop Service Solution</th>
<th>Build Service Solution</th>
<th>Test Service Solution</th>
<th>Pilot Period</th>
<th>Live Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFC released:</td>
<td>Approved for design</td>
<td>Approved for development</td>
<td>Approved for build</td>
<td>Approved for test</td>
<td>Approved for pilot</td>
<td>Approved for live release</td>
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<tr>
<td>- GGUS</td>
<td>- Savannah</td>
<td></td>
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</tbody>
</table>

- Strategy: TSA2.1 EGI
- Design: Software Provider
- Transition: Software Provider & EGI MU
- Operation: EGI OU
Interaction with Software providers

• Software providers for EGI are in general external to the project:
  
  – The UMD will be provided by the European Middleware Initiative (EMI):
    • gLite: result of development EDG, LCG and EGEE projects.
    • ARC: development supported by the Nordic countries.
    • Unicore: targeted to integrate HPC clusters.
  
  – Globus (possible through the Initiative for Globus in Europe: IGE)
  
  – EGI software providers: such as operational tools.
  
  – Community contributors.

• EGI will sign Service Level Agreements with EMI.

• EGI should have a large influence in the UMD roadmap.
Global tasks: MW Unit TSA2.2

- **Definition of the UMD Quality Criteria (QC):**
  
  - **Tight collaboration between EGI and SW providers to formalize the tests and requirements for MW components.**
  
  - **Generic acceptance criteria:**
    - Interoperability, availability on a specified minimal set of platforms, availability of SDK, security, documentation.
  
  - **Specific criteria: depending on the component.**
    - In the framework of the previous projects (EGEE and LCG) some criteria is already defined.
  
  - **On going work: definition of unit, functional and high level tests for some of the gLite components. This will extend to all components.**
  
  - **New and stricter criteria may be introduced along time.**
Global tasks: MW Unit TSA2.3

• Verification of conformance criteria:
  - The process depends on the type of release:
    1. **Major release or new component**: New functionality not necessarily backward compatible.
    2. **Minor release**: New functionality, backward compatible.
    3. **Revision release**: Bug fix, backward compatible.
    4. **Emergency release**: Urgent bug or security vulnerability fixes.
  - In all cases a report containing the results of the automated and non-automated tests defined in the task TSA2.2 should be provided.
  - New documentation for major releases or new components. Updated documentation for the Minor releases.
Global tasks: Oper. Unit TSA1.3

- Service deployment validation → Staged-Rollout (SR) process:
  - **EGEE → EGI Grid infrastructure is a production service serving several scientific communities.**
  - **Stable, reliable, highly available: this sets the level of quality of deployed Grid middleware.**
  - **A given verified Grid MW component performed by TSA2.3, is considered as production quality.**
  - **The SR process is a step preformed by Early Adopter sites which are the first ones to deploy the new version of a component into the production infrastructure, and... produce a report.**
Global tasks: MW workflow

- SW providers
  - EMI
  - Other
  - EGI internal

- MU
  - Scratch repository
  - Conformance Verification MU
  - Beta repository
  - Production repository

- OU
  - GGUS
  - SW Bugs

- Packages are pushed by the PTs

- 3rd level support

- Conformance Requirements

- Progress Tracking RT

- Wiki

- Deployment advisories, releases

- Sites subscribe for SR

- QA Reports

- SR Reports

- New packages
  - Bugfixes
  - EGI Feedback

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Summary and conclusions

- **EGI.eu domain:**
  - A wiki is in place and documentation is being produced:
    - Definition of the QC: generic and per component
    - Description of the staged rollout process: both the administrative and coordination level, as well as for Early Adopter sites.
  - Software repositories have been setup and partially populated.
  - Task tracking tool (RT system) has been setup and under test: checking functionality and adaptation to the requirements of the SR process.
- **Transition from EGEE to EGI and EMI is ongoing:**
  - Human resources, and tools used in these processes.