

K2 All-Flash Storage for Oracle RAC Database 12c



Oracle Benchmark Results:

OLTP Workload

- 40,000-44,000 IOPS
- 370-430 MB/s throughput
- Latency at 0.35ms

OLAP ETL Insert Rows

- 2.5 million rows inserted per second
- Peak 800 MB/s throughput
- Sub 1ms latency

OLAP Validation Scan

- Peak 2.7 GB/s throughput
- Sub 1ms latency

K2 vs. Oracle Compression

- Native K2 compression saves 63% of physical capacity, far better than Oracle OLTP compression

The Kaminario K2 all-flash array enables customers to deploy Oracle RAC Database 12c on the industry's most cost-efficient storage infrastructure with unparalleled scalability and performance.

The K2 delivers consistent high performance and low latency, huge capacity savings on shared storage due to inline data-reduction features and the ability to scale-out and scale-up to match Oracle Databases 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.

K2 Benefits for Oracle Databases:

- **Lowest Costs** - Deployment and operating costs can be two-thirds that of legacy or hybrid storage arrays – averaging less than \$1 per effective GB after compression.
- **Consistent Low Latency and High Throughput/IOPS** - Keeps Oracle databases highly responsive even under peak demands and mixed OLTP and OLAP workloads.
- **No Single Point of Failure** - Fully Active/Active design and scalable fault domains ensure high availability and no downtime.
- **Simple Management** - No disk groups to plan or manage, no manual tuning or monitoring, all managed via a single web browser-based GUI.
- **High-Efficiency RAID** - K-RAID™ is highly efficient and robust with 87.5% utilization and up to two SSD failures per SSD shelf with no loss of performance.
- **Non-Disruptive Operations** - Upgrades, expansions* and maintenance can be done online with no downtime and no loss of performance.
- **K2 Native Data Compression** - Free database server CPU
- **K2 Native Data Services** - Snapshots and replication that eliminate the need for dedicated Oracle licenses



Environment Configuration:

K2 Configuration

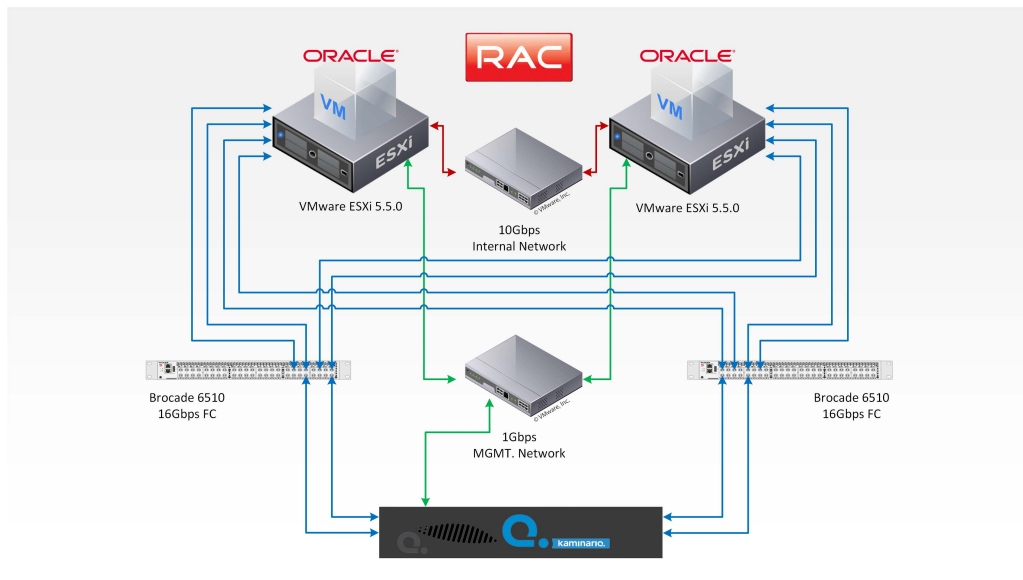
- Single K-Block
- Out-of-box settings

Server Hardware

- Two (2) Servers
- 12 X Intel® Xeon® E5-2640 CPUs
- 256GB Memory
- Four (4) FC ports
- VMware vSphere ESXi 5.5

Server Software

- Two (2) Virtual Machines
- Oracle Database 12c (12.1.0.2)
- Oracle ASM for Grid Infrastructure and Database



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.

K2 System Specifications Summary

	1 K-Block	2 K-Blocks	3 K-Blocks	4 K-Blocks
Footprint K-Blocks	4U-8U	10U-18U	14U-26U	18U-34U
Usable Capacity*	7TB-360+TB	14TB-720+TB	21TB-1.08+PB	28TB-1.44+PB
IOPS	Up to 250K	Up to 500K	Up to 750K	Up to 1M
Bandwidth	Up to 3.2GB/s	Up to 6.4GB/s	Up to 9.6GB/s	Up to 12.8GB/s
Latency	0.35ms			
Connectivity FC/iSCSI	FC: 4x 8Gbps iSCSI: 4x 10GbE	FC: 8x 8Gbps iSCSI: 8x 10GbE	FC: 12x 8Gbps iSCSI: 12x 10GbE	FC: 16x 8Gbps iSCSI: 16x 10GbE

*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.