

عنوان مقاله:

An Approach to Optimized Imperialist Competitive Algorithm for Task Scheduling in Cloud Computing

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خلاصه مقاله:

Cloud computing is a novel basis to control and provide services on the internet. There are a wide range of researches on the issue of scheduling in cloud computing. Task scheduling in the cloud computing and distributed systems is an NP-hard optimization problem, and numerous meta-heuristic algorithms have been proposed to resolve it. This paper presents an optimized hybrid algorithm for task scheduling based on Imperialist Competitive Algorithm and threshold accepting method to minimize the executing time and cost. By advantages of both algorithms, probability and speed of convergence to the optimum solution is enhanced. Also, this strategy avoids sinking into local optima and population diversity is increased. By virtue of comparing proposed approach with the genetic simulated annealing and improved genetic algorithm, the experiment results display that the hybrid approach runs faster than the other algorithms in a large scale. In addition, the experimental results demonstrate that the amount of 1.2 percent improvement in execution time and cost

کلمات کلیدی:

Cloud computing, distributed computing, Imperialist Competitive Algorithm, NP-hard optimization, task scheduling, threshold accepting

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