

RELDATA 9400 Storage System

RELDATA's next-generation 9400 Storage System is optimized for ease of use and performance in mid-tier environments. Supporting structured and unstructured data of all types, the 9400 is the ideal storage platform for both virtual and physical environments.

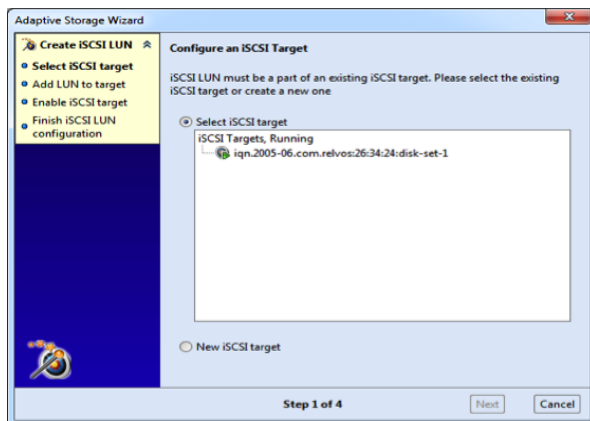
Click. Provision. Perform.

The RELDATA 9400 Storage System offers a wide range of unique features that simplify management and optimize performance:

1. Click. Simply click to set up and manage your storage system
2. Provision. Simplify deployment and overcome the limitations of static RAID groups with automated file shares and LUN provisioning enabled by RELDATA's dynamic pooling architecture
3. Perform. Leverage the ultra high performance capabilities of the dynamic pooling architecture and solid state technology to deliver outstanding application performance



Click.



With wizards that guide the administrator through installation and an intuitive dashboard console for ongoing system management, the 9400 Storage System sets a new standard in ease of use for mid-tier storage. Set up NFS and CIFS file shares or iSCSI and fibre channel LUNs in a matter of minutes. Integration with Microsoft Active Directory ensures that CIFS setup is automated, requiring only a few clicks to complete the process.

The 9400 offers a sophisticated visual hardware monitoring user interface with built-in reporting capabilities that greatly simplifies and improves your ability to maintain system health by allowing for quick isolation of hardware component failures. In addition, an automatic "phone home" capability ensures timely and accurate problem resolution.

Provision.

The RELDATA next generation dynamic storage pooling architecture completely removes the limitations associated with traditional architectures that rely on static RAID groups. Virtualized "volumes" are created within the storage pools, and the protocol -- NAS or block -- is added on top. Unlike other systems, the 9400 is not a NAS gateway on top of a block storage system or a block interface on top of a file system. Dynamic pooling is designed from the ground up to provide you with a true unified storage system optimized for both file and block protocols.

With dynamic pooling, you no longer need to add drives in fixed groups. You can add capacity drive-by-drive, mixing drive types and sizes as desired. As new, higher capacity drives become available, you can add them directly to the pool in combination with your existing drives. New drives automatically add performance to the pool. Because striping for redundancy is done across all drives rather than across drives in a RAID group, the 9400 Storage System completely avoids a lengthy and risky re-build process upon the addition of new drives, instead automatically load balancing the data onto the new drives over time.

9400 Highlights

Greatly simplifies administration with intuitive console, wizards, and hardware monitoring UI

Eliminates complex setup and lengthy re-builds associated with RAID groups

Delivers true pay-as-you-grow scalability without interruption to users or applications

Achieves potential of both SSD and disk drives with ultra high performance architecture

Supports NFS, CIFS, iSCSI and fibre channel

To maximize disk space usage and lower TCO, the 9400 includes a sophisticated thin provisioning capability with capacity reclamation, releasing blocks back to the pool upon deletion with supported file systems.

Perform.

The 9400 Storage System allows users to share information quickly and reliably by combining the virtually instantaneous access of solid state technology with state-of-the-art performance optimization features in the RELDATA storage operating system. I/O requests are automatically routed to either solid state drives or traditional disk drives based on the request parameters, maximizing the performance of both the solid state and hard disk drives in the storage system. All random, small block I/O is routed through write cache to enable the system to achieve the performance potential of solid state. Conversely, large writes bypass cache and instead are written directly to disk, allowing the 9400 to achieve the serial performance potential of today's high performance disk drives. In addition, the 9400 augments controller memory with solid state, providing a very large and efficient read cache.

The 9400 Storage System supports SAS, SATA, and SSD drives, allowing the system to be configured to meet the performance requirements of any environment. The combination of 7200 rpm SAS drives and SSDs provides the best price/performance in class, exceeding the throughput of 15K rpm SAS drives.

Enterprise-Class Software Features

In addition to the ease of use, provisioning, and performance capabilities that set the 9400 Storage System apart from other mid-tier storage solutions, the 9400 offers all the software features of an enterprise-class storage system, including asynchronous replication; SAN-level mirroring; unlimited, writable snapshots; and linked clones. See Table 1 for a complete list of the RELDATA 9400 Storage System software features.

Table 1. RELDATA 9400 Storage System Features

Click.	
Setup wizards for iSCSI, fibre channel, CIFS and NFS shares	✓
Integration with Microsoft Active Directory	✓
Hardware monitoring user interface	✓
Provision.	
Dynamic pooling to eliminate RAID Group limitations	✓
Capacity expansion drive-by-drive	✓
Performance increase as drives are added	✓
Automatically load balances across new drives to avoid re-builds	✓
Thin provisioning with space reclamation for efficiency	✓
Perform.	
Write back cache to optimize SSD performance	✓
Spillover cache to optimize hard drive performance	✓
Enterprise-Class Software.	
Synchronous replication	✓
Asynchronous replication	✓
SAN-level mirroring	✓
Unlimited, writable snapshots	✓
Linked clones	✓

Enterprise-Class Hardware

The 9400 Storage System is built on next-generation hardware technology based on a fully redundant Storage Bridge Bay (SBB) 2.0 hardware architecture, Intel® Core 5600 processors, leading-edge solid state drives (SSD), SAS2 6Gb/s drive interface, and a dual passive backplane in a 3U 16-bay chassis -- resulting in a winning combination of high performance, high capacity and high availability. With its dual controllers, dual power supplies and fans, the 9400 Storage System provides a fully-redundant, fault-tolerant, mission critical platform to meet the most demanding application requirements. A patented airflow process increases CPU I/O efficiency resulting in higher CPU performance, lower energy costs and a lower total cost of ownership.

The 9400 ships in four standard dual controller configurations, including high capacity and high performance platforms. See Table 2 for configurations.

Table 2. Hardware Configurations

	High Capacity 12TB	High Capacity 24TB	High Performance 5.4TB	High Performance 7.2TB
Drives	12x1TB 7200 rpm SAS	12x2TB 7200 rpm SAS	12x450GB 15K rpm SAS	12x600GB 15K rpm SAS
Controller	Dual, Redundant, Hot Swappable Controllers			
Software	Storage Operating System			
Processors	Dual Intel Xeon™ 5600 (Westmere) processors per controller			
Memory	Up to 48GB DDR3 ECC Registered per controller			
I/O Interfaces (per controller)	Two PCI-e 2.0 x4 and one PCI-e x8 Dual 1GbE ports Dual 10GbE interconnect (internal) IPMI 2.0 with KVM-over-LAN support			
Connectivity	1GbE IP 10GbE IP Fibre Channel 6Gb SAS (for shelves)			

Easy Expansion Up to 474 Terabytes

The RELDATA 9400 supports both a 16-bay and 45-bay expansion shelf, providing easy and affordable capacity expansion options for up to 474TBs of total capacity behind a single 9400 controller unit.

Up to five 4U, 45-bay JBOD expansion shelves are supported per dual controller head unit. The expansion shelf supports a mix of SATA, 7200 rpm SAS, and 15K rpm SAS drives and offers a long list of high availability features, including a redundant, hot-pluggable cooling system, power supplies, and hot-swap drives.

The 16-bay expansion shelf extends the hot-swap architecture of the Storage Bridge Bay 2.0 hardware architecture, providing fault tolerant expansion of the 9400. The 9400 supports up to 11 additional 3U 16-drive hot swap shelves per dual controller unit, with a mix of SATA, 7200 rpm SAS, and 15K rpm SAS drives.



The RELDATA 9400 in Virtual & Physical Environments

The 9400 Storage System is designed from the ground up to optimize the storage of structured and unstructured data within virtual and physical environments.

In virtual environments, the RELDATA 9400 is specifically tuned to handle I/O from large numbers of virtual machines, eliminating performance bottlenecks that would normally cause you to add more drives and directly improving your TCO. The 9400 delivers the ease of use, performance, and management features that accelerate and optimize the benefits of VMware environments.

In physical configurations, the 9400 can be used to store any combination of file and block data, such as files shares, images, videos, pictures, document and content management systems, email, database, workflow, and web data. By providing a single platform optimized for such a wide array of data types, the 9400 Storage System simplifies management in today's mixed mid-tier environments.

For more information on the 9400 Storage System, contact RELDATA at 1-888-734-7726 or sales@reldata.com



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