



Violin Extreme Performance Storage with Concerto OS 7 Enterprise Data Services

Transform your data center with purpose built all-flash arrays and benefit from consistent high performance, with low latency, and reduced costs across all applications.

The Violin® Flash Storage Platform™ (FSP) family, powered by Concerto™ OS 7, delivers a rich suite of integrated Enterprise Data Services for a comprehensive solution that can transform your data center with the performance and capabilities your business requires. Consisting of solutions designed for extreme performance and density, maximum data efficiency, mixed workload environments and data availability, the FSP family can transform the data center. The FSP family comes with embedded Enterprise Data Services including business continuity, data protection, data scalability, and data efficiency. Violin's Enterprise Data Services can deliver several benefits:

Highlights

Performance

- **Consistent low 200µs latency** at sustained 1M IOPS sets storage performance standard
- **Sustained high 2M IOPS** at consistent 1ms latency sets storage performance standard

Reliability, Availability, Serviceability

- Flexible near-zero RPO and RTO
- Remote Asynchronous Replication
- Stretch Cluster
- Application & Crash Consistent Snapshots
- Thin Provisioning

Storage Efficiency

- Granular Inline Block Dedupe & Compression
- Thin or Thick Clones

Manageability

- Operate as stand-alone array or as a shelf in FSP 7700
- Simplicity @Scale with Violin Symphony

- Data reduction including switchable inline data deduplication and compression
- Flexible and powerful business continuity with asynchronous replication
- Clones and mirroring protect valuable enterprise data
- Data scaling is simple with Scale Smart™
- Configuration choice as a stand-alone storage array, or as a shelf in the FSP 7700
- Performance that is transformative with capabilities built for demanding enterprise environments enabling high levels of data center consolidation

Flash Fabric Architecture™

SSDs, which are based upon legacy HDD technology, are inherently limited in their ability to deliver performance. That is why Violin created a comprehensive, highly integrated design from the flash chips, across the fabric backplane and into the controller firmware to deliver what traditional architectures cannot.

Simple Setup and Management

Some storage products can take four hours or more to configure. With Violin Simple Setup the entire process can be completed in under 30 minutes with actual administrator time being as little as 45 seconds. Provisioning the FSP can then be done through Symphony™, Violin's Management Console. Symphony is a 'single pane of glass' view into your Violin infrastructure. It provides a single portal for managing petabytes of flash-based storage across all Violin FSPs and All Flash Arrays in your data center.

The benefits of the FSP family includes lower TCO, improved application support, reduced management, and consistent end-user SLAs. CFOs will like the FSP for its reduced TCO. CIOs will like it as it frees resources to create new business value. Storage admins will like it as it simplifies data center management. The leader for the all-flash data center is Violin Systems®.

Scale Smart

The Pay-As-You-Grow program allows data centers to start with as little as 8 TB and provides scalability instantaneous, non-disruptive scalability options that can deliver more than 2 PB in effective storage. The FSP 7700 supports scaling of both capacity and performance.

Features	CP SERIES 7450	XP SERIES 7650	SP SERIES 7700
Performance			
Max IOPS:	270,000 – 340,000 @ ~1 ms latency	2M IOPS at 1ms latency 1.7M IOPS at 500µs latency 1M IOPS at 300µs latency	2,000,000 @ ~1 ms latency
Max Bandwidth:	4.4 GB/sec	8 GB/sec	10 GB/sec
Latency (min):	200µs	150µs	0.180 ms
Max. Sustained Performance (70/30 R/W)	250,000 IOPS @ 1 ms latency	2,000,000 IOPS @ 1 ms latency	2,000,000 IOPS @ 1 ms latency
Capacity			
Raw Capacity	26 TB – 140 TB	70 TB – 140 TB	8.8 – 1.4 PB
Maximum Usable Capacity	14.7 – 512 TB	44.3 – 88.7 TB	4.9 – 886.6 TB
Effective Capacity after data reduction*	96 TB – 219.1 TB	NA	24.6 TB – 2.2 PB
Dimensions			
Height:	3		9 – 36 RU
Width:	28" / 711 mm		
Depth:	17.5" / 445 mm		
Weight:	80 lb. / 36.3 kg - 93 lb. / 42.2 kg		93.5 lbs / 42.4 kg
Power*	1100 W- 1800 W	1614 W	550 W (1 head)
Cooling	3780 BTU/hr - 6140 BTU/hr	5507 BTU/hr	3210 BTU/hr
Environment			
Operating Temperature Range:	10 to 35° C (50° to 95° F)		
Non-Operating Temperature Range:	-40 to 70° C (-40° to 158° F)		
Humidity Range:	8 to 90% (non-condensing)		
Non-Operating Humidity Range:	5 to 95% (non-condensing)		
Ecosystem			
Management	Violin Symphony, CLI: serial, SSH-SNMP, Web GUI, REST XML API		
Supported OS software	Concerto OS 7		
Reliability/Resiliency	Supports Non-Disruptive Updates of FW and SW, No Single Point of Failure		
Management Interfaces	2x 10/100/1000 Mbits/sec auto-sensing Ethernet ports (RJ-45) Serial (RS-232) console port for management and troubleshooting		
Connectivity	8x16 Gb Fibre Channel or 8x10 GbE iSCSI and 2x40 GbE (replication only)		
Certification/Ecosystem Integration	VMware VAAI, VADP, SRM, Horizon View Proven Storage, VCenter and VASA Plugin, Backup Software Integration, Automated DR Management, Snapshot Director for VM Consistent backup and DR, RedHat certified Openstack support, Splunk, etc.		

* 4K, 100% Read, with 6:1 data reduction. ** Typical power measurements for Fibre Channel configuration

To learn more about how Violin's Flash Storage Platform can transform your primary storage and data center economics, please contact your Violin System's representative, Violin Channel Partner or visit us at <http://www.violinsystems.com>