

MEMORANDUM

To : L. Robertson, WLCG Chair
WLCG Management Board

cc : D. Barberis (ATLAS Computing Coordinator)
C. Bee, N. Ellis, L. Mapelli (ATLAS TDAQ Project Leaders)
P. Jenni (ATLAS Spokesperson)
B. Panzer-Steindel (ATLAS-IT Liaison)
S. Stapnes (ATLAS Deputy Spokesperson)

From : F. Gianotti (ATLAS Deputy Spokesperson) on behalf of ATLAS Management

Subject : ATLAS TDAQ Large Scale Test in 2006

Ref. : ATLAS/FG/mnd/2005-001

Following the successful completion of the Large Scale Tests performed in June/July 2005 at the CERN IT LXBATCH facility, we have identified the need of another series of functionality tests on a large scale in 2006. Running the ATLAS online system on a cluster of 700 nodes was found to be especially sensitive to the reliability of the farm, as well as the Trigger/DAQ system itself. Issues concerning mainly the interplay between control and monitoring software with the trigger and dataflow systems, the integration of trigger algorithms and the access to configuration and conditions databases have been identified, as documented in <https://edms.cern.ch/document/685256/1>

A number of enhancements have been designed and will be implemented in the next releases. A Large Scale Tests session in 2006 is needed to test them. We also mention that the LHCC has commented very positively on the 2005 exercise and has strongly recommended a large scale test in 2006.

We ask for 4-5 weeks of testing time on a farm size increasing from an initial configuration of 400 up to a final of 1200 nodes, the latter corresponding to ~50% of the final ATLAS online computing. In accordance with our release schedule, the best time for performing the tests would be October/November of 2006, when the last major release before the first LHC run will be ready. The tests on a large scale will be particularly crucial for

- the verification of the fully integrated DAQ and High-Level Trigger software, including a significant number of trigger algorithms;
 - the quasi simultaneous access to the Oracle-based conditions database by a high number of trigger processing tasks;
 - the new implementation of components in particular in the area of setup and controls, including the optimisation of the control-tree hierarchy and overall system parameters.
- Stability and Fault tolerance aspects will play a major role in the verification process.

Hoping that you can accommodate the above request, we thank you for your attention.