

Grid Data Management: Simulations of LCG 2008

Monday 13 February 2006 16:00 (20 minutes)

Simulations have been performed with the grid simulator OptorSim using the expected analysis patterns from the LHC experiments and a realistic model of the LCG at LHC startup, with thousands of user analysis jobs running at over a hundred grid sites. It is shown, first, that dynamic data replication plays a significant role in the overall analysis throughput in terms of optimising job throughput and reducing network usage; second, that simple file deletion algorithms such as LRU and LFU algorithms are as effective as economic models; third, that site policies which allow all experiments to share resources in a global Grid is more effective in terms of data access time and network usage; and lastly, that dynamic data management applied to user data access patterns where particular files are accessed more often (characterised by a Zipf power law function) lead to much improved performance compared to sequential access.

Primary authors: Prof. DOYLE, A. T. (University of Glasgow); NICHOLSON, Caitriana (University of Glasgow)

Presenter: NICHOLSON, Caitriana (University of Glasgow)

Session Classification: Distributed Data Analysis

Track Classification: Distributed Data Analysis