

POSITIONING WHITEPAPER:

The Value of Storage Quality of Service (QoS) Technology for Your Business

Storage Quality of Service Reduces Total Cost of Ownership (TCO)

By allowing several tiers of data to reside within the same Pillar Axiom system, many components of storage TCO are significantly reduced.

- Storage \$/GB through higher utilization
- Consolidated backups reduce backup windows
- Consolidated disaster recovery reduces complexity
- Storage management software costs are reduced
- Maintenance costs are consolidated
- Floor space consumption is reduced
- HVAC costs are reduced
- Spare Kits are consolidated

Not all data is created equal. Its strategic value varies according to application and business goals. Business-critical data (such as a transaction database) is tied to revenue-generating applications. Business-essential data (such as email) is important to daily operations but does not directly affect revenue. Business-utility data (such as presentation files) is important but not central to daily business processes. Each data type has distinct handling requirements in a storage environment.

Most networked storage systems today do not sufficiently address the business value of the data they house. As a result, storage managers have been forced to compromise either efficiency, application performance, or cost by deploying multiple storage silos—one for each application or type of data—even within virtualized, networked storage pools. This approach results in low utilization rates and high operational expenditures. While a system may be optimized for a particular application, it comes with a proprietary, often complex management system that requires extensive training. Differences in hardware and software make it difficult to share data among different systems (even from the same vendor). All too often, these differences make it expensive and slow to repurpose resources or move data as business needs change.

As data center managers strive to consolidate resources into efficient, agile systems that readily adjust to accommodate changing business demands, they seek storage systems that offer flexibility without major disruption or reconfiguration. These storage systems should not force them to compromise cost, performance, or utilization rates to optimize data handling. Instead, native flexibility within the storage system should enable storage managers to assign a class of service priority rating to each data class, thereby aligning storage resources directly with data's business criticality.

Pillar Data Systems™ lets storage managers say good-bye to expensive, purpose-built storage silos.

A Unique Approach

Pillar Data Systems delivers true flexibility through choice that others promise, but haven't achieved. Its unique approach to Quality of Service (QoS) in the Pillar Axiom™ Storage system raises the bar in both price performance and flexibility. The Axiom system uses QoS technology to allocate system resources and handle every data flow according to its business priority. Through a simple management interface, IT managers can provision different classes of service within a single system, aligning storage resources with the business value of each data type and application. As the value of data changes over time, storage managers can reclassify and archive data at a lower QoS value for efficient use of storage resources.

Pillar designed the Axiom system from the ground up with QoS in mind. Unlike systems that bolt on storage classification as an afterthought, QoS is native to the Pillar Axiom system. The result is a carefully balanced, easily tuned storage system that optimizes performance of each data class within a single array, without compromises. Storage managers gain agility to provision any mix of SAN LUNs or NAS file systems to conform to specific application requirements.

That's why Pillar Axiom is the sensible storage alternative.

True Storage Multitenancy

Traditional networked storage enables managers to tune disk resources for optimal performance, but these systems are biased toward a single application. Where a traditional array supports multiple applications, managers cannot easily tune discrete segments for individual application requirements and must make do with an "averaged" disk setup where applications contend for resources, and no application receives performance priority. Such inflexibility makes both the capital and operational cost of traditional networked storage excessive.

Pillar QoS technology dramatically reduces the cost of storage and enables true multitenancy with the policy-driven provisioning of disparate data types on a single disk. Disk physics complement data priority settings, ensuring performance and preferential handling of high-priority data. The outer segment of the disk, with the fastest linear velocity, accommodates high-throughput data rates, while the inner segment is suitable for archive-level data (Figure 1). This architecture supports full disk utilization, reducing costs without sacrificing application performance.

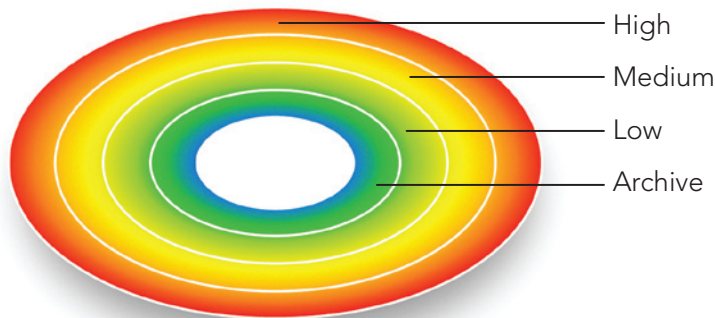


Figure 1: Pillar QoS-Enabled Multi-tenancy

Simple Management

Networked storage systems are complex. Unfortunately, many storage vendors carry that complexity into their management platforms. Pillar respectfully disagrees with that philosophy, believing instead that the system should include automated self-configuring and self-tuning mechanisms. All the complexity stays "under the hood."

Pillar Data Systems revolutionizes storage management with the Pillar Axiom Storage Manager software, which features a simple graphical user interface. The administrator establishes QoS policies through pre-configured or custom QoS profiles. Parameters are set using menus that answer simple questions. Before provisioning, administrators can use the Capacity Planning Wizard to predict the performance impact of changes on the existing system. With policies in place, storage operators can provision a new filesystem or LUN in moments. This nimble system reduces training costs and frees storage operators to focus their expertise on other tasks. Based on these settings, the Axiom system automatically allocates space and sets priority for each filesystem and LUN according to policy. Based on actual traffic, it also fine-tunes cache memory to optimize performance (Figure 2).

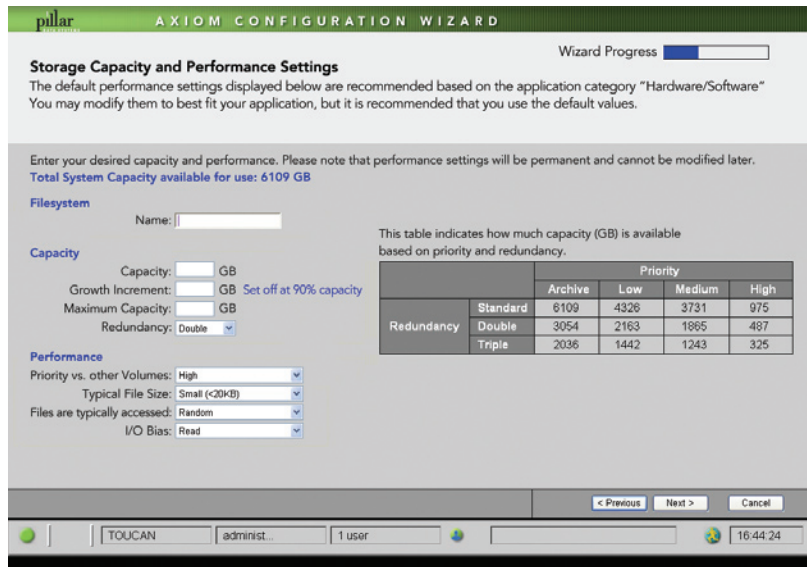


Figure 2: Pillar Axiom Storage Manager simplifies provisioning

Upgrades

Many enterprise storage managers know the pain of purchasing expensive, proprietary systems that cannot accommodate future technologies. Pillar reduces the cost of storage with a modular system that allows enterprises to take advantage of new technologies without disrupting the core system. As the Pillar Axiom system introduces new capabilities, it integrates the price performance dynamics of new technologies into the QoS management system.

The Pillar QoS philosophy supports system longevity. As data ages, its value to the organization changes. Many industries (such as financial services and health care) are required by law to store data in an unalterable format for decades. The Pillar Data Volume Copy feature lets storage managers reclassify data from a higher to lower QoS setting when it is copied to archival storage or a Write Once, Read Many (WORM) volume for regulatory compliance. Such efficiency simplifies data migration and increases utilization within the Axiom system by keeping high-performance space available for high-priority data.

Delivering the Promise

Pillar Data Systems offers enterprises unprecedented storage flexibility with the QoS features of its Axiom Storage system. Aligning the system with data's business value gives storage managers a valuable tool to proactively support business initiatives, as well as use storage resources more efficiently. With QoS technologies, Pillar enables a sensible storage alternative that meets both agility and cost requirements in today's data centers.