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Enabling Grids for E-sciencE

Testing gLite middleware: overview & status

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- **Long regression tests.**

- **Long stress tests.**

- **Specific tests launched quickly to test patches.**

- **We have to assume that the patches we receive may not work initially, thus full automation of testing is not possible.**

    – Example: Installation or configuration can already fail.

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Categories for test scripts:

- **Layer 1 – service ping tests.**
- **Layer 2 – service functionality tests (includes API tests)**
- **Layer 3 – systems tests (traverses multiple services)**
- **Layer 4 – stress tests.**
- **Layer 5 – performance tests.**
- **Layer 6 – interoperability tests.**

Higher level tests only need to be launched if lower level tests succeeded.

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A test is not necessarily a script. It can also be a well documented procedure. Some examples:

- **Installation, configuration.**
- **Security.**
- **Sensible error messages.**
- **Robustness of services against reboots.**
- **Soundness of information system.**

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- **We need more than one testbed to do several tests at the same time.**

- **Not all tests are done at CERN.**

- **We even run tests on the production grid. For realistic conditions such as**
  - Service runs for long time (memory leaks,…)
  - Large workloads

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- **External sites for testbed needed**
  - To test under realistic conditions (network).
  - To specialize in certain areas.

- **Coordination between CERN and external sites must be efficient**
  - Add/remove sites to/from information system.
  - Quickly install patches and do test runs.

- **Testbed architecture covered by Louis Poncet's talk.**

- **Virtualization is very helpful.**
  - Initial installation and configuration tests.
  - Layer 1, 2 & 3 tests.
  - In collaboration with CERN openlab a Xen management tool has been developed using SmartFrog.

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Two parts:

1. Test submission.
2. Test presentation and archiving.

These two parts are independent.

Details about test frameworks can be found in the EGEE "Test Plan" document and the SA3 TWiki (URLs at the end of the presentation)

- **Should belong to a certain layer.**
- **Should be a simple command line script executed on some node (usually the UI).**
- **Should be written in Shell, Perl or Python (for maintainability).**
- **It should be possible to integrate the script in different frameworks**
  - Simple output; post-processing as needed by framework will be added.
  - No hard coded paths.

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- **Regular submission (e.g. every night) but also submission on demand.**

- **We expect future tests to consist of several scripts executed on different machines. Example:**

  – Stress test submitting simultaneously jobs from different UIs with different certificates. Nevertheless this is considered to be a single test with a single result.

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- **SAM (former SFT) is used for presentation. Complete SAM instance installed on the testbed.**

- **Some of the new tests (FTS, VOMS) have already been integrated into SAM with moderate effort. Ongoing effort to integrate edg-tests.**

- **We'll investigate the possibility to execute a test without SAM and publish the result into SAM.**

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Test	Person
Edg-tests	Gilbert Grosdidier (will resign), Domenico Vicinanza (currently CERN)
WMS	Hui-Min Lin (initial developer; CERN visitor), Alvaro Fernandez (CSIC/IFIC)
VOMS	Maria Allandes Pradillo (CERN)
R-GMA	TCD, Maria Alandes Pradillo (CERN)
FTS	Radoslava Goranova (initial devloper; CERN visitor), Gergely Debrezceni (CERN)
DPM/LFC	
Information System	Laura Perini, Elisabetta Molinari (INFN)
Proxy Renewal	Goes to security

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AMGA	Birger Koblitz (CERN), Viktor Pose (CERN)
LB	Othmane Bouhali, Shkelzen Rugovac (University of Bruxelles), Ales Krenek
BLAH	Laura Perini, Elisabetta Molinari (INFN)
APEL	Laura Perini, Alessio Gianelle (INFN)
DGAS	Laura Perini, Alessio Gianelle (INFN)
HYDRA	Akos Frohner (CERN)
Batch systems: LSF	Marc Rodrigues (PIC), Carlos Borregos (PIC)
Batch Systems: Sun Grid Engine	IMPERIAL
Batch systems: Condor	Kai Neuffer (PIC)
Interoperability: OSG	Laurence Field (CERN)

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Interoperability: ARC	Denmark
Interoperability: UNICORE	FZJ
Interoperability: NAREGI	Laurence Field (CERN)
TAR UI/WN	Andreas Unterkircher (CERN)
Performance tests on catalogs	
Tests verifying user guides	Ioannis Liabotis (GRNET)
dCache	Owen Synge (RAL,DESY), Greig Cowan
Sensible error messages	
Security	Jaroslav Sajko, Tomasz Nowocien, Blazej Miga (PSNC)

Deployment Installation and localization	
Robustness of services against reboots and restarts	
gLiteCE	Laura Perini, Alessio Gianelle (INFN)
WMS performance testing	IMPERIAL

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- **SA3 certification and testing TWiki page: https://twiki.cern.ch/twiki/bin/view/EGEE/EGEECertification**

- **EGEE "Test Plan" document: http://edms.cern.ch/document/754376**

- **CVS location to store new tests: http://glite.cvs.cern.ch/cgi-bin/glite.cgi/org.glite.testsuites.ctb/**

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