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TITLE

Improving Cassandra Latency and Resiliency with NVMe over Fabrics

ABSTRACT

Apache Cassandra is a scalable and resilient NoSQL database widely adopted in Big data and IOT. By using NVMe disks, connected through NVMe over Fabric, we achieve a better latency while taking advantage of the flexibility and scalability of the fabric topology. Using a centralized NVMe-OF storage decoupled from the compute, allows to reduce storage waste and the time to repair when upgrading or replacing Cassandra nodes. In the presentation, we compare the results of benchmarking Cassandra with YCSB (Yahoo Cloud Serving Benchmark) with directly attached SAS SSD's vs NVMe-oF NVMe disks.

BIOGRAPHY

Kais Belgaied is currently CTO for Sanmina's Storage and Servers division, driving the company's adoption and growth strategy around NVMe. A prolific innovator with over 50 patents, he was previously the architect of the control plane scale-out and the availability of all-flash array clusters at the highly regarded startup Nimble Storage (acquired by HPE). He has also been an architect and team leader at VMware and Sun Microsystems. He is a self-starter with a proven record of successful project delivery in areas such as kernel development, software-defined storage, systems and networking virtualization, network protocols, and OS security and access controls. He has published articles and given or contributed to conference presentations on topics such as cache management, scalability, and hardware offload. Kais earned an MS and a postgraduate degree in computer science and applied mathematics from the Polytechnique Institute of Grenoble (France), and an MBA from Columbia.