عنوان مقاله:

A Hybrid Algorithm for Task scheduling Based on Ant Colony Optimization and Local Neighborhood Search

محل انتشار:

کنفرانس بین المللی مهندسی و علوم کاربردی (سال: 1394)

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خلاصه مقاله:

The advent of cloud computing as a new model of service provisioning in distributed systems, encourages researchers to investigate its benefits and drawbacks in executing scientific applications such as workflows. One of the crucial issues in this environment is related to task scheduling. Task scheduling is an NP-hard optimization problem and many meta-heuristic algorithms have been proposed to solve it. This paper presents an optimized hybrid algorithm for task scheduling based on ant colony optimization and local neighborhood search to minimize both total executing time and cost. The proposed approach can be implemented on both dependent and independent tasks. By virtue of comparing proposed approach with the other algorithm, the experiment results show the hybrid algorithm not only has better scheduling performance but also runs faster than the other algorithm in a large scale. In addition, the experimental results show that the proposed algorithm can substantially achieve both minimal cost and minimal time.

کلمات کلیدی:

Cloud computer, distributed systems, task scheduling, ant colony optimization

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