



Solve application performance challenges through a simple plug and play experience with the 3000 series all flash Memory Array

Simply Powerful

- Performance and Capacity in a 3U form factor
- Modular / Flexible
- Plug and Play for ease of deployment
- vRAID support for high reliability

Highlights

- Up to 20TB flash per system
- Lower \$/GB and \$/IOPS
- Up to 325K IOPS
- Hot Swap for high availability

Applications

- Targeted application acceleration
- Cost sensitive performance workloads
- Latency sensitive application environments

Applications are often limited by the performance offered by the underlying legacy spinning disk infrastructure. This leads to many 'unnatural' acts performed by the IT staff such as adding large, expensive but limited capacity flash cards to servers, or a myriad of spinning disk shelves or flash drives etc., but more often than not, this result in more expense and the problem still awaiting a solution. The 3000 series was designed to provide a simple but powerful all flash storage solution that addresses the capacity and economic needs unattainable by legacy spinning disk based infrastructure.

The arrays are ideally suited to high IOPS storage, virtual machine storage, large data set analytics, and performance cloud storage. Using the integrated Violin Memory hardware flash vRAID, it delivers dramatically better performance at a significantly lower total cost than traditional disk arrays.

Application Acceleration

The 3000 Series arrays can be directly attached to a server to accelerate the application they serve. There is a network based option also available through a gateway server for shared storage capability.

Violin's all flash Memory Arrays deliver spike-free low latency and balanced read/write performance. Violin's flash-optimized vRAID stripes data across multiple Violin Intelligent Memory Modules (VIMM) for parallel access and reduces latency with non-blocking erases.

VIMMs are hot-swappable and the system is configured with spare VIMMs to allow for fail-in-place.

Flexibility To Address Varied Deployments

With an SLC, single layer cell and MLC, multi-layer cell, offering available as part of the 3000 series, there are many options available to address the workloads demands of the applications being serviced. The models provide different options to address the economic, performance and capacity needs for full deployment flexibility.

Reliability and Availability

Support for vRAID, Violin's patented RAID technology and the ability to hot swap the memory modules, in addition to the spare modules to withstand failures, the 3000 series provide the uptime and protection demanded by mainstream IT environments.

3000 Series Flash Memory Arrays

Flexible Network Connectivity

The Violin 3000 Series architecture is designed for low latency and the flexibility to seamlessly connect to you existing network. Memory Arrays can be directly attached via low-latency PCI-Express (PCIe) or network attached with Fiber Channel or Ethernet interfaces. Network connectivity is provided through a gateway server that include provisioning and management functions. Connectivity options are as follow

- **PCIe** – Provides the lowest latency and highest bandwidth using either x4 or x8 in a direct attached configuration. No Single Point of Failure.
- **Fiber Channel (FC)** – For FC SAN attach, gateway servers connect to the network using either 4 or 8 Gb links. The FC ports can be connected to two switches for redundancy. Active-active vRAID controllers.
- **Gigabit Ethernet (GbE)** – For iSCSI or FCoE, supports up to four 10GbE ports via the gateway servers.

Specifications

Series	3000				
Model	Violin Memory 3120	Violin Memory 3202	Violin Memory 3205	Violin Memory 3210	Violin Memory 3220
Flash Type	MLC		SLC		
Raw Capacity (GiB/GB)	21.5TB/23TB	2.6TB/2.8TB	5.3TB/5.7TB	10.7TB/11.5TB	21.5TB/23TB
Maximum Sustained 4KB IOPS	200,000	225,000	300,000	300,000	325,000
Nominal Latency	Under 500 µsec	Under 250 µsec	Under 250 µsec	Under 250 µsec	Under 250 µsec
System Bandwidth	800MB/s	900MB/s	1200MB/s	1200MB/s	1300MB/s
VIMM Count (Data + Hot Spare)	40+2	20+1	40+2	40+2	80+4
Reliability / Resiliency	System Level Hardware Based vRAID VIMM level Hot-Swap Redundant power supply and fans Active/Active external memory gateways				
Connectivity Options	1x PCIe Gen1 x8, or 2x PCIe Gen1 x4 With external memory gateways: 8x 8/4Gb/s Fibre Channel 8x 10GbE iSCSI				
Enclosure Dimensions Height: Width: Depth: Cable Management: Maximum Weight:	3RU 16.9" / 430mm 28.4" / 721mm 7" / 178mm 76lbs / 34.5kg				
Enclosure Power	800W	600W	800W	800W	1400W
Enclosure Cooling	3860 BTU/hr	3860 BTU/hr	3860 BTU/hr	3860 BTU/hr	3860 BTU/hr
Memory Gateway Dimensions Height: Width: Depth: Maximum Weight:	2RU 17.2" / 437mm 25.5" / 648mm 50lbs / 22.7kg				
Memory Gateway Power	500W				
Client OS Support	PCIe: RHEL, SLES, Windows - With external memory gateways: RHEL, SLES, Windows, VMware, Hyper-V, Citrix, AIX, Solaris SPARC, Solaris x64, HPUX				
VMware Integration	VAAI, vCenter Plug-In				
Management	CLI: Serial, Telnet, SSH / SNMP / Web GUI / REST XML API / iPad App				
Flash Endurance	Covered Under 3 Year Warranty or Maintenance Contract, whichever is Greater				
Environmentals	Inlet Temp: 0°C to 35°C Humidity: 5-95% (non condensing) Altitude: 10,000 feet (Derate temperature)				
Regulatory	Safety: IEC/EN 60950, CB Certificate, UL60950-1 CAN/CSA-C22.2 No.60950-1, CE Mark - Emissions Class A: EN55022/CISPR 22, FCC Part 15 Class A, ICES-003 Issue 4 Class A, VCCI Class A, AS/NZS CISPR22:2006 Class A, BSMI CNS 13438 Class A, Korea RRA Notice No. 2011-18 Class A - Immunity: EN55024, EN 61000-4-2,3,4,5,6,8,11, Korea RRA Notice No. 2011-17				



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