

# Kaminario K2 All-Flash Storage for SAP HANA

## SAP® Certified

Hardware for SAP HANA®

### SOLUTION SUMMARY

- Real-time SAP HANA data platform
- Simultaneous OLTP, OLAP and data protection processing
- High performance and high availability
- K2 scales with SAP HANA scale-out model
- Certified to SAP HANA TDI requirements



The Kaminario K2 all-flash array enables customers implementing applications on the SAP HANA data platform to deploy their environment on the most cost-efficient all-flash platform in the industry. The K2 delivers consistent high performance and low latency on shared storage due to mixed workload processing features and the ability to scale-out and scale-up to match SAP HANA's requirements for performance and capacity.

### K2 Overview

The K2 all-flash array is the most cost-efficient general purpose storage platform that was designed from the ground up optimized for solid-state drive (SSD) flash storage and to accommodate multiple applications and workloads. Its unique scale-out/scale-up architecture allows the K2 to grow with customers' infrastructure needs, delivering agility and flexibility for today's demanding IT requirements.

### SAP HANA Powered by K2

SAP HANA is an in-memory computing platform that enables enterprises to accelerate business processes, deliver more intelligence and simplify the IT environment. SAP HANA is best suited for performing real-time analytics, and developing and deploying real-time applications. As transactions are happening you can report against them live. SAP HANA's hybrid structure for processing transactional and analytical workloads fully in memory in a single database consolidates OLTP (online transaction processing) and OLAP (online analytical processing) to increase performance and reduce TCO (total cost of ownership). Additionally, SAP HANA provides protection against data loss by saving the data in persistent storage.

However, SAP HANA generates a random mix of I/O against the storage array for transactional re-do logs and data savepoints and for persistent snapshots and delta merges. I/O access to the log volume is sequential while the data volume is accessed randomly. I/O sizes can range from 4KB up to 64 MB and each SAP HANA service (process) writes to the storage separately. Finally, SAP HANA's scaling

## KAMINARIO K2 CERTIFIED FOR SAP HANA

The Kaminario K2 all-flash array has been certified for operating with SAP HANA. Certification confirms the existence of product features in accordance with SAP procedures. See <http://global.sap.com/community/ebook/2014-09-02-hana-hardware/enEN/enterprise-storage.html#search=kaminario> for details.



### Contact

Contact a business development representative to answer any questions you may have.



### Schedule a Demo

Schedule a demo with an engineer and learn if Kaminario's solution works for you.



### Request a Quote

Request a quote for your application from our business development team.

architecture can result in many hosts with many processes simultaneously accessing a common shared storage infrastructure. Kaminario's K2 all-flash array combines high performance, cost effective scaling and sophisticated availability using patented adaptive block size and data protection algorithms, enabling SAP HANA deployments to deliver real-time processing and high availability.

## Major Solution Benefits

### Consistent Low Latency and High Performance

The SAP HANA database uses external storage for logs, data savepoints, snapshots and delta merges. SAP HANA workloads can rely on K2's high performance and low latency for real-time responsiveness, since transactions cannot complete until they have been captured to persistent storage.

### Scalable Storage Performance and Capacity

K2's scale-out and scale-up capabilities enable independent linear growth of capacity and performance according to datacenter needs and specifically to SAP HANA's scale-out model. Kaminario recommends up to 14 SAP HANA nodes for a 4 K-Block configuration.

### High Availability Shared Storage

K2 provides a highly available storage complement to SAP HANA's in-memory processing. K2's K-RAID offers very high storage utilization and availability. K2 provides storage-based snapshots and replication for data protection and to implement SAP HANA failure/failover recovery. Kaminario's Assured Availability program delivers 99.999% uptime.

K2 Gen6 All-Flash Array Specifications				
Scaled Configuration	1 K-Block	2 K-Blocks	3 K-Blocks	4 K-Blocks
Usable Capacity*	30TB - 1PB	60TB - 2PB	90TB - 3PB	120TB - 4PB
IOPS	Up to 370K	Up to 740K	Up to 1.1M	Up to 1.5M
Throughput	Up to 6.2GB/s	Up to 12.4GB/s	Up to 18.6GB/s	Up to 25GB/s
Latency	0.35ms			
Media (encrypted)	480GB / 960GB / 1.92TB / 3.84TB 3D TLC NAND SSDs			
Connectivity FC/iSCSI	FC: 4x 16Gbps iSCSI: 4x 25GbE	FC: 8x 16Gbps iSCSI: 8x 25GbE	FC: 12x 16Gbps iSCSI: 12x 25GbE	FC: 16x 16Gbps iSCSI: 16x 25GbE

\*Capacity is subject to drive size and the application data reduction ratio. For some datasets such as VDI the range will be higher.

## About Kaminario

Kaminario, the leading all-flash storage company, is redefining the future of modern data centers. To learn more, please visit [www.kaminario.com](http://www.kaminario.com).