عنوان مقاله:

A Hierarchical Resource Provisioning for Workflows in Cloud Computing

محل انتشار:

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خلاصه مقاله:

Resource provisioning in Cloud Computing is referred to as a process of mounting and managing applications in a Cloud infrastructure. With the increasing expansion of data centers and the development of hardware components, their energy consumption is rising, because, besides the energy they consume, they also need high amounts of energy to keep them cool. Therefore, providing an efficient way to allocate resources dynamically in the Cloud environment has become one of the most challenging research topics in that field. In this research, a knapsack-based hierarchical algorithm has been proposed to provide resource allocation in order to decrease resource consumption and time to increase throughput and the level of service level agreement (SLA). The proposed method is simulated on several standard workflows, and the results show that the presented method has in average ۱۸.۱% improvement in the LIGO workflow, a ۴۸.۳% improvement in the Montage workflow, a ۴۳% improvement in the Epigenomics workflow, .and a ۴۸.۴% improvement in the SIPHT workflow

کلمات کلیدی:

Cloud Computing, hierarchical method, knapsack based algorithm, resource provisioning, scheduling, workflow