عنوان مقاله:

Cost-Efficient Task Scheduling Algorithm for Reducing Energy Consumption and Makespan of Cloud Computing

محل انتشار:

مجله مهندسی کامپیوتر و دانش, دوره 5, شماره 1 (سال: 1401)

تعداد صفحات اصل مقاله: 12

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خلاصه مقاله:

In cloud computing, task scheduling is one of the most important issues that need to be considered for enhancing system performance and user satisfaction. Although there are many task scheduling strategies, available algorithms mainly focus on reducing the execution time while ignoring the profits of service providers. In order to improve provider profitability as well as meet the user requirements, tasks should be executed with minimal cost and without violating Quality of Service (QoS) restrictions. This study presents a Cost and Energy-aware Task Scheduling Algorithm (CETSA) intending to reduce makespan, energy consumption, and cost. The proposed algorithm considers the trade-off between cost, energy consumption, and makespan while considering the load on each virtual machine to prevent virtual machines from overloading. Experimental results with CloudSim show that the CETSA algorithm has better results in terms of energy consumption, waiting time, success rate, cost, improvement ratio, and degree of imbalance compared with MSDE, CPSO, CJS, and FUGE.

کلمات کلیدی:

Cloud, Task scheduling, Cost, Energy Consumption, Makespan