

ATLAS Experience on Large Scale Productions on the Grid

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The Large Hadron Collider at CERN will start data acquisition in 2007. The ATLAS (A Toroidal LHC Apparatus) experiment is preparing for the data handling and analysis via a series of Data Challenges and production exercises to validate its computing model and to provide useful samples of data for detector and physics studies. DC1 was conducted during 2002-03; the main goals were to put in place the production infrastructure for a real worldwide collaborative effort and to gain experience in exercising an ATLAS wide production model. DC2 was run in the second half of 2004; the main goals were to test a new automated production system and to demonstrate that it could run in a coherent way on three different Grid flavours. DC2 was followed in the first half of 2005 by a new massive production of Monte Carlo data in order to provide the event samples for the ATLAS physics workshop in Rome in June 2005. We discuss the experience of the "Rome production" on the LHC Computing Grid infrastructure, describing its achievements, the improvements with respect to the previous Data Challenge and the actual problems observed. As a consequence of the observed shortcomings several improvements are being addressed in the ATLAS LCG/EGEE taskforce. Its activity ranges from testing new developments in workload management system (bulk submission), the integration the VOMS based model of authorization in the production environment and on the deployment of the ATLAS data management in the LCG infrastructure.

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