A combinatorial auction mechanism for multiple resource procurement in cloud computing

Multiple resource procurement from several cloud vendors participating in bidding is addressed in this paper. This is done by assigning dynamic pricing for these resources. Since we consider multiple resources to be procured from several cloud vendors bidding in an auction, the problem turns out to be one of a combinatorial auction. We pre-process the user requests, analyze the auction and declare a set of vendors bidding for the auction as winners based on the Combinatorial Auction Branch on Bids (CABOB) model. Simulations using our approach with prices procured from several cloud vendors' datasets show its effectiveness in multiple resource procurement in the realm of cloud computing.