

DATAcore & NEXSAN: **EFFICIENT STORAGE** **VIRTUALIZATION**

Deliver maximum value and efficiency in your storage infrastructure for Microsoft®, VMware®, Oracle®, and other environments by combining DataCore™ storage virtualization technology with Nexsan™ storage systems.



SOLUTION BENEFITS

- **HIGHER STORAGE RESILIENCY**
eliminates single points of failure in both the hardware and software layers
- **GREATER EFFICIENCIES** through higher storage utilization, more flexible deployment of tiers and profiles
- **SCALABLE SAN PERFORMANCE** with high-throughput E-Series systems and DataCore adaptive DRAM caching technology
- **IMPROVED DATA PROTECTION** at all levels, from site replication to recoverable data at the I/O level
- **ENHANCED OPERATIONS** with VMware, Microsoft Hyper-V®, Citrix® XenServer®, and other virtualization platforms
- **HETEROGENEOUS PLATFORM** simplifies adding E-Series arrays to SANs using other manufacturers' storage systems

The IT infrastructure simply has to work – despite constrained budgets, data growth and constant change. No matter the size of the data center, virtualization has driven sweeping change, making deployments more simple, scalable, and agile.

Storage is no exception. Today's best-of-breed storage solutions are delivering on the promise of virtualization by creating quantifiable improvements in availability, agility, performance, and flexibility.

The Nexsan E-Series[™] and DataCore solution makes these benefits available to any data center. Organizations can improve ROI, decrease risk and drive value by integrating reliable, resilient, highly scalable Nexsan E-Series storage arrays with DataCore SANSymphony-V[™] storage virtualization technology.

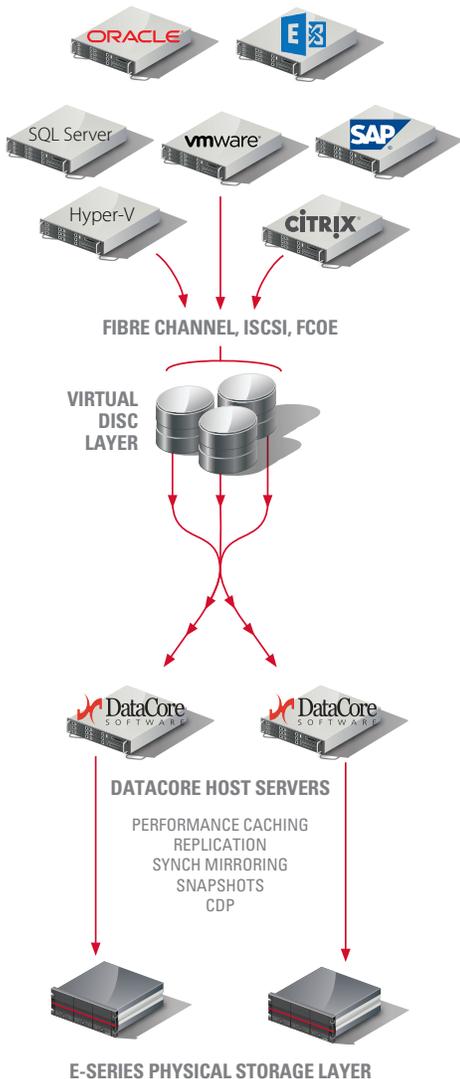
WHY STORAGE VIRTUALIZATION?

Many data centers have been architected with vertically-integrated hardware/software stacks that support specific applications. In a virtualized environment, applications no longer depend on these technology silos for peak operation. Instead, virtualization pools hardware resources from heterogeneous environments. This opens a world of flexibility to the IT administrator, who can now choose infrastructure vendors based on overall value, reliability, and performance.

Storage virtualization federates the enterprise storage environment by pooling and tiering resources for maximum efficiency. DataCore SANSymphony-V creates an abstraction layer that enables efficient management of existing storage systems, eases the upgrade process, and adds a host of benefits to an infrastructure solution utilizing Nexsan E-Series storage arrays.

Nexsan E-Series storage arrays have achieved DataCore Ready status following rigorous compatibility and performance testing. With a mature architecture that combines robust storage density with redundant active components and high reliability features, E-Series systems combine with SANSymphony-V to deliver an ideal platform for storage virtualization.

REFERENCE ARCHITECTURE



ACHIEVING EFFICIENCY FOR PRODUCTION APPLICATIONS

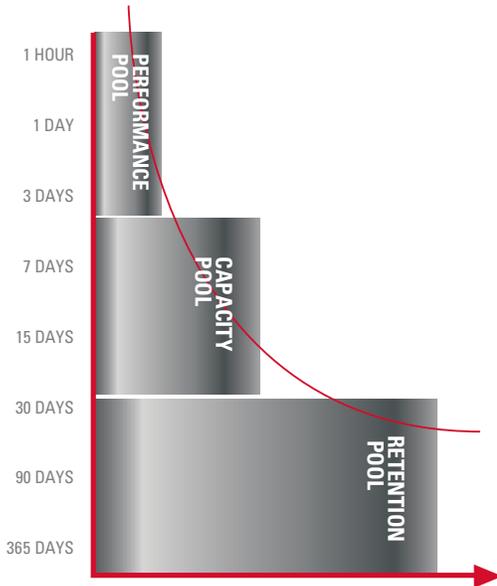
Storage virtualization allows an organization look at storage capabilities in new ways. Implementing the SANsymphony-V virtualization layer with Nexsan E-Series storage delivers high-value primary storage capabilities for managing a range of production applications.

The recommended implementation connects redundant DataCore hosts, physically located in separate locations, with E-Series arrays connected over Fibre Channel. In this configuration, the SANsymphony-V/E-Series implementation immediately delivers a variety of benefits, including:

- **PERFORMANCE** – DataCore SANsymphony-V dramatically accelerates reads and writes when accessing E-Series arrays by reserving processing, memory and I/O resources on the server as high-performance cache. SANsymphony-V further improves throughput by integrating automated load balancing.
- **EFFICIENT PROVISIONING** – IT administrators can configure the solution for as much flexibility and precision as needed to implement the right storage for the right application. E-Series systems allow administrators to flexibly mix-and-match SAS, SATA, and solid state drives. SANsymphony-V then provisions virtual disks as required for production applications, backup/mirroring, archive, or other applications. Administrators can take advantage of even more options for improving efficiency through granular thin provisioning and automated capacity reclamation.
- **AUTO-TIERING** – SANsymphony-V automatically assigns data to policy-driven tiers based on access patterns. Frequently-used data and applications are auto-assigned to high-performance virtual disks provisioned from the E-Series SAN. Infrequently-accessed, aged data dynamically moves to more capacity-driven virtual disks.
- **SNAPSHOTS AND CONTINUOUS DATA PROTECTION** – the DataCore and Nexsan solution manages snapshots in uniquely efficient ways. For example, IT administrators can automatically move snapshots of top-tier virtual disks to less expensive volumes. E-Series arrays deliver virtually unlimited flexibility for configuring storage pools according to capacity, performance, and price characteristics, and multiple tiers can be configured in a single E-Series system. Additionally, thin provisioning makes it easy to manage snapshot capacity usage.
- **BUSINESS CONTINUITY** – the multiple-node storage virtualization solution also delivers affordable paths to business continuity and disaster recovery configurations. If the requirement is for bulletproof, always-on access, IT administrators can configure SANsymphony-V to run synchronous mirroring across Nexsan E-Series arrays. SANsymphony-V then load-balances primary and mirrored workloads between the arrays. The solution also enables stretched cluster (“metro cluster”) capabilities for active/active operations over distance.

For disaster recovery or testing requirements, organizations can implement asynchronous replication across sites. E-Series arrays deliver outstanding value and reliability for both primary and remote sites; DataCore tools manage bandwidth priorities for replicating virtual disks between the two. SANsymphony-V allows IT to replicate and snap virtual disks thousands of miles apart, then test recovery procedures without impacting production sites. The solution supports many-to-one, one-to-many, or many-to-many topologies.

AUTO-TIERING STORAGE



AMOUNT OF STORAGE

As data is accessed less frequently, its need to reside on expensive top-tier storage decreases. SANsymphony-V can automatically move data depending on the need for accessibility or storage profiles. The E-Series arrays provide a highly flexible platform for creating multiple tiers in a single system.

EXPANDED STORAGE MANAGEMENT CAPABILITIES

Extending the SANsymphony-V capabilities, Nexsan E-Series arrays provide an easy-to-implement foundation for scaling storage needs.

- **DENSITY** – reduce rack space requirements with the Nexsan E-Series arrays' high density design. For example, the E60 array delivers up to 60 drives in 4U of rack space.
- **FLEXIBILITY** – Mix and match drives in a single drawer to quickly create storage tiers within the same system – SSDs for highest performance, SAS drives for active data, or SATA drives for a capacity pool.
- **SERVICEABILITY** – Active Drawer Technology™ delivers 24x7 operation even when replacing drives or servicing the array. Simply swap out or add drives as the rest of the array remains active – even when system drawers are open.
- **AVAILABILITY** – Cool Drive Technology™ optimizes airflow which increases product reliability by reducing component temperatures. Patented air channels and redundant fans ensure adequate cooling even if a fan fails.
- **RELIABILITY** – Anti-Vibration Design utilizes unique drive mounting and chassis construction to improve system performance and reliability.

With the combination of Nexsan E-Series systems and the DataCore SANsymphony-V storage virtualization software, administrators can quickly deliver flexibility, performance, reliability, and agility to the IT infrastructure, and accelerate the journey to the cloud. Contact your Imation or DataCore reseller today to transform your storage.