



HIGHLIGHTS

- **Business Continuity**
 - Quality of Service
 - Synchronous replication
 - Automated App DR management
 - Synchronous mirroring
- **Data Protection**
 - Snapshots (crash consistent)
 - Consistency Groups
 - Transparent LUN mirroring
 - Encryption at Rest
- **Data Scaling**
 - Hot swappable SSDs
 - Online expansion of capacity
- **Data Efficiency**
 - Selective deduplication
 - Thin Provisioning
 - Thin Clones
 - Performance metrics and capacity utilization at a glance

XIO ISE™ & OptimISE™

Violin XIO High Performance Storage OS & Management

Enterprise Data Services with High Performance and Management Simplicity

Delivering on enterprise business expectations has historically been difficult due to cost and technical limitations. The Violin XIO ISE™ OS and OptimISE™, which we reference as ISE, delivers the enterprise data services including data reduction capabilities required by enterprise primary storage. ISE enables organizations to overcome primary storage challenges and run their applications with persistent and consistent high performance, so they can achieve increased consolidation ratios, higher availability, and lower TCO than other SSD-based solutions.

DATA CENTER ECONOMICS

The Violin extreme performance storage platforms provide the foundation for a significant data center consolidation by reducing the I/O wait times that applications endure. This reduces CAPEX due to a streamlined data center that achieves cost savings from all layers of IT infrastructure: storage, servers, application and server OS software licenses.

ISE supports I/O intensive workloads while taking advantage of the efficiencies afforded through our inline deduplication. Violin's implementation is granular, so data reduction can be turned on at the LUN level and off when there is no benefit. A dashboard in OptimISE browser-based interface illustrates the data reduction ratios that are achieved. With this knowledge you can seek out similar applications to test with data reduction. When the dashboard shows it is effective, you will know your savings; if it is not effective you can easily turn it off and re-hydrate.

ENTERPRISE DATA SERVICES

Data Services are paramount for an enterprise-class storage. Resiliency, availability, flexibility, security and efficiency are table-stakes especially when data must be available to applications at all times, even during failure. In addition, functions of replication, encryption, data reduction and more are required.

At the core of Violin's XIO G4 architecture is 'Consistent Performance' enveloped and supported by data services. Powered by Violin Data Protection, Data reduction and advanced engines, ISE ensures low latency, high IOPS in a low-cost storage solution, making Violin the right choice for primary storage. Violin offers extreme performance storage solutions designed from scratch, to deliver the best performance, storage efficiency, data redundancy and value. It is the first all flash storage solution that can store data at the same effective cost as enterprise disk arrays while providing the performance to be primary storage of choice.

XIO ISE™ & OptimISE™ OS

XIO ISE™ & OptimISE™ OS use Secure Sockets Layer (SSL) and Transport Layer Security (TLS) cryptographic protocols with AES-128 (128-bit key), AES-256 (256-bit key), and RC-4 (128-bit key) algorithms to encrypt the data network connections between the host computer and the Storage Platforms. Secure Shell (SSH) protocol encrypts all traffic between the host computers and the Storage Platforms using AES-128 (128-bit key) and RC-4 (128-bit key) algorithms.

XIO ISE™ & OptimISE™ Operating Systems ensure reliable data-at-rest encryption of your private information stored inside Violin’s Storage Platform based on an innovative software architecture using AES-XTS 256-bit algorithm. The software can be downloaded, installed and used by a user without any support of the manufacturer (supplier), and the cryptographic features cannot be modified by the user.

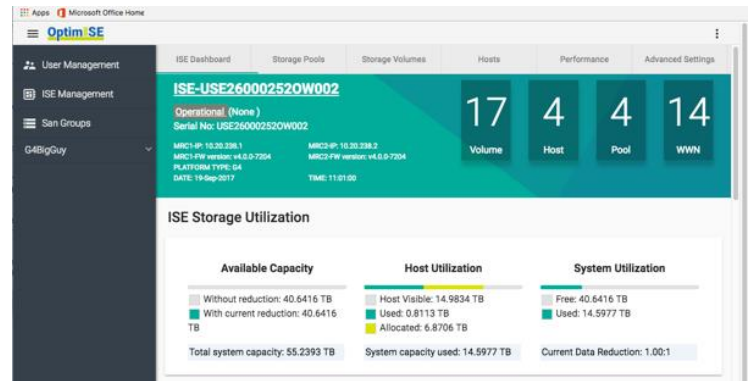
SIMPLE & POWERFUL MANAGEMENT @ ANYSCALE

- Manage multiple systems from a single interface
- No client installs required
- Optional VM deployment for Cloud or consolidated workstation
- Simple Storage Provisioning



IN-DEPTH ANALYTICS

- Customizable widget-based layout
- Performance metrics
- Capacity Utilization
- System Health



VIOLIN XIO G4 SOFTWARE ARCHITECTURE

The ISE software architecture was designed to work with mixed media, future-proofing for the rapid evolution of SSD flash media, Storage Class Memory, Persistent Memory and DRAM. Other 3rd party flash arrays require heavy compute resources and extensive storage hardware to run, unlike OptimISE that provides advanced deduplication without requiring expensive resource and delivers consistency in performance, continuity and data protection so you can fully depend on this storage platform to run your business.

