

Abstract Submitted
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Design and Implementation of a GRID Simulator¹ WILLIAM BOYD, Georgia Institute of Technology, MARTIN BARISITS, Vienna University of Technology, MARIO LASSNIG, University of Innsbruck, DISTRIBUTED DATA MANAGEMENT GROUP OF THE ATLAS EXPERIMENT AT CERN TEAM — As the LHC begins operation, CERN will soon become one the of the planet's largest data-producing entities. To manage and process the data produced at CERN, a worldwide cloud computing network called the GRID has been constructed. Presently, data distribution from CERN across the GRID is largely static. There is a need to optimize data distribution across the GRID through dynamic data algorithms that can evolve according to past and present conditions on the GRID. In order to evaluate such data allocation algorithms, it is necessary to test them within a simulation environment before employing them across the GRID. In this presentation, the development strategy, implementation and features of the first GRID simulator, MartinWillSim, will be discussed. In addition, results which validate the simulator against the present-day GRID, as well as results from some dynamic data allocation algorithms implemented in MartinWillSim, will be presented.

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