

عنوان مقاله:

A novel evolutionary approach based on the lottery algorithm for scheduling tasks in cloud computing environments

محل انتشار:

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خلاصه مقاله:

In this study, an evolutionary method based on the lottery algorithm has been presented for independent task scheduling in cloud computing environments. Task scheduling is a key process of infrastructure as a service which aims to run the requests entered into the system on its resources in an efficient manner, while considering the specifications of the cloud environment. Task scheduling is an NP-hard optimization problem, because of heterogeneous and dynamic features of the cloud environment. In fact, depending on a task's requirements, a processing resource from the set of resources is processed in a way that more jobs are completed in less time. According to task scheduling issues in cloud computing, the output is a suitable mapping of tasks to resources such that parameters like response time, makespan time, and the performance of data centers, are optimized. The proposed algorithm is based on the lottery and achieves the optimal makespan and response time. It also mitigates the task starvation problem and supports the scheduling of new tasks entered in the system. The experimental results show that the proposed algorithm is effective in comparison to the existing algorithms

کلمات کلیدی:

Cloud Computing, Makespan, Virtual Machine, Task Scheduling, Lottery Algorithm

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