



SOLUTION BRIEF **ULTIMATE STORAGE** **EFFICIENCY:** **COMMVAULT & NEXSAN**

CommVault and Nexsan have partnered to deliver the best value in a managed storage infrastructure. Simplicity and flexibility meets Easy, Efficient and Enterprise-class for the most economical, high-performance and complete storage solution for backup and recovery.

REFERENCE ARCHITECTURE

Simpana[®] 10

- Single Pane of Glass Management



VMware ESX Servers

- Production VMs Hosting Apps

Primary Storage

- Production VMDKs
- Primary Recovery Copies



ACTIVE DATA—E-Series

- Primary Data
- Migration Data
- Long-Term Bulk



PROTECTION DATA—E-Series

- Recovery Tier
- Protection Tier
- Backup Copies
- Deduplicated



ARCHIVE DATA—Assureon 7

- Object Storage
- Long Term Archive
- Legal Compliance



The partnership of CommVault and Nexsan offers midmarket organizations the best value in a managed storage infrastructure. The strength, simplicity, flexibility and efficiency of CommVault storage management, integrated with Nexsan storage provides a high-performance turnkey solution for backup and recovery at the most economical price point. Mid-sized and large organizations can significantly reduce IT and energy expenses while enjoying increased reliability and reduced overall system risk from the infrastructure that facilitates business growth objectives.

COMBINED VALUE

By all accounts, storage is growing at rates that are both impressive and, for those that must purchase and operate storage subsystems... alarming. Can IT managers keep up with storage expansion that relates directly to their ability to sustain growth in the business, while at the same time, experiencing infrastructure and management budget cuts?

Meeting the increasing demands of a growing business inside a contracting economy necessitates the ability to efficiently scale, manage and protect the infrastructure. CommVault and Nexsan have joined their respective industry leading software and hardware technologies to deliver the most efficient storage infrastructure available.

CommVault Simpana[®] storage management software has long been known as a revolutionary technology that improves operational efficiency and agility, while reducing storage costs. Nexsan has also delivered highly efficient and reliable technologies from the beginning. Nexsan storage is known to be;

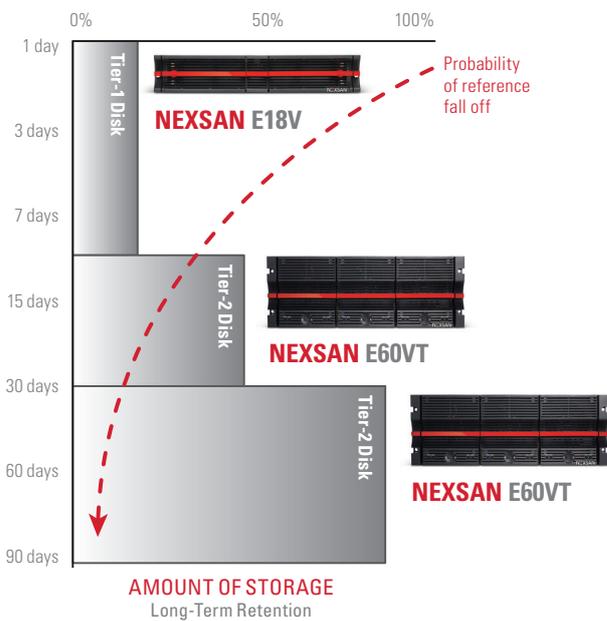
- Easy to install, operate and manage
- Efficient in delivering very dense, low power consumption storage
- Enterprise-class performance and reliability with the leading low cost-per-terabyte

Combining these CommVault and Nexsan approaches to creating and managing an infrastructure offers measurable benefits, both technically and financially.

CommVault and Nexsan agree that a Solving Forward[®] philosophy is the only way to solve today's challenges, without limiting the solutions of the future. Simpana software meets that objective by putting the groundbreaking holistic, singular approach to data management of CommVault into action. It transforms the way companies organize, protect and access business information, and delivers unparalleled economic value. These benefits are multiplied by Nexsan storage. Nexsan has introduced many industry firsts, and continues to innovate leading technologies focused on Tier-2 storage used for Backup & Recovery, Archive, Replication, Resource Management and Search.



SIMPANA® 10 TIERED STORAGE



Age in Days	Probability of reference
1	75%
3	50%
8	25%
30	2%
90	Near 0%

MULTIPLIED EFFICIENCY

All modules are built into the Simpana® common platform for maximum efficiency. They simply wait to be turned on, if and when you need them. Likewise, all Nexsan storage has built-in features that augment the benefits of various Simpana® modules. Performance, space-efficiency, energy-efficiency and ease-of-use array management are multiplied - all with unparalleled cost savings.

As an example, Simpana® is designed to be infinitely scalable. Likewise, Nexsan storage arrays offer industry-leading design with 60 disks in 4U and Active Drawer Technology™ to enable non-disruptive growth and maintenance.

ACHIEVING MAXIMUM EFFICIENCY

There are two primary factors in achieving a storage architecture that provides maximum efficiency: a tiered storage model and deduplication. The CommVault / Nexsan solution facilitates these aspects with impressive capability.

Tiered Storage

The first place to start in achieving efficient storage is management. Simpana 10 comes with a Storage Resource Manager (SRM) to analyze, discover and track trends – as well as report on storage usage so inefficient capacity can be recovered and used. Designed to achieve efficiency, the SRM also enables storage to be easily tiered. It does not take long for data to go “stale.” Typical data references drip to less than a 2% reference probability in just 30 days. As data grows by as much as 50% annually, leaving stale data on expensive tier-1 storage is not a financially viable option. Integrated Simpana manages data from physical and virtual storage through its entire lifecycle across Nexsan tiers of storage, all the way out to the cloud.

Using Nexsan storage is the ideal choice for migrating stale data to a high performance, dense and highly available tier-2 storage array. Users never know they are retrieving data from tier-2 storage as they experience seamless function, performance and availability. Yet, with as much as 40% on average of tier-1 storage being wasted, using Nexsan block storage for tier-2 migration will accrue large savings by eliminating and deferring the acquisition of new tier-1 storage. In addition, Nexsan purpose-built archive storage is the ideal solution for long-term retention, persistent secure protection, and maximum value in storing unstructured and compliance-regulated data.

Deduplication

Another significant area for saving is in deduplication. This is particularly true in clustered and grid computing environments where consolidation and virtualization occur, and data is highly redundant and costly to store. Storage administrators purposely replicate data as part of their protection strategy. However, the result is mass duplication, which leads to compounded cost inefficiencies in capital expense for hardware acquisition and operating expense for power, cooling, floor space, maintenance and IT management of a bloated infrastructure.

Data deduplication is a process that searches for duplicate data objects and deletes them. Duplicate data is replaced with a data pointer that references a single instance of the data object already stored on disk. Deduplication efficiency ratios range from 10-20 to 1, thereby allowing 10TB to 20TB of backup data to be stored on as little as a single terabyte of physical capacity over time.

CommVault continues to lead the industry in delivering innovative technologies that address deduplication, with the introduction of its third generation deduplication solution, Gen 3 deduplication, in Simpana 10. CommVault has fully integrated both source and target-side deduplication into their unified data management solution to provide best-in-class performance that dramatically reduces time-to-backup and impact-on-environment.

Source-side deduplication eliminates redundant backup and archive data at the client, before sending it across networks, servers and storage. Users can easily extend file deduplication globally, across thousands of clients having different retention requirements. This all adds up to shorter backup windows, lower management costs, and more robust, reliable data protection on significantly less Nexsan storage.

EFFICIENT DATA PROTECTION AND ARCHIVING

Single Pane of Glass Management (CommVault Simpana)

- Schedule backups and automate protection, reporting and altering across all tiers of storage



Recovery Tier (Nexsan E-Series)

- Content-aware, cataloged backups for fast recovery
- Searchable data for granular recovery



Protection Tier (Nexsan E-Series)

- Pull protection copy for nightly backup
- Deduplication keeps more copies on disk for fast restores



NEXSAN E60VT

Archive Tier (Nexsan Assureon 7)

- Targeted Copies moved to lower-cost storage for long term retention
- Indexed, Deduplicated, Encrypted
- Long term Protection



ASSUREON 7

ASSURED DATA PROTECTION

Among the priorities for efficient storage management is an appropriate data protection architecture. An efficient backup and recovery architecture helps ensure business continuity while data replication to a secure tier-2 storage array protects the vital information that is the life-blood of an organization.

Backup and Recovery

Given the changes in both business objectives and technology options, the question is: are IT departments protecting data in ways that make sense? These challenges are driving business and IT managers to look for ways to achieve the best possible cost, performance, availability and reliability for protecting their data and their business.

Simpana 10 Backup and Recovery software is the foundation of a modern data management solution, enabling users to better manage information assets, more quickly recover data and ultimately save money over loosely integrated legacy solutions.

CommVault optimized Simpana 10 to protect data and information assets where they reside: physical, virtual and in the Cloud. It delivers a truly unified approach that helps users achieve dramatic results.

Simpana 10 is optimized to protect virtual platforms and is equipped to support and scale with the massive changes going on inside the data center. Specialized data backup solution tools often miss the broader needs of heterogeneous environments. But Simpana 10 supports multiple hypervisors to help protect hundreds of VMs in minutes and easily scale to thousands of VMs and physical servers.

Simpana backup and recovery software, combined with Nexsan storage, offers superior performance and reliability that provides confidence and peace of mind—at a great price. Back-up is important, but recovery is everything. Having the CommVault / Nexsan confidence is the assurance you need for a fast, available, secure solution that is within budget.

Additional confidence comes from knowing there are no performance penalties when recovering from deduplicated data. In fact, the file system is unaware that data has been deduplicated. The file system simply asks for a file and Simpana 10 returns the file with no hydration required, while the Nexsan storage arrays augment

EXPENSE DIFFERENCES

Item	500TB	Deduplicaiton
Typical Supplier Expense	\$1,400,000 €1,041,821 £891,819	\$121,962 €90,758 £77,691
Simpana and Nexsan	\$556,000 €413,751 £354,179	\$14,862 €11,059 £9,467
Savings	\$884,000 €657,835 £563,120	\$107,100 €79,699 £68,224
Expense Reduction	60%	88%

performance with high-speed controllers using the latest interfaces. Nexsan supports ESXi's Round Robin with Subset, which assures a 20% performance improvement in I/O when deployed in VMware environments. And that makes a difference when recovery is critical to business objectives.

Reliability is key when choosing storage to capture and ultimately recover a failed business application or system. Nexsan's no single point-of-failure architecture along with hot-swappable active components and multipathing ensure business continuity. Nexsan's industry-leading AFR due to Cool Drive Technology[™] and Anti-vibration Design[™] means organizations can set and forget their Nexsan storage.

Data Replication

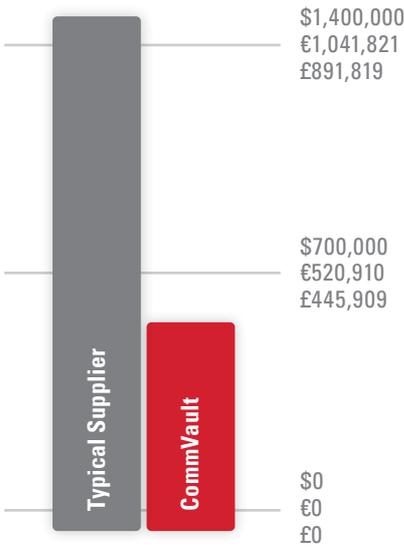
The ability to access data is core to the success of business. Simpana data replication software enables you to create replica copies of production data quickly, efficiently and cost-effectively. Copies of data can be immediately accessed for rapid restart and be used to create multiple recovery points or to perform traditional backups without impacting server performance. Being able to create multiple "point-in-time" copies during the normal business day and resume business with minimal or no loss of data, enables users to get back to business with minimal disruption. One large benefit of Simpana data replication is that it eliminates the need to have the same storage type. Simpana seamlessly replicates data on expensive tier-1 storage directly to highly-efficient Nexsan tier-2 storage. This ensures your data is protected quickly, efficient and cost effectively - a feat for which technical and business leaders are extremely grateful.

ARCHIVE

CommVault Simpana Archive software helps address the challenges associated with growing file shares that contain vast amounts of aged and inactive data stored on expensive primary storage. Complete lifecycle management and retention of file system data is optimized across tiers of storage and into public or private clouds.

Just as tiered storage reduces capacity requirements for tier-1 primary storage, so does archiving. However, archiving adds additional functionality to assist with the preservation, protection, retention, search and management of data for purposes of eDiscovery and governance.

**EXPENSE
COMPARISON**



Archive is different than backups in that backup data is not reference-capable without restoring it first, whereas archive data may be referenced just like any other active data.

Nexsan is a leader in overcoming the challenges and rigors of archive. With regulatory compliance, eDiscovery and corporate governance at stake, Nexsan complements CommVault archive solutions with the Assureon 7 archive storage system. In terms of total cost of ownership, archive is similar in benefits as observed in a tiered storage architecture. As a result, savings from offloading data from tier-1 primary storage to the Nexsan Assureon 7 archive, yields very short paybacks cycles.

ECONOMIC BENEFITS

While a true efficiency solution must have measureable technical value, it must also have measurable business value. CommVault and Nexsan have combined two high-efficiency technologies to deliver superior operational efficiency and the best return on investment possible.

As an example: take a typical 500TB configuration of a popular storage system without efficient management and storage as compared to the efficiency of Nexsan storage under Simpna management. On average the Capital and Operating expenses could be in the range of 60% less! In other words, a typical 500TB solution could be reduced from \$1.4M to \$556K (€1,041,821 to €413,751 / £891,819 to £354,179) over three years by the efficient management of CommVault on the efficient storage of Nexsan. Mileage may vary in either direction but the savings are substantial.

Using Nexsan storage with Simpna deduplication also offers immediate benefits, which this simple example does not consider. Ass an example: some have held to the outdated belief that tape is cheaper than disk. However, when a typical Grandfather, Father, Son methodology for backing up 200TB to tape within 8 hours, the annual costs for LTO-4 media and the necessary transports would be \$121,962 (€90,758 / £77,691) (excluding the cost of a library). This assumes a 2:1 compression factor.

By comparison, Nexsan disk as the Simpna deduplication target, reduces the annual storage costs to \$14,862 (€11,059 / £9,467). That’s an 88% cost reduction! The Nexsan cost-advantage alone over other suppliers is as much as 50% savings or more.



CONCLUSIONS

Modern data management is a tightly integrated blend of replication and persistent copies that are secure, deduplicated, managed and accessible through a single, unified platform. Simpana 10 is application, operating system and disk aware, adding to its efficiency. Simpana efficiently moves data from primary storage to Nexsan storage, saving and redeeming expensive tier-1 storage. Data is seamlessly retrieved for multiple uses, including Disaster Recovery, Data Mining, eDiscovery, Compliance and regulatory requirements from ultra-reliable, high-performance, highly efficient Nexsan storage.

This end-to-end efficiency is what truly modern data management is all about. The partnership of CommVault and Nexsan offers the most efficient and cost-effective storage solutions available for mid-sized organizations.

ABOUT IMATION

Imation is a global data storage and information security company. Imation's Nexsan portfolio features solid-state optimized unified hybrid storage systems, secure automated archive solutions and high-density enterprise storage arrays. Nexsan solutions deliver high performance for mission-critical IT applications such as virtualization, cloud, databases, and collaboration; and energy efficient, high-density storage for backup and archiving. For more information, visit www.imation.com/nexsan.

www.commvault.com

<http://info.commvault.com/forms/E-MailCommVault>