

Global Telecom Company Adopts Kaminario K2 to Accelerate Customer Record Queries

The Challenge

A global telecom company, that is a leading supplier in prepaid phone cards, runs a high speed database of all its customers' calling records. One of its critical applications builds a "neural network" from approximately 120 million daily call detail records (CDRs) and enables the telecom company to perform CDR searches and predict call patterns. This leads to better utilization of the IT infrastructure, which results in improved customer satisfaction. Also, because of law- enforcement and compliance regulations, the company has terabytes of calling records from past years, which presents a challenge in generating a fast response to call pattern queries.

The company invested in building an optimized storage infrastructure, but was still unable to speed up query rates and deliver specific records fast enough. Also, performance issues with the analytics were hampering its overall operations and customers' deliverables were seriously affected.

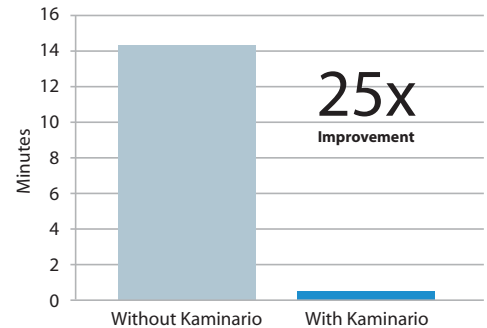
The Solution

The company believed that the CDR application's search and analytic performance issues were due to long disk I/O wait times. It considered a flash storage solution, but realized that flash performance degrades over time, particularly in random read and write environments. The company turned to Kaminario, the only vendor delivering a DRAM-based high performance and availability storage solution. The Kaminario team ran an assessment using its Kaminario K2 data appliance and identified clear opportunities to deliver a significant performance boost that would improve the company's overall operations. Kaminario demonstrated a superlative price/performance ratio, providing the telecom company with consistent and "super fast" searches and query responses.

The Kaminario K2 is specifically designed to address disk I/O wait times and storage bottlenecks, delivering millions of IOPS and tens of GBs of throughput. Kaminario is database and file system agnostic, allowing the company to move its mission critical application through the Kaminario K2 without modifications or disruption. The faster performance from Kaminario enabled the company to quickly and easily improve service levels to its customers.

After only one day of installation time, the performance benefit to the telecom company's business was immediately visible. The Kaminario K2 significantly improved its throughput ratios by 10 to 25 times. In one instance, a search query on free text that had taken 15 minutes was reduced to a mere 36 seconds — almost a 25-fold improvement. Kaminario's expertise and the ease of the Kaminario K2 installation, along with its manageability and high availability, also contributed to the company's decision to choose Kaminario. Future deployments being considered by the telecom company include moving its Oracle® applications to the Kaminario K2 appliance.

Kaminario Improved CDR Search Query Times by up to 25x



“Our analysts greatly benefited from the performance increase that the Kaminario K2 provided us, mainly with sophisticated data retrievals. Kaminario helped us identify the I/O issues that were at the root of our performance problems and the Kaminario K2 met the challenge. The Kaminario K2 has proven to be a highly cost-effective way to deliver operational efficiency. Our analysts are now responding to inquiries in a fraction of the time and, as a result, we are delivering improved service levels to our customers.”

***— Senior Vice President
of Network Architecture***

Extreme Performance

The Kaminario K2 family of all solid-state SAN storage solutions accelerate high I/O, latency-sensitive applications by consistently delivering higher throughput, ultra-low latency and improved system utilization at a significantly lower cost and smaller footprint than legacy SAN storage.

- IOPS: 100K – 1.5M IOPS
- Throughput: 1 GB to 16 GBs
- Consistent performance for any workload, with no degradation over time
- Latency: Read: 120 µsec to 260 µsec; Write: 150 µsec

Self-healing High Availability

K2 boasts full N+1 hardware redundancy and thus maintains operational status and data availability with no single point of failure. Fast and automatic recovery means a reduction in costs related to data loss and unavailability, including wasted IT services time in rebuilding data stores.

- Redundant system hardware and uninterrupted power supply (UPS)
- Internal data protection and resiliency with mirrored hard disk drives
- Automated hardware and data recovery while maintaining data integrity

Modular, Cost-effective Scalability

K2 enables cost-effective growth — so you can start small and grow as you need more capacity and/or performance. K2 also maximizes storage utilization and extends the life of your storage infrastructure, increasing ROI and reducing TCO.

- Modular, scale-out architecture
- Scale performance and capacity independently
- Consolidate high I/O and latency sensitive applications on the K2 that you had on multiple servers

Easy Installation and Management

K2's industry-standard components make it easy to install and maintain. Its storage system management makes it easier for IT staff to manage and control. K2 enables IT organizations to reduce operations, maintenance and service costs.

- Standard block device, fully transparent — no change to applications, database or data
- Single-system manageability
- Automatic data distribution quickly delivers extreme performance out of the box
- Fast deployment — less than one day to install



Kaminario K2

Kaminario is a leading supplier of high performance all solid-state SAN storage. Its Kaminario K2 family of SAN storage solutions eliminate I/O bottlenecks and dramatically reduce latency to accelerate critical business applications at a significantly lower cost and smaller footprint than legacy SAN storage. The K2 is the first self-healing, highly available all solid-state SAN storage to give users the freedom to choose the right SSD media for their unique application workload and budget. The K2 supports millions of IOPS, tens of GB/s of throughput, extremely low latency, and all without compromising on enterprise reliability or ease of use. Kaminario K2 solutions are application, database and file-system agnostic. Kaminario K2 solutions are seamless to integrate and easy to deploy and maintain; installation and configuration can be done in less than one day. Kaminario is simply faster.

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