Simplify. Consolidate. Save.

pillar
DATA SYSTEMS

Pillar Axiom® Storage System

You need more storage.
You don't need more systems to manage.

Pillar Data Systems® takes a sensible approach to networked storage.

- One that dramatically simplifies data management.

- One that consolidates storage into a single pool.

- One that saves money and time, letting administrators focus on managing their workload – not the storage system.

Pillar designs and builds integrated, automated, cost-effective storage systems. Systems that seamlessly unite SAN and NAS environments. Systems that enable management of multiple tiers of storage on a single platform. Flexible systems that grow with your needs. All at a cost far below typical storage systems.

All to lower TCO.
And raise ROI.

Pillar Axiom Storage System

Delivering unprecedented value.

Complex management. Distributed, underutilized assets. Spiraling costs. Had enough? Pillar's revolutionary new approach helps simplify, consolidate, and save.

AxiomONE™ is a rich suite of software that provisions, protects, and manages your data. Combine it with the Pillar Axiom Storage system and you've got an unbeatable team. Get ready to experience the quality and value of an enterprise-class solution – without the traditional price tag.

Meet the Pillar Axiom storage system.

In the Pillar Axiom storage system, all tiers of data reside on a single platform, with one management interface, under a single software license. An integrated platform means:

- Flexible deployment and redeployment of storage to satisfy the immediate needs of your business
- Quick, easy access to archived data
- Simpler management needs fewer resources, reducing total cost of ownership.

A revolutionary shift in storage convergence.

The modular architecture of Pillar Axiom storage system supports multi-tiered SAN and NAS in a single storage pool. System configuration is simple, controlled by dynamic performance policies, reducing the operational expense and complexity associated with managing conventional storage products.

SAN

NAS

Axiom Slammer NAS Controller

Axiom Pilot Policy Controller

Axiom Slammer SAN Controller

Multiple Axiom Brick Storage Enclosures

Storage System Fabric

SAN, meet NAS. NAS, meet SAN.

In the past, storage managers were forced to choose between the performance advantages of SAN technology and the cost-effectiveness of NAS. Pillar eliminates this tradeoff. It designed the Axiom system to seamlessly accommodate both SAN and NAS, giving both technologies access to the same storage pool.

Multiple tiers of storage on a single system.

The Pillar Axiom system in action.
A single Axiom system delivers performance, availability, data protection, capacity, and scalability for three storage tiers:

Tier 1 – highest performance and availability levels for mission-critical applications

Tier 2 – increased performance and high availability for mid-performance applications

Tier 3 – adequate performance and availability to support business utility applications such as file sharing and archive.

Simple.
Configuring Axiom storage is simple – assign a priority level of premium, high, medium, low, or archive. Administrators can flexibly apply resources that fit individual application needs and maximize asset utilization.

Unique.
The Axiom system lays out data on the section of the physical disk that best supports its performance priority. It writes high-priority data to the outermost tracks and lower priority data on inner tracks.

"Pillar has developed a unique approach to consolidating storage by enabling users to tier on a component level. The basic premise is that data located on the outside of the disk is more readily available than that on the inside of the disk due to disk I/O access methods. Pillar's technology tiers data on each disk, placing 'Tier 1' data on the outside of the disk, 'Tier 2' in the middle and 'Tier 3' on the inside, providing intelligent algorithms to ensure priority access to each tier. This technology will change the way users approach tiering storage."

Senior Analyst, Enterprise Strategy Group (ESG)

Pillar Axiom Storage System

H A R D W A R E

Pillar Axiom storage systems consist of three building blocks, each designed for high availability and reliability: the Pilot, Slammer, and Brick.

Pilot

Pillar Axiom Pilot policy controllers run the management function for Pillar Axiom storage systems. The easy-to-use Pilot combines highly redundant hardware and Pillar AxiomONE Storage Services Manager software to ensure reliability, availability, security.
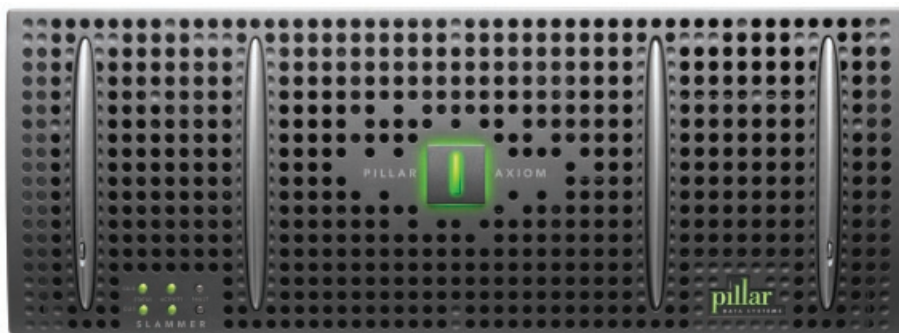
Key Pilot Features:

- Ensure continuous availability of storage management with two independent control units that operate in an active/passive mode
- Data protection tools include AxiomONE SecureWORMfs software, volume and file replication, and virtual tape library
- One, policy-based framework and Web-based GUI control all storage management and data protection features
- AxiomONE Dynamic Performance Manager allocates hardware assets where they are needed through policy-based management
- AxiomONE Guided Maintenance wizard builds confidence in the change management
- AxiomONE Capacity Planning Manager allows predictive modeling prior to provisioning
- AxiomONE Path Manager manages SAN load balancing and dynamic multi-path failover

Slammer

Pillar Axiom Slammer storage controllers are the high-performance, high-reliability data movers and managers for Pillar Axiom storage systems. Slammers do more than move data: they virtualize the storage pool for seamless growth of filesystems and LUNs.

Pilot Policy Controller

Slammer Storage Controller

Brick Storage Enclosure

Key Slammer Features:

- SAN and NAS functionality scales horizontally with dual active/active control units
- Intelligent mirroring and striping of filesystems and LUNs protect data
- High availability through dual, identically configured control units, including memory and interface configuration
- Up to 24 GB available cache optimizes application performance
- Battery-backed write cache is mirrored between control units to ensure data integrity in the unlikely event of control unit failure
- Additional Slammers scale performance without incurring additional software licensing fees

Brick

Pillar Axiom Brick storage enclosures provide the highly available, high-performance storage for the common SAN/NAS storage pool in the Pillar Axiom storage system. Configuration options offer either Serial ATA or Fibre Channel disk drives to meet requirements for cost and performance.

Key Brick Features:

- Any-to-any connectivity between Bricks and Slammers through the storage system fabric
- Dual RAID-5 controllers efficiently manage read operations; each controller has 256 MB local cache memory
- Should a RAID controller fail, the Pillar SATA port multiplexer offers backup access to all drives by the surviving controller
- Multiple Fibre Channel interfaces and connections to the Slammer offer redundant protection in case of connection failure
- System supports up to 64 bricks

Reliability, Availability, and Serviceability

Pillar understands the criticality of dependable, around-the-clock data access. Designed from the ground up for easy repairs, the Pillar Axiom storage system has non-proprietary, industry-standard components that reduce replacement costs.

- No single point of hardware failure
- Hot-swappable critical components allow on-the-fly replacement
- Battery-backed RAM protects data integrity in case of power interruption
- Active/active techniques maximize price performance

Configuration Options

1 Pilot
Policy Controller

Up to 4 Slammers
SAN Storage Controller
NAS Storage Controller

Up to 64 Bricks
Brick Options:
250 GB – 3 TB RAW in 2U
500 GB – 6 TB RAW in 2U
750 GB – 9 TB RAW in 2U

Pillar AxiomONE Software

Simplify complexity. Consolidate storage. Reduce costs.

The AxiomONE software suite offers provisioning, protection, and maintenance capabilities – all in a simple to manage, highly available, uniquely scalable storage solution.

Provisioning

Dynamic Performance Manager aligns storage assets to end users' data management needs

Capacity Planning Manager examines storage assets and aligns them with the appropriate volumes
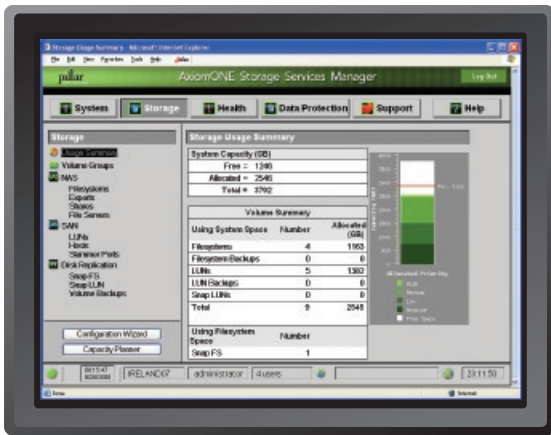
Protection

Secure WORMfs assures regulatory compliance by enabling easily accessible, non-erasable, non-rewriteable data storage

Volume Replicator offers heterogeneous volume replication services File Replicator provides file-based replication, backup consolidation, and archiving

Continuous Data Protection provides protection and rapid recovery

Path Manager fails over to a second or redundant path in the case of system failure, ensuring data availability

Virtual Tape Library (VTL) provides backup to disk capabilities with a virtual tape library interface

AxiomONE Storage Services Manager

AxiomONE Configuration Wizard

AxiomONE Capacity Planner

Maintenance

Storage Service Manager lessens the impact of service interruptions and planned downtime. Guided maintenance procedures make routine service easier, faster, and less disruptive

Non-Disruptive Upgrade helps reduce downtime and potential data loss when upgrading Pillar AxiomONE software or adding hardware

Support for 4Gb/s external Fibre Channel interface in the SAN Slammer, ensuring backward compatibility with previous investments in FC SAN components and storage

Support for Fibre Channel Brick enclosures provides significant I/O performance improvement over SATA drives, enabling even better dynamic performance service levels

Microsoft Volume-copy Shadow Service delivers enhanced data protection through integrated, snapshot-based backup and improved integration with Windows 2003 Server platforms and Windows Storage Server
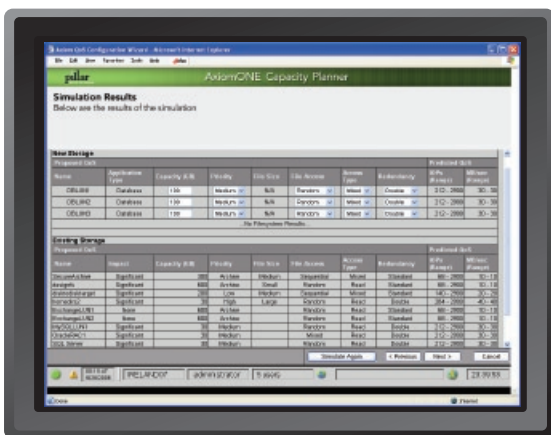
Support for Storage Management Initiative Specification 1.1 lets you view and manage Axiom storage from third party management framework applications, so you can integrate Pillar storage with other existing storage management applications

"The Pillar multi-tiered architecture offers considerable enterprise-class functionality and potentially minimizes enterprise cost. The Quality of Service policy engine combined with the user-friendly Storage Provisioning wizards rapidly provision and optimize storage system resources, resulting in reduced administrative costs. With sole financing from Lawrence Investments, Pillar is in a strong position with considerably more staying power than the typical mid-range startup seen today."

Jack Scott, Senior Partner, Evaluator Group

PILLAR   DATA   SYSTEMS

Pillar Services

Designed around one customer. You.

Customer Service

Pillar's world-class warranty and support program comes with essential services such as remote event notification, Web support, technical assistance, and more. Optional components let you design a program that precisely meets your budget and needs.

Technical Support Center:

You're heard.

Our Technical Support Center provides unlimited, around-the-clock phone and email support, software upgrades, and software fixes.

Field Support:

You're not alone.

Fast onsite assistance, within hours of your call. Under our premium customer support plan, the Pillar field services team comes right to you, right when you need it.

Warranty:

You're covered.

The Pillar warranty protects your hardware for three years, including next-day delivery of hardware components, and unlimited phone, email, and Web support. The Pillar warranty protects software for 90 days with extension options.

Remote System Event Notification:

You're off the hook.

Built-in, automatic notification capabilities in your Axiom system contact our service experts to order replacement parts or software fixes – usually before you even know there's a problem.

Web Support:

You're online.

The Pillar online system provides a complete set of self-service tools designed to give you the ability to effectively manage your storage system.

Software Support and Subscription:

You're up-to-date.

Technical support engineers provide both software fixes and ongoing upgrades quickly and easily.

Professional Services

Pillar designed its professional consulting services to help you maximize the return on your storage investment.

- Storage planning and imple-mentation – helps you be more productive.
- Storage optimization – for maximum system efficiency
- Storage protection – to keep data safe

Pillar combines state-of-the-art technology with a sensible approach to customer services. It's a winning combination that ensures your Pillar Axiom storage system satisfies your business needs, now and in the future.

The Pillar Alternative

Making storage sense.

Pillar Axiom storage systems are designed to make it simple to install, implement, provision, and maintain. Behind the easy-to-use interface are systems that deliver:

- Reliability, availability, and serviceability
- Balanced price performance
- SAN and NAS functionality within the same disk pool
- Dynamic Performance provisioning

With the scalability and flexibility of the Pillar Axiom system, you have the power to create a storage infrastructure with just the right mix of SAN and NAS, performance, and manageability.

Pillar Data Systems designs and builds more efficient storage systems.

Pillar is the sensible alternative.

Pillar Data Systems takes a sensible, customer-centric approach to networked storage. We started with a simple, yet powerful idea: Build a successful storage company by creating value that others had promised, but never produced. At Pillar, we're on a mission to deliver the most cost-effective, highly available networked storage solutions on the market. We build reliable, flexible solutions that, for the first time, seamlessly unite SAN with NAS and enable multiple tiers of storage on a single platform. In the end, we created an entirely new class of storage. **www.pillardata.com**

pillar®
DATA SYSTEMS