

## SLA-AWARE MULTI-CRITERIA DATA PLACEMENT IN CLOUD STORAGE SYSTEMS

### ABSTRACT

This project proposes a multi-criteria data placement mechanism for typical cloud storage systems. The primary goal of this study is to place the clients' files in the storage cluster by taking into account the principles of service level agreements and the levels of user support services. For this purpose, a multi-criteria scoring model is defined based on a trade-off between three criteria that can be crucial from the clients' viewpoint: data access latency, data privacy, and computational performance. The second goal of the proposed mechanism is to improve the fairness of the storage allocation mechanism for various kinds of files compared to the conventional mechanisms. In this case, the cloud service provider gives each data storage node a chance to become the host of an already received file using a probabilistic ranking model. The proposed data placement mechanism increases the robustness of cloud storage architecture under different file, network, and storage configurations compared to the existing data placement mechanisms.