Solution Brief

Data Efficiency with Violin's 7300 Flash Storage Platform

Highlights

Application Consistent Snaps

- Up to 1000 application consistent snapshot copies at the LUN, LUN group, or Consistency Group level
- Snapshot use cases: data protection, analysis and reporting, replication
- Scheduled, automated snapshots are orchestrated by Violin Memory's Symphony management console

Intelligent Thin Provisioning

- "Just in time" allocation vs manual "just in case"
- Eliminates nearly all allocated-but-unused capacity
- Utilization efficiency can be automatically driven up towards 100%
- Matches storage capacity more closely to actual business need

Granular Deduplication and Compression

- Block-level deduplication, tunable to LUNS, LUN Group, Arrays, Array Groups
- Drive storage efficiency by 6:1 for certain workloads

Violin's 7300 Flash Storage Platform combines comprehensive data efficiency services, including user-selectable, block-level inline deduplication and compression with high performance and high resiliency in an all-flash solution for primary storage at about the same cost as legacy hard disk arrays.

The Challenge

The amount of stored data is expected to double in the next 18 months. End user expectations for performance and availability are rising even faster while IT budgets track revenue growth, at best.

The demands on IT infrastructure for end-to-end performance, scalability, efficiency and data protection have never been higher. How to deliver against these requirements while wringing every last I/O out of existing IT resources and budget? That is the question that keeps IT professionals up at night.

The Solution

The 7300 Flash Storage Platform from Violin Memory delivers the performance of an all-flash solution and high levels of data efficiency by deploying the latest thin provisioning, inline, block-level deduplication and compression technologies as well as application consistent snapshots for offline and near-line workloads to save space, reduce server sprawl and minimize management overhead. The unified code base supporting the 7300 Flash Storage Platform is Violin's Concerto OS 7 operating system.

OS 7 drives a flash fabric engine to deliver optimized performance and resiliency by accessing raw flash via a dual everything hardware architecture. A data protection engine and data efficiency engine are also integrated directly into the operating system to provide a single code base running on a single platform managed through a single pane of glass, a simple solution for a wide range of primary storage needs.

The 7300 Flash Storage Platform provides up to 1000 application consistent snapshot copies at the LUN, LUN Group, or Consistency Group level. The 7300 Flash Storage Platform snapshots are space-optimized with copy-on-write technology that leverages the characteristics of flash to provide access to data for backup, reporting and analytics applications.

7300 Flash Storage Platform application consistent snapshots can be instantly created at the speed of flash even while the applications are running.

Typical snapshot use cases include data protection, analysis and reporting, and replication. The original copy of the data continues to be available to the applications without interruption, while the snapshot copy is accessed to perform other functions.

The management, scheduling and automation of snapshots are orchestrated by Violin Memory's management console, Symphony, a simple, smart, single pane web interface to manage data deduplication, snapshots, and provisioning, including a scheduler that fully automates the lifecycle management of 7300 Flash Storage Platform snapshots.

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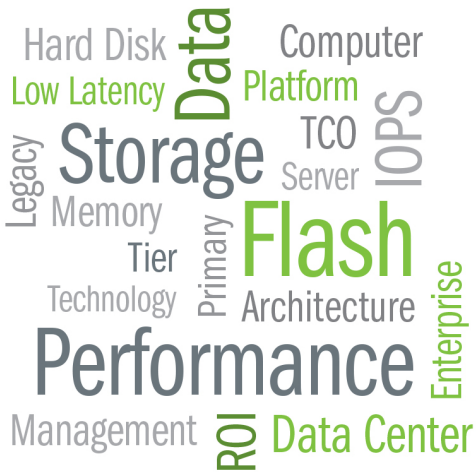

Thin provisioning on the 7300 Flash Storage Platform eliminates nearly all allocated-but-unused capacity, avoiding the poor utilization rates that occur in the traditional storage allocation method where large pools of storage capacity are allocated to individual servers, users or applications, "just in case" the space is needed.

With thin provisioning, the 7300 Flash Storage Platform's storage capacity utilization efficiency can be automatically driven up towards 100% with very little administrative overhead. Organizations can purchase less storage capacity up front, and purchase additional storage capacity upgrades when driven by actual business need, thus reducing capital expenditures and operating costs (power, cooling and floor space) associated with manually allocated, chronically underused, "just-in-case" capacity allocations.

Thin provisioning is integrated into the 7300 Flash Storage Platform and provides reports and the ability to set threshold alarms at the LUN, LUN Group, Array and Array Group levels to manage data growth, capacity planning and usage accounting.

In an ideal world thin provisioning drives storage utilization toward – but not over - 100%, or oversubscription. Through the Symphony management interface, administrators can set alarm levels to prevent oversubscription. The 7300 Flash Storage Platform's scale up capabilities allow for the expansion of capacity dynamically, on-the-fly.

The 7300 Flash Storage Platform offers the benefits of inline block level deduplication and compression. Workloads that typically benefit from deduplication and compression like Virtual Desktop or Virtual Server Infrastructures, VDI and VSI, can see data reductions as high as 6:1.

The 7300 also offers the option under the Symphony Management console to fine tune these powerful efficiency tools for specific workloads. Not every workload benefits from deduplication and compression. Workloads like databases or anything requiring encrypted data will suffer a performance hit if deduplication is attempted.

Scalability enables expansion of existing data storage resources to increase ROI. Scaling up, being able to add shelves to an existing configuration, name space expansion, allows applications to grow with the business.

The Result

Violin 7300 Flash Storage Platform combines advanced data services with high performance storage, high resiliency all-flash storage solutions that delivers up to 20x better customer experience at the cost of legacy disk drive-based computing. 7300 Flash Storage Platform provides sophisticated and comprehensive business continuance, efficiency, safety, and scalability for the 21st Century data center.

Violin's 7300 Flash Storage Platform capabilities are easily configured, monitored and tuned via Symphony, a single pane browser-based interface capable of controlling petabytes of flash storage across hundreds of Violin Memory Flash Storage Platforms at a granular level. Symphony revolutionizes the storage management experience with granular, real-time, SLA-based data protection management, data efficiency reporting, health monitoring, and customizable dashboards, all under centralized management and administration.

Symphony enables one click monitoring and management of Violin Memory Flash Storage Platforms, even if they are geographically distributed across the data center, across town or across an ocean through a unified web-based user interface. For more information go to www.violin-memory.com

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