

# Kaminario K2 Effective Storage Capacity Guarantee

## EFFECTIVE AND PREDICTABLE

K2 K-RAID, inline compression, and deduplication.

The K2 Capacity Guarantee **limits customer cost exposure** to capacity inflation.

Kaminario will add equipment at no charge to meet predicted effective capacity.

## KAMINARIO CONFIDENCE

Effective Capacity Guarantee

480GB Shelf: 25TB

960GB Shelf: 50TB

1.92TB Shelf: 100TB

K2's global inline selective deduplication can reduce storage capacity requirements for virtual servers by as much as 95%.

**Kaminario is the only all-flash storage vendor that offers a hard guarantee of Effective Storage Capacity. We remove the guesswork and anxiety from storage sizing to limit capital expense, assure simplicity, smooth deployment and deliver predictable operation.**

Kaminario's Effective Capacity Guarantee removes uncertainty from capital expenditures and storage capacity planning. It means cost-efficient assurance to expand a customer's system at Kaminario's expense to achieve promised effective capacity.\* And if data reduction on a system works better than predicted, customers will enjoy the benefits of additional data storage at no additional cost.

K2's ultra-efficient storage architecture and superior data reduction technologies enable the Effective Capacity Guarantee. The system delivers high capacity with no compromise to enterprise resiliency and high performance. The Kaminario K2 storage array requires no special capacity management or tuning. Patented K-RAID™ achieves high capacity utilization of 87.5% automatically. Combined with thin provisioning, included deduplication and compression technologies maximize K2 data reduction. As a result, Kaminario drives down all-flash storage costs and drives up customer value.

## **Advanced Storage Efficiency Technologies**

### **Global Selective Inline Deduplication**

Highly efficient K2 deduplication eliminates redundant data and ensures optimal deduplication ratios that maximize application performance at consistently low latency. Applied globally across all nodes, it uses a hash and compare dedupe algorithm. K2's unique selective deduplication feature provides users the ability to turn it on/off at the volume level. Superior K2 deduplication is performed at 4KB granularity with adaptive block size that lowers CPU and metadata overhead.

### **Global Inline Data Compression**

Highly efficient byte-aligned inline compression reduces the physical data footprint and optimizes flash media for low-latency performance. K2 uses standard LZ4 compression at 4KB granularity. The real-time compression is always on, with no penalty for read or write operations. And since it is byte-aligned, it prevents internal fragmentation and facilitates better compression ratios.

### **Efficient Snapshots**

K2's patented, native writeable, thin provisioned snapshots deliver concurrent storage efficiency, performance, and scalability. The impact is an achievement of high capacity savings compared to full clones. With no impact on production data access, snapshots are ideal for creating additional data sets for backup, archiving or testing.

### **Thin Provisioning**

K2 thin provisioning facilitates long-term capacity planning. All K2 base volumes, snapshots, and replicas are thin provisioned to maximize storage utilization and reduce required capacity at initial purchase.

## Use Cases

Deduplication is effective for applications such as VDI where both OS and applications are largely identical for all users. In these cases, data reduction ratios can be as high as 20:1. Since OLTP or OLAP databases have low data redundancy, deduplication is typically not effective and the K2 dedup can be turned off.

K2 compression is active for all applications as a “de facto” data reduction technology even for transactional databases, achieving data reduction rates of up to 5:1. Compression also reduces overall IT expenses by decreasing database software licensing costs by requiring a smaller number of CPUs. In mixed workload environments where workloads such as OLTP, OLAP, and VDI may run on the same array, typical data reduction ratios reach 6:1.

Consider a typical customer scenario where 15TB of net physical storage on K2 yields 45TB of guaranteed effective capacity at the 3:1 data reduction ratio. Unlike other all-flash storage vendors that may promise higher data reduction ratios but do not guarantee the effective capacity, Kaminario offers a hard guarantee and stands behind it.

\*As part of the Capacity Guarantee program, Kaminario guarantees effective capacity. Kaminario does not guarantee specific data reduction ratios will be achieved. While using the K2, customer applications must be deployed to enable mutually optimal data placement for the K2 data reduction capabilities and customer needs. Specifically, the guaranteed effective capacity clause will not be applicable for data sets that cannot be deduped or are either pre-compressed or encrypted. If K2 does not meet the guaranteed effective capacity, Kaminario shall provide the guaranteed capacity to the customer, at no additional cost. Kaminario reserves the sole right to select the most cost-effective, common-sense way to provide this guaranteed capacity. Receiving the guaranteed capacity is the only compensation the customer shall receive in this case.



## 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, the leading all-flash storage company, is redefining the future of modern data centers. Its unique solution enables organizations to succeed in today's on-demand world and prepares them to seamlessly handle tomorrow's innovations. Only Kaminario K2 delivers the agility, scalability, performance and economics a data center requires to deal with today's cloud-first, dynamic world and provide real-time data access -- anywhere, anytime. Hundreds of customers rely on the Kaminario K2 all-flash array to power their mission critical applications and safeguard their digital ecosystem. Headquartered in Needham, MA, Kaminario works with an extensive network of resellers and distributors, globally.

For more information, visit [www.kaminario.com](http://www.kaminario.com)

Kaminario, the Kaminario logo and SPEAR are registered trademarks of Kaminario Inc. K-RAID, Perpetual Array and HealthShield are trademarks of Kaminario, Inc. Product specifications and performance are subject to change without notice.