Kaminario K2 All-Flash Array

COST EFFICIENCY

Every element of the K2 design is optimized to balance costs with value and functionality. Customers can start small and grow with all benefits and capabilities included at every step. Added operational savings include reduced energy consumption and larger storage capacity in a smaller datacenter footprint.

SCALABILITY

Kaminario's K2 delivers value at every stage of growth. Scale-up to add capacity. Scale-out to add performance. Add the latest drives and processors to expand an array with Assured Scale and Assured Capacity.

PERFORMANCE

A unique software-defined scale-out architecture combined with selective global deduplication and adaptive block size powers Kaminario's exceptional all-flash performance that smoothly handles simultaneous mixed workloads.

The Kaminario K2 all-flash storage array, now in Generation 6, delivers predictable performance, cost, scale, resiliency and simplicity so organizations can handle ever-changing business requirements as they arise.

K2 Overview

The K2 all-flash array is the most cost-efficient general purpose storage platform that was designed from the ground up to be optimized for solid-state drive (SSD) flash storage and to accommodate multiple applications and workloads such as databases, virtual servers & desktops and big data analytics.

The K2 all-flash array's unique scale-up and scale-out architecture covers both dimensions of scale – capacity and performance. K2 can linearly grow the number of CPU cores by adding K-Blocks and independently grow only capacity by adding SSD shelves – thus breaking the limits of rigid architectures that are unable to scale-out or benefit from true shared metadata. K2 Gen6 can scale to multi-petabytes of shared flash storage with data services and data reduction that span globally across all the array's components and management through a single pane of glass.

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K2 GEN6 HIGHLIGHTS:

- 4X capacity
- 2X bandwidth
- 50% more IOPS
- 25% better data reduction

VisionOS KEY FEATURES:

- Shared metadata and data services across both scale-up and –out clusters
- Adaptive block size
- Selective Deduplication
- Flash-friendly

Built-for-Flash, Software Defined Architecture

Kaminario VisionOS, K2's core software architecture and data services framework, enables modular components and services that demonstrate a superior value proposition across a real scale-out storage platform, in innovation, future-readiness and in ease of use.

DataShrink

Deduplication. Deduplication is performed globally with processing distributed across all nodes in a K2 cluster. Unique among all-flash arrays, deduplication can be turned on for VDI and virtualized workloads, and turned off for OLTP and OLAP workloads where deduplication has little or no effect.

Compression. Highly efficient, byte-aligned, always-on inline compression reduces the physical data footprint on the flash media with no performance penalty.

Thin Provisioning. With the K2, thin provisioning combined with the K2's scalable architecture facilitate limitless capacity growth within the array to facilitate predictable storage provisioning and planning.

DataProtect

Native Snapshots and Replication. Achieve point-in-time copies of data both locally and remotely using lightweight redirect-on-write snapshots.

K-RAID™. Triple parity RAID scheme that protects up to 3 SSD failures per SSD shelf

Encryption. Key-less AES256 data-at-rest encryption that makes sure data is protected from theft or misuse.

DataManage

Manage a true scale-out array from a single pane of glass. Use an intuitive and comprehensive GUI, fully scriptable CLI and a programmable RESTful API to achieve agile management.

DataConnect

K2 is integrated and connected to leading management and operations tools such as VMware vSphere, Microsoft VSS, Cisco UCS Director, OpenStack Cinder.

Kaminario Clarity is a cloud-based analytics platform that extends the capability of the Kaminario K2 all- flash storage array. Kaminario Clarity includes a comprehensive set of management and monitoring functionalities, including a unique capability to leverage application- level intelligence, machine learning and big data analytics – all of which enable customers to get more productivity out of their storage environment and deliver higher performance for business-critical applications.

K2 Value Across Use Cases

RDBMS

K2's sub-millisecond latency dramatically increases productivity for databases such as Oracle and SQL Server. OLTP and OLAP workloads can run concurrently without impacting one another to achieve real consolidation.

Virtual Environments

K2's adaptive block size algorithm eliminates the I/O blender effect for virtual workloads. Consolidation of virtual servers and desktops is now possible on a single storage platform that is integrated with hypervisors such as VMware ESXi, Microsoft HyperV and Citrix XenServer.

NoSQL

Non-relational databases such as MongoDB and Cassandra benefit from the economics of shared storage and take advantage of K2's inherent scalability.

Private Cloud

K2 matches the agile nature and the scalability of private cloud platforms such as OpenStack. K2's RESTful API facilitates automating storage processes such as provisioning and capacity quota management.

Containerized Apps

Container platforms such as Docker can utilize the K2 for persistent storage via K2's Flocker plug-in.

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K2 Gen6 All-Flash Array

Scaled Configuration	1 K-Block	2 K-Blocks	3 K-Blocks	4 K-Blocks
Effective Capacity*	70TB - 1PB	140TB - 2PB	210TB - 3PB	280TB - 4PB
IOPS	Up to 420K	Up to 840K	Up to 1.2M	Up to 1.6M
Throughput	Up to 6.2GB/s	Up to 12.4GB/s	Up to 18.6GB/s	Up to 25GB/s
Latency	As low as 160 microseconds			
Media (encrypted)	960GB / 1.92TB / 3.84TB / 7.68 3D TLC NAND SSDs			

VisionOS - Shared Services Across a True Scale-Out Storage Array

DataShrink	Global selective inline deduplication, inline compression, thin provisioning, Zero detect
DataProtect	Native array-based snapshots and replication, key-less AES256 data-at-rest encryption, K-RAID that protects each SSD shelf independently up to 3 SSD failures, no SPoF, NDU and 99.999% of data availability.
DataManage	CLI (SSH), HTTP/HTTPS GUI, Scripting (SSH), RESTful API, SNMP, Syslog
DataConnect	Microsoft VSS, VMware vCenter Plug-in, VMware SRM, VMware LogInsight, Flocker (containers), OpenStack Cinder, Cisco UCS driver

Connectivity, Power and Cooling

Connectivity FC/iSCSI	FC: 8x 16Gbps iSCSI: 4x 25GbE	FC: 16x 16Gbps iSCSI: 8x 25GbE	FC: 24x 16Gbps iSCSI: 12x 25GbE	FC: 32x 16Gbps iSCSI: 16x 25GbE
Management Ports	2x 1GbE			
Power (typical)	0.8KW - 1.4KW	1.8KW - 3KW	2.6kW - 4.4KW	3.4KW - 5.8KW
Cooling (typical)	2.8K - 4.8K BTU/hr	6.2K - 10.2K BTU/hr	9K - 15.1K BTU/hr	11.9K - 19.9K BTU/hr

**Capacity is subject to drive size and 3:1 data reduction ratios. For some datasets such as VDI the range will be higher.*

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.

About Kaminario

Kaminario is making the autonomous datacenter a reality, letting customers stay focused on scaling their business. Kaminario's composable data platform delivers the agility, scalability, performance, and economics that global organizations demand to stay competitive in a cloud-first world.