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Performance Benchmarking and Metrics Evaluation of Apache Accumulo

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Abstract: This paper aims at measuring the performance of Apache Accumulo by using Storage Benchmark Kit (SBK). Apache Accumulo is based on the Google's BigTable design with addition of two unique features. One feature is the iterator framework that embeds user-programmed functionality (server-side programming) into different Log-structured Merge Tree (LSM-tree) stages. The second is the cell-level security that enables fine-grain data access control. The SBK (Storage Benchmark Kit) is an open source software framework for the performance benchmarking of any storage system. We can measure the maximum throughput performance of any storage device/system using SBK. The SBK itself is a very high-performance benchmark tool/framework. It massively writes the data to the storage system and reads the data from the storage system. The SBK supports multi writers and readers and also the End to End latency benchmarking.

Keywords: Apache Accumulo

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