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## Title: [A competition-based pricing strategy in Cloud markets using regret minimisation techniques](#)

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**Abstract:** Cloud computing as a fairly new commercial paradigm, widely investigated by different researchers, and already has a great range of challenges. Pricing is a major problem in the Cloud computing marketplace, as providers are competing to attract more customers without knowing the pricing policies of each other. To overcome this lack of knowledge, we model their competition by an incomplete-information game. Considering the issue, this work proposes a pricing policy related to the regret minimisation algorithm and applies it to the considered incomplete-information game. Based on the competition-based marketplace of the Cloud, providers update the distribution of their strategies using the experienced regret. The idea of iteratively applying the algorithm for updating probabilities of strategies causes the regret to be minimised faster. The experimental results show much more increase in profits of the providers in comparison with other pricing policies. Besides, the efficiency of a variety of regret minimisation techniques in a simulated marketplace of Cloud are discussed which have not been observed in the studied literature. Moreover, return on investment of providers in considered organisations is studied and promising results appeared.

**Keywords:** application; cloud computing marketplace; distributed systems; game theory; machine learning; pricing; regret minimisation; reinforcement learning; Nash equilibrium; service provider.

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