VENDOR PROFILE

DataCore

Key Criteria for Software-Defined Storage

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TOPICS: CLOUD FILE STORAGE, OBJECT STORAGE
1. Summary

DataCore SANsymphony is one of the most flexible solutions in the software-defined storage (SDS) market, enabling users to build modern storage infrastructures that combine software-defined storage functionality with storage virtualization and hyperconvergence. This results in a very smooth migration path from traditional infrastructures based on physical appliances and familiar data storage approaches, to a new paradigm built on flexibility and agility.

On top of the core block storage services provided in its SANsymphony products, DataCore recently released vFiLo to add file and object storage capabilities to its portfolio. VFiLo enables users to consolidate additional applications and workloads on its platform, and to further simplify storage infrastructure and its management.

The DataCore platform has been adopted by cloud providers and enterprises of all sizes over the years, both at the core and at the edge. SANsymphony combines superior flexibility and support for a diverse array of use cases with outstanding ease of use. The solution is mature and provides a very broad feature set.

DataCore boasts a global partner network that provides both products and professional services, while its sales model supports perpetual licenses and subscription options typical of competitors in the sector.

DataCore excels at providing tools to build balanced storage infrastructures that can serve multiple workloads and scale in different dimensions, while keeping complexity and cost at bay.
2. About the Vendor Profile

**HOW TO READ THIS REPORT**

This GigaOm report is one of a series of documents that helps IT organizations assess competing solutions in the context of well-defined features and criteria. For a fuller understanding consider reviewing the following reports:

**Key Criteria report**: A detailed market sector analysis that assesses the impact that key product features and criteria have on top-line solution characteristics—such as scalability, performance, and TCO—that drive purchase decisions.

**GigaOm Radar report**: A forward-looking analysis that plots the relative value and progression of vendor solutions along multiple axes based on strategy and execution. The Radar report includes a breakdown of each vendor’s offering in the sector.

**Vendor Profile**: An in-depth vendor analysis that builds on the framework developed in the Key Criteria and Radar reports to assess a company’s engagement within a technology sector. This analysis includes forward-looking guidance around both strategy and product.
3. Key Criteria Analysis

DataCore SANsymphony is a scale-out solution with a rich feature set and extensive functionality to improve resource optimization and overall system efficiency. Data services exposed to the user include snapshots with continuous data protection and remote data replication options, including a synchronous mirroring capability to build metro clusters and respond to demanding, high-availability scenarios. Encryption at rest can be configured as well, providing additional protection for data regardless of the physical device on which it is stored.

SANsymphony supports both Fibre Channel and iSCSI for block access and additional SMB, NFS, and S3 support has been added as a recent option. Support for the NVMe protocol and memory-class storage in the back end addresses high-performance workloads that require the lowest latency. At the other extreme, SANsymphony supports slower media devices, including hard disk drives and remote S3-compatible cloud storage for storing cold data at low cost or enabling disaster recovery processes. Automatic tiering allows different storage tiers to be seamlessly combined to balance performance and capacity, as well as to migrate data to match changing requirements.

NVMe-oF connectivity is not available yet on the front end, but it is on the product roadmap and will enable users to further improve system response for latency-sensitive workloads when it arrives. DataCore further boosts performance with Parallel I/O, a technology that takes advantage of modern CPU design and memory to massively parallelize and accelerate high-demand workloads such as big data analytics, at a fraction of the cost of traditional approaches. At the same time, quality of service (QoS) mechanisms improve system efficiency by limiting consumption of storage resources and optimizing the infrastructure.

DataCore SANsymphony supports a wide range of operating systems and virtualization and orchestration platforms. Notable is support for Kubernetes, where DataCore pursues an interesting two-fold strategy. The company provides both a CSI compliant plug-in for customers that need to immediately leverage the existing infrastructure with Kubernetes, while at the same time making a strategic investment in MayaData and OpenEBS for long-term product development.

The list of supported hardware and certified solutions is extensive, limiting the risk of lock-in and ensuring freedom of choice for initial infrastructure configuration and expansion. In addition, DataCore has partnered with vendors like Lenovo to offer an end-to-end solution and simplify the purchasing process.

The SANsymphony management interface is easy to use, while the DataCore Insight Services cloud-based analytics platform enables users to monitor the entire storage infrastructure from a single interface. Insight Services is able to detect and anticipate potential issues before they become critical, simplifying day-to-day operations and minimizing service disruptions. It also provides tools for capacity planning. DataCore provides a complete set of REST APIs, and Powershell cmdlets are available for advanced users to automate resource provisioning and integrate DataCore with automation and configuration management platforms.
4. Evaluation Metrics Analysis

When evaluating important metrics such as system lifespan, flexibility, ease of use, $/IOPS, $/GB and TCO, DataCore looks like a balanced solution in the SDS space. It boasts a rock-solid core architecture developed over years, with a series of innovations that makes the product both flexible and adaptable.

The scale-out nature of the SANsymphony architecture, combined with the ability to separate the purchase of hardware from software, extends the system lifespan and allows organizations to build infrastructures that have an evolutive approach instead of forcing forklift upgrades or mandating traditional storage infrastructure models. System expansion and old hardware decommissioning are both easier to plan, while the ability to virtualize existing storage resources and mix them with hyperconverged infrastructure (HCI) and storage-only nodes affords the user multiple options when implementing short- and long-term infrastructure strategy.

These characteristics provide excellent platform flexibility, enabling users to deploy the SANsymphony solution both at the core and at the edge, starting with a minimal two-node HCI configuration that can scale up to 64 nodes, while keeping the same operational processes across the entire infrastructure. The ability to seamlessly mix different types of media, node types, and generations likewise expands the options available to the user.

Ease of use is an area of specific focus for DataCore, and the results of that investment are apparent. The user interface is streamlined and consistent, providing all the tools necessary to provision resources quickly and manage day-to-day operations. In addition, DataCore Insight Services provides both a deep and broad view of the storage infrastructure, with useful insight into the health of the system and its evolution over time. Unfortunately, because of the separation of hardware and software, this information can’t be used for proactive hardware maintenance.

The flexibility of the system and the friendly licensing model allows DataCore to be competitive both in terms of $/GB and $/IOPS. In practice, SANsymphony presents a well-balanced solution that can serve several type of workloads and segregate them properly, by leveraging QoS functionalities that:

- Mix and match different storage devices in data volumes
- Employ automatic tiering to provide different levels of performance and capacity tailored to need
- Drive efficiency via data footprint optimization techniques such as deduplication and compression
- Leverage DataCore’s Parallel I/O scheme to maximize performance for the most demanding workloads.

The combination of these features and capabilities yield impressive TCO metrics for DataCore SANsymphony. The product is mature and the company has been steadily improving it to keep the feature set aligned with the changing needs of enterprise organizations. The solution further appeals to customers and local service providers with its hardware-agnostic architecture and purchase model.
that allows investments to be made over time without requiring a large upfront infrastructure purchase.
5. Bottom Line

DataCore has built a large customer base over the years, with several thousand users that embraced the SDS philosophy and took advantage of the continued evolution of the product. DataCore SANsymphony products are both user and partner friendly, which has helped fuel the success of the solution with mid-sized enterprises and local cloud providers, but DataCore has also earned the loyalty of some large enterprises among its customers. DataCore’s strong field presence and well-regarded technical support among both partners and users has been a factor in this success.

Some aspects of the product still need improvement. More seamless integration with the cloud, a fully supported SaaS-based cloud storage experience, and full NVMe-oF support would all be welcome. But DataCore is working on these elements and the company’s roadmap is promising.
6. About Enrico Signoretti

Enrico has 25+ years of industry experience in technical product strategy and management roles. He has advised mid-market and large enterprises across numerous industries and software companies ranging from small ISVs to large providers.

Enrico is an internationally renowned visionary author, blogger, and speaker on the topic of data storage. He has tracked the changes in the storage industry as a Gigaom Research Analyst, Independent Analyst and contributor to the Register.
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