

kaminario.

Simply Faster

1,500,000 IOPS
16 GBs

100,000 IOPS
1.6 GBs



Kaminario® K2 All Solid-state SAN Storage: Enterprise Performance, High Availability and Data Protection

Fast and reliable data access is critical for today's dynamic business environments. Organizations must access data at rates that match the competitive nature of the business. Slow data access can be as bad as no data access. Both could mean delays in application processing and higher operating costs and, ultimately, lost business.

In the majority of applications, such as batch processing, analytics and large data reporting, performance challenges are the result of storage I/O bottlenecks. These bottlenecks also exist when trying to backup and recover large amounts of data, both locally and remotely.

Solving storage I/O bottlenecks, reducing latency and increasing throughput require changing the way data is accessed, replicated and recovered. In addition, to meet the needs of the most demanding applications, IT managers must dramatically scale the number of I/Os per second and protect the data while not impacting application performance. The Kaminario K2 all solid-state drive (SSD) SAN storage solutions are designed to meet these challenges.

Freedom of Choice

The Kaminario K2 is the first enterprise storage system to allow customers the freedom to choose the right SSD media type — DRAM, Flash, or both — for their specific application performance requirements, workload and budget. Now customers can choose the right SSD technology to deliver specific performance levels for each set of application data. Kaminario K2 high performance SSD SAN storage eliminates I/O bottlenecks, reduces latency, and increases throughput to accelerate critical business applications at a lower cost and footprint than legacy SAN storage.

Revolutionizing SSD Storage with DataProtect™

Kaminario K2 achieves its extreme performance and reliability through its unique Scale-out Performance Storage Architecture™ (SPEAR) that has been designed specifically for SSDs. SPEAR is a clustered SAN architecture for maximum SSD storage performance, high availability, and data protection, as well as easy storage management and performance monitoring. The SPEAR Storage Operating System includes Kaminario's DataProtect technology that provides end-to-end high availability and data protection to SSD storage while delivering extreme performance.

K2 All Solid-state SAN Storage Solutions Are:

Fast

Consistent, blazingly fast performance is achieved by the unique Kaminario SPEAR design, which automatically distributes and manages the data over Flash and DRAM SSDs. The K2 has been purpose-built to maximize SSD storage performance and scalability. Kaminario all solid-state SAN storage solutions are designed to easily scale in performance and capacity to meet the most demanding business needs and budgets today and in the future.

Kaminario K2 Capabilities:

- Scale-out Performance Storage Architecture™ (SPEAR)
 - Modular, scalable cluster design
 - Open, blade-based enterprise components
 - All solid-state SAN (Flash and DRAM)
- Supports virtualization and cloud storage environments
- Consistent Fast Performance
 - Low latency
 - High throughput
 - Scalable
- DataProtect™
 - Self-healing high availability
 - Fast, high volume data protection
- Fast and Easy Deployment and Automated Management
- Cost-effective — Lower cost and footprint than legacy SAN storage

Results:

Data Mining/Warehousing
SQL Server® Cluster Queries —
2x faster

Brokerage Reporting
Oracle® DBMS — 7x faster

Private Banking
Batch Processing — 11x faster

Email Marketing
SQL Server® Clusters Reports —
11x faster

Electric Utilities
SAP® Batch Processing — 10x faster

Manufacturing
Oracle® RAC ERP — 18x faster

Business Intelligence
SAS® Supply Chain Intelligence —
2x faster

Safe

Kaminario's revolutionary innovation, DataProtect, delivers self-healing high availability and full data protection to SSD shared-storage environments without compromising on performance or scalability. DataProtect, a critical storage services layer within SPEAR, manages the K2's N+1 system redundancy, automatic failover and non-disruptive operation. DataProtect also manages the K2's fast and high-volume data protection capabilities for backup and disaster recovery with its unique RAID 10HD (Hybrid Distributed), Snapshots and Asynchronous Replication.

Easy

Implementing Kaminario K2 takes less than a day. Once deployed, it requires no tuning whatsoever and delivers consistent performance regardless of workload — random or sequential. It supports any application and database with no data remodeling or changes.

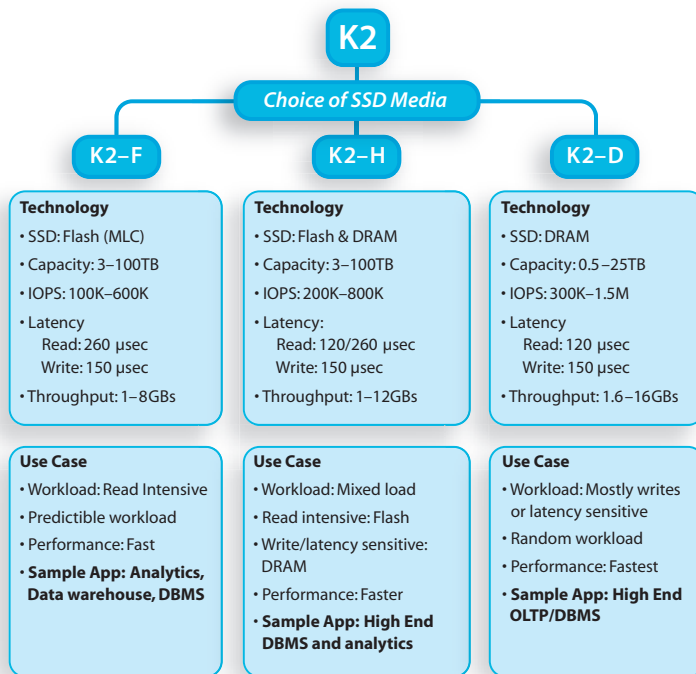
Low-cost and Efficient

The Kaminario K2 also has a lower cost and footprint than legacy SAN storage. It is compatible with "green" initiatives by enabling IT managers to consolidate storage from multiple systems to a single high performance, efficient, and scalable Kaminario K2 that also conserves on space and power.

Kaminario K2 Family

The Kaminario K2 comes in three models: the K2-F (Flash only), the K2-H (DRAM and Flash), and the K2-D (DRAM only). K2 models come standard with Kaminario's DataProtect high availability and data protection. Features of each model are described below.

Kaminario K2 Models – Specifications and Application Use Cases



Fast

- Eliminates I/O bottlenecks
- Millions of IOPS with ultra-low latency
- Dramatic application performance improvement
- Consistent performance under any workload and over time

Safe

- DataProtect enterprise-class reliability for SSDs
- Automated, self-healing high availability and fast data protection
- Non-disruptive operation: no single point of failure, hot-swap components
- RAID 10HD mirroring and striping across all SSDs
- Fast, high volume snapshots and asynchronous replication
- Maintains end-to-end data integrity

Easy

- Open blade-based standard enterprise components
- Standard block device
- Fully transparent — no change to applications or data
- Automated self-healing management
- Fast deployment; automated data distribution
- No need for performance tuning
- No performance degradation over time
- Scale performance and capacity

For more information on the Kaminario K2, go to: <http://www.kaminario.com/products/K2-Solid-State-SAN-Storage/>.

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Features

Primary Data Media Choices	DDR3 SDRAM (8 GB or 16 GB) Flash (MLC)
Data Protection Media Choices	HDD or Flash SSD
Connectivity	2, 4 & 8 Gb/sec Fibre Channel
Fibre Channel Ports	At least 16

Physical Specifications

Rack	42U rack
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Power	K2-F	K2-H	K2-D
Power Consumption*	1.5Kwatt (typical)	1.75Kwatt (typical)	1.75Kwatt (typical)
Power Source	Two Single Phase 32 A 208/220/230 or 240 V outlets		
Power Protection	Redundant UPS in all Kaminario K2 models		

*Actual power consumption will be dependent on the individual configuration.