

Software-Defined Storage for SAN and Hyperconverged (HCI) Environments

Ultimate Flexibility, Always-On Business Continuity, and Maximum Performance

KEY BENEFITS

- NO VENDOR LOCK-IN
- 10X FASTER STORAGE¹
- 100% AVAILABILITY²
- 75% LOWER TCO³

USE CASES

- REFRESH OR EXPAND IT/STORAGE INFRASTRUCTURE
- STORAGE CONSOLIDATION OR MODERNIZATION
- HYPERCONVERGED INFRASTRUCTURE
- BUSINESS CONTINUITY
- AUTOMATION OF DATA SERVICES
- STORAGE VIRTUALIZATION
- STORAGE PERFORMANCE IMPROVEMENT

¹ Many DataCore customers realize up to a 10X performance improvement. View Case Studies.

² A survey of over 500 customers showed DataCore significantly reduces storage-related spending, in some cases by 75% or more.

³ Approximately 175 surveyed customers reported eliminating storage-related downtime.

PRODUCT OVERVIEW

DataCore SANsymphony software-defined storage (SDS) provides organizations the flexibility, performance, and simplicity they need to efficiently aggregate isolated disparate storage resources into one highly available storage services pool. DataCore SANsymphony enables any mix of hyperconverged, converged (SAN), and storage virtualization deployment models to mitigate the business risks, IT complexities, and costs associated with different architectures, data migration initiatives, and protocols while increasing your organizations' agility and competitive edge. DataCore's hardware agnostic approach frees organizations from vendor lock-in and provides ultimate flexibility in how they manage, build, and modernize their storage infrastructures.

END-USER BENEFITS

ULTIMATE FLEXIBILITY

Pool and aggregate your collective storage resources under one common set of enterprise-class data services that can be delivered across your entire organization for uniform, centralized management despite differences and incompatibilities among hardware manufacturers, models, and generations of equipment in use. Leverage your existing environment and extend the life and value of your infrastructure. With a broad choice between deployment methods, hyperconverged or open architectures, and a universally compatible format, you can painlessly migrate from one to the other during business operations while meeting stringent SLAs.

MAXIMUM PERFORMANCE

DataCore customers across verticals and use cases report up to a 10X increase in storage performance—in some cases seeing results immediately after deployment. With data services like high speed caching, Parallel I/O, intelligent auto-tiering, random-write acceleration and more, SANsymphony dramatically increases IOPS, decreases latency, and delivers faster response times for your applications. You don't need to rip and replace your entire system to improve performance, SANsymphony lets you scale up or scale out your applications while efficiently using all your resources.

ALWAYS-ON BUSINESS CONTINUITY

With multi-layered protection for continuous operations, high availability, and disaster recovery, SANsymphony ensures your data is permanently available. Even when a component or an entire site fails due to equipment, environmental, or human factors, synchronous mirroring and transparent failover ensure automated, real-time continuous data access for always-available business operations. Additional capabilities like asynchronous replication and advanced site recovery protect your business in case of any disaster, while continuous data protection (CDP) provides an integrated undo button allowing you to revoke any unwanted data change, thereby maintaining data integrity.

SIGNIFICANT COST SAVINGS

DataCore improves resource utilization and delivers single-pane-of-glass management across all storage devices, reducing administrative time and support calls to significantly reduce CAPEX and OPEX. Additionally, DataCore's hardware-independent storage services give you the freedom to choose your preferred hardware and seamlessly integrate new technologies non-disruptively, so you can leverage your existing storage environment and modernize it with cost-efficient alternatives.

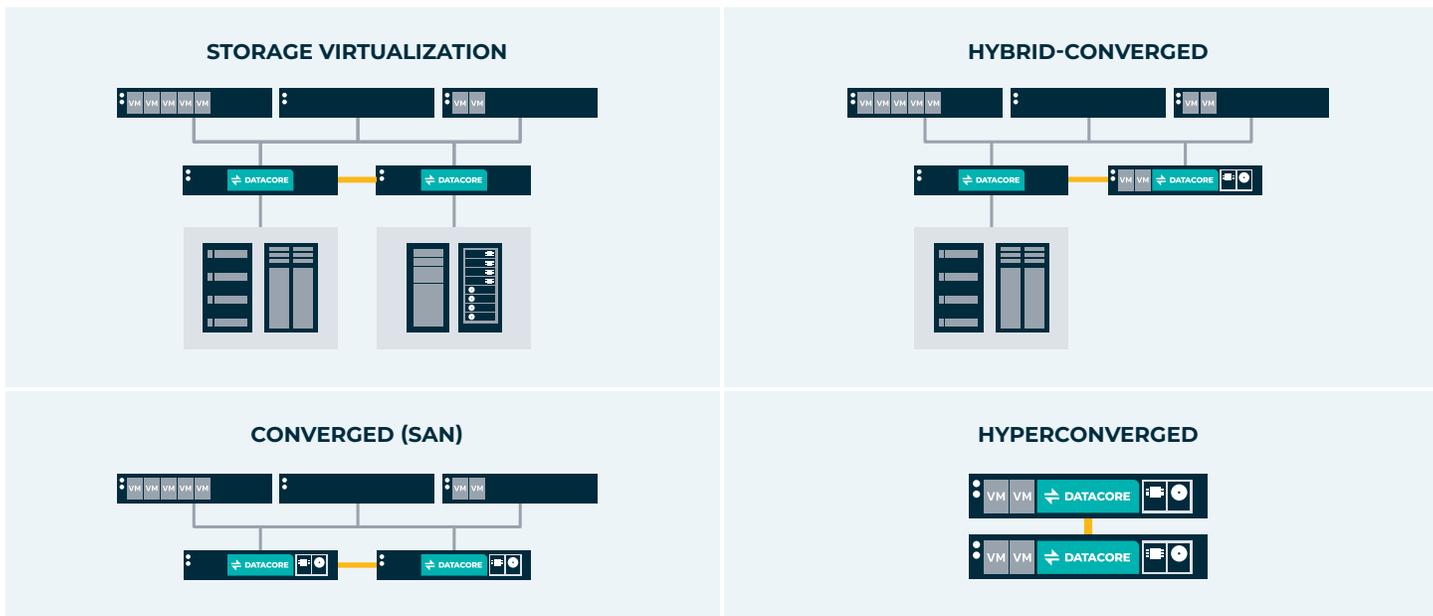
DEPLOYMENT OPTIONS

Storage Virtualization: Abstracts traditional SAN architectures and provides uniform, high-end storage capabilities to applications while extending the life and value of existing SAN devices.

Converged (SAN): Pools built-in server and direct-attached storage resources to create highly dense and economical shared storage.

Hybrid-Converged: Enables any mix of HCI, converged (SAN) and storage virtualization deployment models under a unified management plane with advanced data migration that spans across your entire storage infrastructure.

Hyperconverged: Aggregates local spinning disks and local flash storage of application servers into a fast and highly available virtual storage pool for data sharing across server clusters without an external SAN.



SANSYMPHONY:

ONE STORAGE SERVICES PLATFORM
ACROSS YOUR ENTIRE INFRASTRUCTURE

| CONSUMERS | | | | |
|-------------------------------|----------------------------|-----------------------------|----------|---------------------------|
| PHYSICAL SERVERS | | VIRTUAL MACHINES | | CONTAINERS |
| ACCESS METHODS* | | | | |
| FC | | | ISCSI | |
| OPERATION & INSIGHTS | DATA SERVICES | | | COMMAND & CONTROL |
| PROVISIONING | AUTO-TIERING | QUALITY OF SERVICE (QOS) | | REST API |
| DATA MIGRATION | CACHING | RANDOM WRITE ACCELERATOR | | POWERSHELL CMDLETS |
| HISTORICAL / REAL-TIME CHARTS | CONTINUOUS DATA PROTECTION | REPLICATION & SITE RECOVERY | | |
| HEALTH & PERFORMANCE GRAPHS | DEDUPLICATION/COMPRESSION | SNAPSHOTS | | PLUG-INS |
| PROACTIVE ALERTS | ENCRYPTION | STORAGE POOLING | | |
| PREDICTIVE ANALYTICS | LOAD BALANCING | SYNCHRONOUS MIRRORING | | CONSOLE USER INTERFACE |
| ORCHESTRATION | PARALLEL I/O | THIN PROVISIONING | | |
| STORAGE PROTOCOLS | | | | |
| NVME | FC | ISCSI | SAS/SATA | CLOUD** |

*NFS AND SMB ACCESS IS SUPPORTED THROUGH WINDOWS FILE SERVER | **VIA CLOUD STORAGE GATEWAYS

CONSUMERS

Physical Servers

HP-UX, IBM AIX, Sun Solaris, RedHat Linux SUSE Linux, Ubuntu Linux, Novell Netware, Microsoft Windows Server, Microsoft Windows, among others

Virtual Machines

VMware ESXi (vSphere), Microsoft Hyper-V, Citrix Hypervisor, Linux KVM, and more

Containers

All containers leveraging either Kubernetes Container Storage Interface (CSI) or the Docker Volume Plugin

ACCESS METHODS

Storage will either be served as block storage via Fibre Channel, iSCSI or FC over Ethernet (FCoE). In parallel, the storage can also be served as File Services via Windows NFS, SMB or any other separately licensed NFS service.

DATA SERVICES



Parallel I/O – Processes I/O in parallel vs. serially for increased application performance



Caching – Accelerates application performance by using CPU cache/RAM as read and write cache



Random Write Accelerator – Eliminates random write performance penalty



Auto-Tiering – Automatically sets tier assignments based on data usage patterns, with support for up to 15 storage tiers



Load Balancing – Auto balances I/Os across devices and bypasses failed/offline channels



Quality of Service (QOS) – Limits I/O traffic from lower priority workloads and enables critical apps to run faster



Storage Pooling – Splits tiers based on price/performance/capacity and eliminates stranded disk space



Deduplication/Compression – Reduces the required storage space



Thin Provisioning – Only consume what is needed; no wasting of storage space by pre-allocating it



Replication & Site Recovery – Bi-directional asynchronous replication with automatic failover, resynchronization and failback in case of a disaster



Continuous Data Protection – Behaves as an undo button for any unwanted change



Encryption – XTS-AES 256-bit encryption for data at rest, which is storage device-independent



Synchronous Mirroring – Eliminates storage as a single point of failure, offers fully transparent and automatic failover, resynchronization, and failback



Snapshots – Allows simple and fast generation of independent point-in-time copies

OPERATION AND INSIGHTS

DataCore Insight Services (DIS) is a cloud-based, predictive analytics platform that delivers actionable insights to avoid problems before they occur. Additionally, DIS provides guidance for proactive optimizations from an easy to use, single pane of glass. The SaaS offering continuously analyzes telemetry from your SANsymphony environment to detect early warning signs of potential issues, and uses artificial intelligence (AI) and machine learning (ML) to assess their relative severity and then prescribes steps to prevent them or mitigate their impact. DIS is available with SANsymphony term license only.

DATAcore SANSYMPHONY SOFTWARE LICENSING OPTIONS

SANSymphony is available in three software editions, EN, ST and BZ, with different prices per terabyte (price/TB).

For a detailed explanation and the features/capabilities covered with each edition/licensing, please visit:

www.datacore.com/products/sansymphony/licensing

- EN** Enterprise-class licenses offer the highest performance, richest feature set and most flexibility
- ST** Standard licenses are ideal for midrange requirements
- BZ** Business edition is the cost-efficient entry level of SANSymphony suited for smaller but demanding HA installations

| MINIMUM HW/SW REQUIREMENTS* | |
|-----------------------------|--|
| PROCESSORS | 1 dual core CPU with 2.0 GHz, x64 processors only |
| MEMORY | 8 GB RAM |
| DISK SPACE | 20 GB available local HDD/SSD space |
| NETWORK | 1 Gb/s (or faster) Ethernet port PLUS 2 Ethernet network cards (iSCSI, up to 100Gbit/s) or 2 Fibre Channel HBAs (up to 64 Gbit/s)** |
| OPERATING SYSTEM | Microsoft Windows Server 2019, 2016, 2012 R2, Standard or Datacenter (full editions only) .NET Framework Redistributable Package. Minimum version: 4.7.2 Microsoft Visual C++ 2015 Redistributable Package Update 3 or greater |

* Actual hardware requirements vary based on system configuration and workload. Detailed information can be found in the appropriate user manual.

** Depending on the chosen license, manufacturer, and driver.

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|---|---|---|
| <p>ALWAYS ON SUPPORT 24/7 - 365 DAYS</p>  | <p>AWARD-WINNING TECHNICAL SUPPORT</p>  | <p>CUSTOMER FOCUSED</p> <p>DATAcore cSat 99.6% 2016-Present</p> |
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Discover the Ultimate Flexibility of DataCore Software

DataCore Software delivers the industry's most flexible, intelligent, and powerful software-defined storage solutions for block, file, and object storage, helping more than 10,000 customers worldwide modernize how they store, protect, and access data. With a comprehensive product suite, intellectual property portfolio, and unrivaled experience in storage virtualization and advanced data services, DataCore is The Authority on Software-Defined Storage. www.datacore.com

GET STARTED