# ActiveSLA: A Profit-Oriented Admission Control Framework for Database-as-a-Service Providers

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The paper proposed a framework, ActiveSLA, for admission control in cloud database systems. ActiveSLA builds a non-linear classification model which can predict the possibility that a query can meet/miss deadline. It also provides a decision module to make the profit oriented decision. Paper discusses prediction model and their machine learning techniques used in ActiveSLA. The authors also provide a detailed evaluation of the their prediction model for TPC-W1, TPC-W2 and TPC-W3 query sets.

The major advantage of this paper is that besides query type and query mix that are used in many existing works, ActiveSLA also takes into consideration query features as well as the databasespecic and system-level metrics, which further help to improve the prediction accuracy. Also, the admission control decisions made by ActiveSLA are steered by service-level-agreements and expected profits. Therefore, differentiated services, which are very important in cloud databases, are provided. One shortcoming of this approach is that it does not deal with different types of databases systems to manage data and serve queries, e.g., NoSQL databases.

The future aspect of this paper can be in the direction of improving the inaccuracy for the query features such as the number of sequential I/O due to the incorrect statistics and cardinality estimates of a query execution plan. Their prediction model can also be extended by including the level of replication as one of the system variables.