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“Task scheduling based on dynamic pre allocation with self-adaptive ant colony optimization method for cloud computing”

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Abstract:

Cloud computing is a new and innovative technology which serves computing resources on pay and use concepts. Cloud computing technology supports homogeneous as well as heterogeneous environments which attract cloud users to work and utilizes its various services such as PaaS, IaaS and SaaS. Cloud computing provides optimum utilization of computing resources in affordable cost, which attracts cloud users. Day by day sizes of cloud users and cloud services are getting increase rapidly. To serve computing resources and cloud services in efficient manner to cloud user is a challenging task for cloud service providers. Load balancing and task scheduling methods plays a vital role in load distribution for cloud service provider. Various types of load balancing methods are suggested by different cloud researchers. In this research paper we are presenting a dynamic pre allocation with self-adaptive ant colony optimization method for cloud computing. Proposed DPSAACO uses efficient task scheduling based on hybrid concept of load balancing. Proposed DPSAACO method and existing round robin and ant colony optimization methods are implemented on cloud sim simulator and various performance comparison are calculated such as makespan, total response time and waiting time. A simulation result clearly shows that our proposed method performs outstanding over existing method.

Keywords:

Cloud computing, task scheduling, load balancing, Ant colony, DPSAACO, Round robin