

Lessons from ATLAS DC2 and Rome Production on Grid3

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We describe experiences and lessons learned from over a year of nearly continuous running of managed production on Grid3 for the ATLAS data challenges. Two major phases of production were performed: the first, large scale GEANT based Monte Carlo simulations ("DC2") were followed by extensive production for the ATLAS "Rome" physics workshop incorporating several new job types (digitization, reconstruction, pileup and user analysis). We will describe the systems used to run production on such a massive scale, which involved over 20 Grid3 sites, which successfully completed over 250k jobs and produced over 50TB of physics data. The production system consisting of a supervisor, executor and data management system will be described. Analysis of performance of various systems will be presented. Several critical points of failure were uncovered including scalability of Grid services for job submission and reliable file transfer, and gaining access to remote resources efficiently. These lessons have been incorporated into the design principles for the next generation production system, Panda.

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