RELvos 2.0
RELDATA Virtualization Operating System

RELDATA
REAL UNIFIED STORAGE

SAN, NAS and WAN Replication Services from a Linearly Scalable Virtualized Storage Pool
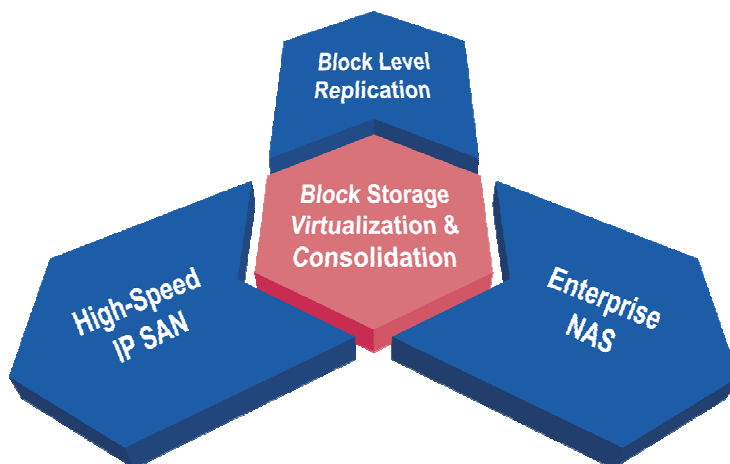
RELDATA's RELvos™ Virtualization Operating System empowers the enterprise-class RELDATA 9000 Series of storage virtualization appliances utilized for a new generation of open, scalable and reliable unified storage solutions. Its modular architecture lets organizations easily expand both application-based (SAN) and file-based (NAS) storage capacity to meet user demand, seamlessly consolidate underused storage assets, and ensure availability of data with global WAN replication. The RELvos™ 64-bit design allows RELDATA Unified Storage Systems to provide the performance and throughput of more expensive Fibre Channel SAN alternatives at a much lower total cost of ownership.

The RELvos™ Virtualization Operating System is an enterprise-level virtualization platform that is purpose built to deliver real world unified storage services. It is designed to provide storage consolidation of NAS and SAN while virtualizing industry standard Fibre Channel, SCSI and iSCSI storage resources. RELvos™ provisions block data and file storage services to meet application requirements. It provides concurrent, high-speed IP SAN and NAS storage services packaged with comprehensive WAN data protection.

The RELvos™ 2.0 embedded firmware module features enterprise-level remote mirroring, incremental volume replication, unlimited SAN-level snapshots, and block based replication for complete data protection. The virtualization of Fibre Channel LUNs creates additional value with investment protection by enabling low-cost IP SAN fan-out of existing Fibre Channel SAN installations.

RELvos High-Performance Unified Storage

Today's unified storage systems combining SAN, NAS and data protection services are based on file system virtualization technologies using a file system as the core virtualization platform. They evolved from NAS technologies enhanced with file system snapshot and replication services. Adding iSCSI SAN capability within a common management and data protection framework required the blocks to be converted to files. As a result block level performance is seriously compromised. The advanced RELvos™ enterprise-level storage virtualization technology does not convert blocks to files. This unique design ensures that the performance of the RELvos™ unified storage SAN solution is unmatched in its class.

Block Level *Replication*

Block Storage *Virtualization & Consolidation*

High-Speed IP SAN

Enterprise NAS

RELvos Benefits

- Drastic decrease in storage administration through centralized storage networking management

- Easy management of fast-growing, mixed file and application/block storage volumes

- Enterprise-wide file sharing based on open storage clustering

- Dramatic reduction of future storage extension through higher capacity utilization

- Highly efficient SAN storage virtualization and software RAIDs allow inexpensive and vendor-agnostic disk arrays to be utilized

- Ethernet centric storage consolidation significantly reduces infrastructure cost while eliminating change management headaches

- High-performance iSCSI storage access bypassing file system level

- Boot-over-IP eliminates need for direct attached storage disks

- Online storage system expansion and rapid recovery services radically reduces scheduled application downtime

- Incremental WAN data replication on SAN-level platform increases system reliability and data availability

Core Block-Level Virtualization Services	• 64-bit, block-level virtualization platform with SAN-level volume manager
	• Open, industry-standard FC, SCSI, iSCSI storage integration and consolidation
	• Support for software RAID-1, -4, -5 and-6
	• Auto-discovery of connected LUNs
	• Unlimited point-in-time writable and read-only snapshots of volumes
	• Synchronized snapshots of multiple volumes
	• Block-level rollback to any snapshot
	• Active/active failover clustering and Fibre Channel port failover
	• Solid-state memory based, integrity protected firmware
	• Easy-to-use web GUI provides centralized control over volumes, shares, disks, users
High-Performance IP SAN Services	• Truly block-level iSCSI target and initiator
	• Seamlessly scalable iSCSI volume provisioning up to 9 Exabytes
	• Near wire-speed I/O processing of iSCSI data
	• Rapid recovery by provisioning snapshots as iSCSI targets
	• "Plug & Deploy" instant IP SAN set-up via simple GUI management
	• Boot-over-IP-SAN enables diskless servers and workstations
	• Microsoft® iSNS support for easy iSCSI LUN discovery and management
	• iSCSI Multipathing (MPIO) support
	• Optional IPsec encryption & CHAP authentication
	• Interoperability with industry standard iSCSI HBAs, initiators and targets
	• Support for iSCSI tapes and libraries
Enterprise NAS Services	• High-performance, scalable, unlimited SMB/CIFS and NFS file system sharing
	• Seamless resizing of mounted, on-line file systems up to 16TB
	• Support of Microsoft® Active Directory and NIS/Yellow Pages
	• Rapid recovery by mounting and sharing snapshots as file systems
	• Quota management on group and user levels
	• Support of most Microsoft® Windows® ACL(s)
	• Simultaneous access and file locking by Windows® and Linux/Unix clients
	• "Plug & Deploy" instant file sharing set-up via simple GUI management
	• Server-less filesystem backup to local or remote tape or library
High-Availability WAN Replication Services	• One-to-many incremental replication of active, online volumes over iSCSI
	• Quick resynchronization after network outages
	• Instant access to online replica volumes via clones
	• One-to-many remote mirroring over iSCSI
	• File-based replication for NAS content