

A New Method to Winner Determination for Economic Resource Allocation in Cloud Computing Systems

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Abstract : Cloud computing systems are large-scale distributed systems, so that they focus more on large scale resource sharing, cooperation of several organizations and their use in new applications. One of the main challenges in this realm is resource allocation. There are many different ways to resource allocation in cloud computing. One of the common methods to resource allocation are economic methods. Among these methods, the auction-based method has greater prominence compared with Fixed-Price method. The double combinatorial auction is one of the proper ways of resource allocation in cloud computing. This method includes two phases: winner determination and resource allocation. In this paper a new method has been presented to determine winner in double combinatorial auction-based resource allocation using Imperialist Competitive Algorithm (ICA). The experimental results show that in our new proposed the number of winner users is higher than genetic algorithm. On other hand, in proposed algorithm, the number of winner providers is higher in genetic algorithm.

Keywords : cloud computing, resource allocation, double auction, winner determination

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