Contribution ID: **416** Type: **Poster**

Elastic Testbed at CERN for the Integration of the EMI Middleware

Thursday, May 24, 2012 1:30 PM (4h 45m)

The development and distribution of Grid middleware software projects, as large, complex, distributed systems require a sizeable computing infrastructure for each stage of the software process: for instance pools of machines for building, and testing on several platforms. Software testing and the possibility of implementing realistic scenarios for the verification of grid middleware are a crucial part of the testing process. System integration testing of a large number of components requires a large dedicated testing infrastructure installed and ready to host such tests. In the grid community such testing environment is described as a "grid integration testbed". It is a dedicated grid infrastructure having similar organization, in smaller scale, as production installations where inter-component tests can be executed on different versions and platforms.

This contribution presents the implementation, based on elastic virtualized resources, of the grid testbed provided by the Grid Technologies group at CERN in order to support the developers of the DPM, FTS, LFC teams and the part of the EMI integration testbed hosted at CERN. The implementation of the EMI testbed also provides the integration of the Nagios monitoring probes of the installed services and supports several platforms such as Scientific Linux and Debian for 32 and 64 bits architectures. We will also present the lessons learned and the experience gained during the migration from the Linux Xen virtualization platform, used for gLite, to Microsoft Hyper V currently used for the EMI testbed.

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Session Classification: Poster Session

Track Classification: Software Engineering, Data Stores and Databases (track 5)