

Pillar Axiom 600 Storage System

The Application-Aware Storage Advantage



Pillar Data Systems is the first vendor in the storage industry to provide an Application-Aware storage™ system. With the Pillar Axiom, performance is dynamically adjusted for those applications which require it, and your storage utilization is greatly increased due to the ability to more reliably predict performance. The Axiom 600 is an ideal storage platform for virtual infrastructure projects, IT data center consolidation projects, Oracle deployments, and bringing applications online with the highest levels of performance without tradeoffs for capacity utilization.

The Axiom 600 represents a two-fold increase in the Axiom platform's ability to consolidate applications onto a single storage platform. Its ability to dynamically provision data and applications means that you can consolidate your storage on a single system – while maintaining the performance levels that your business needs.

- Differentiated storage services based on application priority
- Highest utilization rates in the storage industry
- Dynamic storage resource reassignment based on business need

Through driving utilization rates as high as possible, Pillar delivers more performance and storage capacity per Watt of system power than other “green” storage vendors. In fact, Pillar Data Systems helped define how efficiency in storage systems is measured: the Efficiency Quotient (EQ). For more on EQ, see www.pillardata.com/green/.

The result is more storage for less cost. The Pillar Axiom 600 application-aware storage system drives down acquisition and operating costs by allowing you to simplify, utilize, and scale.

Simplify Management. With key technology innovations and the industry's most intuitive storage management user interface, the Axiom can be deployed, provisioned, managed, and maintained by less experienced technology generalists and without special training. No other storage vendor has eliminated the complexity of provisioning tiered storage with varying service levels in a single, integrated system.

Utilize Capacity. Pillar has always provided one of the most flexible storage systems in the industry, allowing you to combine SAN, iSCSI, NAS and WORM technologies in a single platform with a common storage pool using FC and/or SATA drives. Pillar's storage utilization rates are often as high as 80%, almost twice that of the industry average.

Scale Flexibly and Easily. Companies grow and data centers change, with massive data growth, new applications, and operational refinements. The storage systems supporting these environments must be able to keep pace while maintaining continuous data availability. Axiom's modular architecture enables the flexibility to change connectivity, increase capacity, and improve performance by purchasing only the components necessary to accomplish your objective – all without disruption or difficult migrations.

Pillar in the Oracle Data Center

Oracle databases running Automatic Storage Manager (ASM) together with Axiom storage deliver high performance while providing an easy management environment. This is because the Pillar Axiom writes in 1MB stripes, the largest in the industry. The 1MB stripe profile allows the Axiom to perform optimally with Oracle's Automatic Storage Manager, which also writes in 1MB stripes. This is particularly important for I/O intensive Oracle applications such as batch reporting and data warehousing, and helps overcome the random access limitations of SATA.

Technical Features: The Modular Approach

The Pillar Axiom 600 packs some of the industry's top technologies into an affordable storage system to meet your mission-critical business needs, maintain your disaster recovery and business continuance processes, and scale to whatever size your business future holds. The Axiom 600 is a modular system consisting of three building blocks, each designed for high availability and reliability: the Pilot, Slammer, and Brick.

Axiom Pilot Policy Controller

The Pillar Axiom Pilot policy controller is the management interface for the system. Its simple, graphical management console and AxiomONE software enables policy-based provisioning with Dynamic Performance prioritization, fault management, capacity planning, and Guided Maintenance for the entire system.

Axiom Slammer Storage Controllers

Pillar Axiom Slammer storage controllers are fully redundant, with dual-processor architecture, automatic failover and restoration, redundant power supplies, and a battery-backed cache memory. The Slammer controls the Brick, which supports 3.6 to 13TB of physical capacity and delivers enterprise-class throughput performance.

- **Axiom NAS Slammer:** Provides multi-node file services with integrated high-availability throughout. Supports the most popular host operating systems supporting CIFS and NFS file protocols, as well as value-added features such as Link Aggregation, Automatic Recovery Options, user authentication: NIS/NIS+, Windows PDC, Active Directory and Native locking schemes, and cross-platform lock enforcement.

- **Axiom Fibre Channel SAN Slammer:** Offers high-performance block-level storage connectivity with four external I/O connections supporting up to 4 Gigabits per second data rate. Supports multi-tiered application requirements, from mission-critical, high-performance to low-performance consolidated storage applications.
- **Axiom iSCSI SAN Slammers:** The Axiom 600 iSCSI Slammer provides cost effective SAN connectivity over an Ethernet network at full wire speed, allowing customers to leverage existing physical network resources and expertise. Supports all Axiom configuration and dynamic provisioning features, Internet Storage Name Server (iSNS), and iSCSI Network Boot Protocol (iNBP).
- **Axiom Combination Fibre Channel/iSCSI Slammer:** Available supporting four Fibre Channel ports and four iSCSI ports, or with four iSCSI ports for dedicated iSCSI applications. An iSCSI Field Upgrade kit is also available to convert an existing SAN Slammer into a Fibre Channel/iSCSI Combination Slammer.

Axiom Brick Storage Enclosure

Brick storage enclosures provide the highly available storage pool for a Pillar Axiom storage system. Bricks are available with either Serial ATA or Fibre Channel disk drives to meet your budget and performance demands. Each Brick will hold up to 13 individual drives.

- **SATA Brick:** Serial ATA (SATA) Brick storage enclosures provide highly-available disk storage with an effective throughput in excess of 1000 random IOPS and 350 MBps. Includes two RAID controllers to manage twelve drives and support RAID 5 and RAID 10. The thirteenth drive is a shared hot spare that may be accessed by either controller in case of disk failure.
- **Fibre Channel Brick:** Fibre Channel Brick storage enclosures deliver highly-available, high-performance disk storage with an effective throughput of 2500 random IOPS and 400 MBps. Each Fibre Channel Brick may be cascaded to three additional Fibre Channel Bricks, scaling capacity and IOPS and reducing acquisition costs. Two RAID adapters manage 12 drives and support RAID 5 and RAID 10.