eGee

Enabling Grids for E-sciencE

JRA1 status

Claudio Grandi
(INFN and CERN)

- **Manpower and documents status**

- **Current issues**

- **gLite restructuring plans**

- **Manageability**

- **gLite 3.1**

- **Preview testbed**

- **EGEE III proposal**

Enabling Grids for E-sciencE

Partner	From TA	Actual	Comments
CERN	3	3	
CESNET	5	5.1	
CCLRC	7	6.875	
DATAMAT	5	5.2	
INFN	20.5	20.5	
SWITCH	3	3	
UH.HIP	2	2	
FOM	2	2	
UvA	2	2	
UiB	1	1	
KTH	1	1	Started on March 1st

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Done in the last 3 months:

- **MJRA1.5:** *Shibboleth interoperability with attribute retrieval through VOMS*
  - Due PM 9 (end December)
- **DJRA1.1:** *Report on Middleware Service Reengineering*
  - Due PM 10 (end January '07)

Coming:

- **MJRA1.6:** *Update of Functional Description of Grid Components and associated Workplan*
  - Due PM 11 (end February '07)
    - POSTPONED TO MARCH '07 due to the gLite restructuring
- **MJRA1.1.2:** *Update of Support plan, definition of common components and tools, strategy for multiple platform support*
  - Due PM 14 (end May '07)
- **MJRA1.7:** *Shibboleth interoperability with SAML support*
  - Due PM 21 (end December '07)
- **DJRA1.2** *Final report on progress of middleware reengineering*
  - Due PM 23 (end Feburary '08)

Enabling Grids for E-sciencE

- **Work Plans updates have to be included in MJRA1.6**

- **Postponed by 1 month due to the gLite restructuring**

- **Will be based on the changing version available in:**
  https://twiki.cern.ch/twiki/bin/view/EGEE/EGEEgLiteWorkPlans

- **Please keep up to date (somebody already did it)**

  - use red to mark modifications since last version approved by the TCG

  - Include the first tag in which a functionality is delivered

  - Try to explicitly include the activities for the gLite restructuring

Enabling Grids for E-sciencE

- **Two main issues:**
  - **Portability**: the gLite software has grown too complex. There are dependencies on external packages and legacy components to be supported. It is very difficult to get everything is needed to support a new platform, even if it is an new version of Linux.

    The EGEE-II PMB officially asked to stop other activities for 6 months and to **restructure gLite** to eliminate this complexity (EGEE-II All Activity meeting, Bologna 17/1/07)
  - **Performance** of some critical components. In particular:
    - Data Management: stability issues. Furthermore migration to SRM2.2 progressing too slowly. New functionalities needed
    - Workload Management: **stability of the WMS**. The service is now fine for what concerns the scalability but requires continuous baby-sitting. Not deployable on the production infrastructure as it is
    - Computing Element: the new **gLiteCE is unstable** and poorly tested.
    - User level accounting still not available to experiments

Enabling Grids for E-sciencE

1. **Compact UI and WN**
    –   Remove obsolete components from the repository
2. **Remove non-gLite dependencies from Meta-RPMs**
    –   Gain a better understanding of the dependencies of individual components
3. **Reduced and disentangled dependencies per component**
    –   Dependencies per component cut down to a minimum
4. **Unified Dependencies across Components**
    –   Common set of external dependencies
5. **Cleaned Client/Server code**
    –   cleaner separation between client and server code
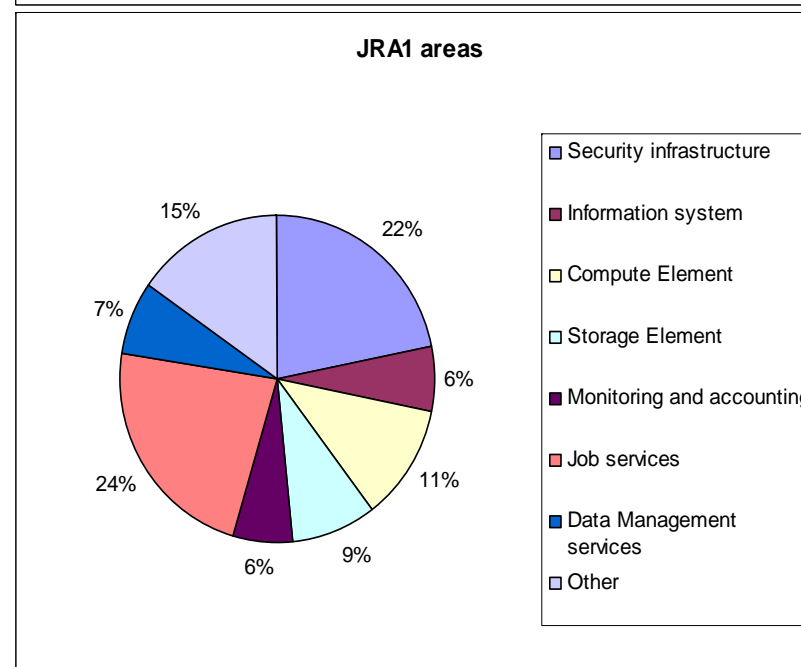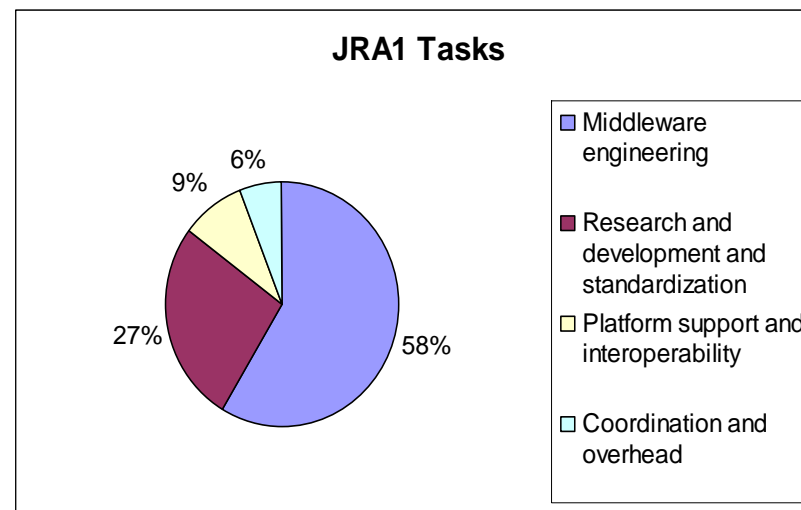
Boundary conditions:
-   **Cannot start until migration to ETICS and SL4 support are done**
-   **Items cannot be stopped to maintain support to applications:**
    –   Security patches and critical bugs
    –   Migration to SRM2.2 and to GLUE1.3; FTS improvements
    –   Support to biomed's for data encryption
    –   Stabilization of Job management components (WMS, LB, CE)
    –   User level accounting and new VOMS-Admin

Enabling Grids for E-sciencE

- **Got a number of requirements from site administrators. A few general requests that we need to address soon:**
  - Common format for log files of services
  - Hooks for local/global monitoring (new WLCG Monitoring WG)
    - A questionnaire has been produced and the developers will give exact description of the services, e.g.
      - *process state (name, # of instances, user)*
      - *network ports; related files on file system*
      - *log files (location, size, permissions, etc...)*
      - *internal metrics presented by services*
      - *...*
  - Improve manageability (start/stop/... scripts, not just init.d)
  - Standardized error messages (also trap messages from low-level services and produce others meaningful in the context)
- **Please provide feedback to Luigi if not done yet !!!**

- **gLite 3.0 UI and WN software running on SL4 prepared by SA3 and given to applications on the PPS for testing**

- **Proper SL4 builds only with gLite 3.1:**
  - https://twiki.cern.ch/twiki/bin/view/EGEE/GLiteBuildOverview
  - Using ETICS build system
  - Using VDT 1.6.0 (including GT4)
  - Now we have UI and WN builds on SL3 and SL4 in 32bit.
    SA3 addressing deployment issues and doing run-time testing
  - Other services and 64bit builds being addressed

Enabling Grids for E-sciencE

- **Proposed last year. Very slow start...**
  - problems identifying the resources
  - missing effort on version 3.1 of the gLite WMS due to high priority of the 3.0 version deployed on the production system
- **Now first functionalities are available:**
  - CREAM CE, reachable either directly or through the WMS
  - Job Provenance, that will allow a safe purging of the LB
  - glexec on WNs is being deployed now
  - GPBOX test sites added to the infrastructure
- **The testbed:**
  - CNAF: UI, gLiteCE+1 WN, BDII, DPM-SE, WMS *(+GPBOX tests)*
  - Padova: 1 CREAM-CE +4 WNs (1 WN is also gLiteCE)
  - Prague: LB with JP, 1 gLiteCE+1 WN
  - RAL: 1 G-GMA registry
  - Helsinki: 1 gLiteCE + 2 WN with glexec on WNs
  - NIKHEF: will have 1 CREAM CE + ? WNs and glexec on WNs
- **First tests on CREAM are promising**
  - but we cannot test scalability because the WMS is too small compared to a production machine
  - glexec on the WNs test slowed down by other priorities of developers

Enabling Grids for E-sciencE

- **Middleware development will continue in EGEE III**
- **Clusters of competence:**
  - The same institution will be responsible for
    - Middleware engineering in JRA1
    - R&D and standardization in JRA1
    - Platform support and interop. in JRA1 and SA3
    - Certification in SA3
- **Almost the same level of manpower**
  - currently estimated on 1254 PM
  - may need to reduce it
- **Probably split in two groups:**
  - Security, CE, Job services
  - Information systems, Monitoring & Accounting, SE, Data services

JRA1 Tasks

6%
9%
27%
58%

- Middleware engineering
- Research and development and standardization
- Platform support and interoperability
- Coordination and overhead

JRA1 areas

15%
7%
24%
6%
9%
11%
6%
22%

- Security infrastructure
- Information system
- Compute Element
- Storage Element
- Monitoring and accounting
- Job services
- Data Management services
- Other

The next All Hands Meeting will be in Helsinki

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Monday June 18th to Wednesday June 20th