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**Cloud Workflow Scheduling With Deadlines and Time Slot Availability**

**Abstract**

Allocating service capacities in cloud computing is based on the assumption that they are unlimited and can be used at any time. However, available service capacities change with workload and cannot satisfy users' requests at any time from the cloud provider's perspective because cloud services can be shared by multiple tasks. Cloud service providers provide available time slots for new user's requests based on available capacities. In this paper, we consider workflow scheduling with deadline and time slot availability in cloud computing. An iterated heuristic framework is presented for the problem under study which mainly consists of initial solution construction, improvement, and perturbation. Three initial solution construction strategies, two greedy- and fair-based improvement strategies and a perturbation strategy are proposed. Different strategies in the three phases result in several heuristics. Experimental results show that different initial solution and improvement strategies have different effects on solution qualities.