A Heuristic Algorithm for Agent-based
Task Scheduling in Grid Environments

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ABSTRACT

Resource management and task scheduling is a crucial problem (the core of all the questions) in Grid Environments. The aim of task scheduling is to take full advantage of grid resource and execute user's task request as early and quickly as possible. This paper introduces an agent-based resource management model and agent structure and its function. On the basis of local resource's adopting the strategy "First Come First Served" to the task, we put forward a task scheduling heuristic algorithm using a technique of task advertisement and discovery. Agents are organized into a graph and the heuristic algorithm is based on multi-agent cooperation, to ensure this methodology achieves the goal of task scheduling.

Keywords: task scheduling, agent, graph, heuristic, request discovery