

Global Grid Queue Services Architecture and Point-based Simulated Annealing Algorithm for Resource Scheduling

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ABSTRACT

Grid resource management and scheduling strategy are key issues in grid service application and research. This paper proposes the overall global grid queue service architecture, which can provide standard API for Globus. Based on the system, a novel global scheduling algorithm: point-based simulated-annealing scheduling algorithm (P-SAS) is proposed. Compared with other scheduling algorithms such as random selection scheduling and best-random-n scheduling algorithm, P-SAS scheduling is shown to be the best in the grid simulation environment.

Keywords: grid queue, Globus, point-based, simulated annealing, scheduling, simulation