Veritas InfoScale™ Solution Profile

2022-23 DCIG TOP 5 ENTERPRISE SDS UNIVERSAL STORAGE SOLUTIONS

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Enterprise SDS Universal Storage Solutions

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Enterprise SDS Universal Storage Solutions

SOLUTION

Veritas InfoScale™

COMPANY

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DISTINGUISHING FEATURES OF VERITAS INFOSCALE

- Application resiliency
- Cloud integration
- Flexible Storage Sharing

DISTINGUISHING FEATURES OF TOP 5 SOLUTIONS

- Robust support
- Multi-cloud support
- Broad OEM support
- Data protection features
- SDS management options

SOLUTION FEATURES EVALUATED

- *Deployment capabilities*
- *Data protection capabilities*
- *Product and performance management features*
- *Technical support*
- *Licensing and pricing*

Enterprise Storage Challenges

It is little surprise that data is growing faster than enterprise IT budgets. The latest figures suggest 23% growth rates for the data the world generates and replicates.[1] On-premises data storage and off-premises cloud storage both reflect these same double-digit gains.[2] In comparison, IT spending will increase by 3.6% this year.[3]

Several factors are driving this data growth. More devices and applications are creating more data. File sizes have increased. And organizations are under pressure to keep data for longer periods.

For many organizations, the new norm is petabytes of data under management.

And so, with data accumulating faster than IT budgets are growing, organizations are forced to look for better ways to store, protect, and manage the data deluge.

The Data Silo Problem

Organizations do not store all the data they generate. When stored though, block, file, and object data represent the three main classes of data storage.

Traditionally, enterprises have neatly divided each protocol so that each gets its own storage system. Organizations have found these proprietary dedicated systems come with premium costs. They require multi-year planning cycles to purchase and replace. Technical buyers must often over-purchase capacity. And IT leaders must add to the capital expenses, the operational costs of floor space, power, cooling, and the resources to manage them.

Today, enterprises may rely on a myriad of different storage systems based on media, protocols, and use-cases. These systems come with unique tools, backup, and disaster recovery processes. The interconnection between these systems is often limited. The resulting data silos, in turn, brings issues of storage visibility across the enterprise.

SDS—Affordable, Efficient, Flexible

Because of these problems, organizations cannot afford to deploy separate, distinct storage systems to meet current and future storage needs.

The emergence of software-defined storage (SDS) over the last decade has changed the paradigm for purchasing storage as an appliance with proprietary software bound to its hardware. SDS separates the software from its underlying hardware. Decoupling the software from its physical storage brings many benefits.

Where early applications for SDS were limited, on-premises use-cases, maturing SDS offerings has brought expanded features and deployment options. SDS has reached out of the data center to the cloud. Organizations can tier data to cloud storage and even run SDS in the cloud for hybrid and multi-cloud storage solutions.

Today, SDS can be found everywhere data is stored, in IoT devices, edge locations, data centers, the public cloud, and multi-cloud storage architectures. These wide options for SDS deployment allow organizations to move and store data where needed most for cost, performance, security, and workload priorities.

1. https://www.idc.com/getdoc.jsp?containerId=prUS47560321. Referenced July, 2022.
2. https://www.globenewswire.com/en/news-release/2022/04/27/2429881/0/en/With-24-CAGR-Cloud-Storage-Market-Size-Worth-USD-376-37-Billion-in-2029.html. Referenced July, 2022.
3. https://www.ciodive.com/news/it-technology-budget-2022-Gartner/608407/. Referenced July, 2022.

Enterprise SDS Universal Storage Solutions

Block, File and Object Storage

Defining characteristics of the three major data storage types.

Block data. Many enterprise applications use block or structured data for mission-critical applications. Enterprises use block data for high-performance, low latency, and high throughput use-cases such as databases and transactional workloads. As the name implies, block storage organizes data in even-sized blocks. Enterprises store block data on Storage Area Network (SAN) arrays.

File data. File data includes images, documents, media such as video, audio, images, sensor data, documents, emails, presentations, spreadsheets, and similar files. These examples of unstructured data represent the largest segment of data growth. Often shared across a network in enterprise settings, organizations traditionally store file data on Network Attached Storage devices and file servers. These devices organize file data as a hierarchy of files within folders.

Object data. Object data started its rise to prominence with the introduction of Amazon's Simple Storage Service in the cloud. Now object data can be found everywhere, from the cloud to the edge. Rather than neatly organized blocks of data or an organization of files within folders, object storage manages its data by assigning unique IDs, buckets, and descriptive information (metadata) to data objects.

The Benefits of Universal SDS

With Universal SDS, storage administrators may configure, store and present block, file, and object access to their enterprise applications.

Universal SDS allows organizations to replace multiple traditional storage systems with a single consolidated storage platform. With Universal SDS, storage administrators may configure, store and present block, file, and object access to their enterprise applications.

IT organizations value Universal SDS for its:

Deployment flexibility. Organizations can download, deploy, and configure SDS solutions where and how they want using their preferred server provider, which may differ from their preferred storage software vendor. Expanded deployment options within virtual, container, and cloud platforms reduce vendor lock-in as SDS frees enterprises from particular hardware vendors and platforms.

Scalability. Universal SDS solutions enable organizations to scale up or out depending on requirements. Some SDS solutions can incorporate existing on-premises physical storage into an expanded virtualized pool. For solutions utilizing public cloud storage, capacity is virtually unlimited. Such scalability helps organizations flex to their growing data and application needs.

Unified data management. Rather than different data silos where IT administrators have disparate views of storage, many SDS solutions empower organizations to view and manage their data holistically across their data center, organization, and even multi-cloud architecture. Global views, including permissions management, capacity utilization, and analytics, open new opportunities for ensuring optimal performance and cost for managing an organization's data.

Cost savings. SDS-based solutions bring savings and efficiencies compared with legacy storage systems. SDS solutions are known for supporting off-the-shelf storage devices in place of proprietary storage, which is often priced at a significant premium. Businesses can reduce their storage expenses by optimizing existing storage for cost and

performance. Using SDS, organizations can tier cold, untouched files to low-cost storage, whether on-premises or in the cloud. As IT departments understand their trends in data growth using SDS data management features, they can better plan and budget.

API automation. IT leaders look for solutions that integrate with their current environment. SDS solutions include application programming interfaces (APIs). With APIs, organizations can link applications to each other, share data, and automate tasks. And for object stores, the S3 API plays a key role.

Use-cases for Universal SDS

SDS becomes an ideal use for providing files services in place of legacy NAS appliances.

Certainly, there are extreme cases where enterprises need specialized storage appliances and arrays fine-tuned for specific storage requirements. However, with its features and benefits, universal SDS emerges as a preferred choice for a wide variety of use cases.

Primary storage. A central way organizations can leverage SDS is as a target for primary storage. As a common capability, SDS solutions support storage needs for virtual machines. Because of SDS's scalability features, IT departments enjoy the flexibility to add or shrink capacity as required, whether for block, file, or object storage requirements.

Databases. As universal SDS supports SAN workloads, administrators may use SDS for storing databases and other applications requiring block-level access. Quality of Service (QoS) features within some SDS solutions ensure the priority of block data workloads.

NAS replacement. SDS becomes an ideal use for providing files services in place of legacy NAS appliances. As more capacity may be needed, administrators can expand the solution or automatically tier off cold data to archive storage or the cloud to free up space.

Cloud-native workloads. Enterprises are using on-premises object storage to develop, test, and deploy applications made for a cloud computing architecture. Developing these applications on-premises enables developers to work out issues before transitioning these workloads to the cloud—or serve data to cloud-native applications being brought back to the data center from the cloud.

Backup and archive. Backup and archive operations remains a critical function for enterprise storage. Organizations can integrate SDS with popular enterprise backup applications and use their SDS solutions for backup and archive. Monetization opportunities open as organizations avail their backup and archive storage of AI/ML workloads to extract business insights.

Persistent storage for Kubernetes. Containers represent a new future for abstracting workloads and applications from the underlying storage infrastructure. Organizations can use SDS for container storage needs. As a point of interest, each of DCIG's TOP 5 solutions provides a Container Storage Interface (CSI) driver to expose block and file data to containerized workloads. Several SDS solutions offer advanced storage management features for Kubernetes environments.

Universal SDS for Today's Enterprise Storage Needs

As noted earlier, organizations cannot afford to deploy separate, distinct storage systems to meet current and future storage needs.

Today's enterprises benefit from affordable, efficient, flexible storage solutions like Universal SDS that support diverse environments, workloads, protocols, and media.

Enterprise SDS Universal Storage Solutions

These solutions make data available to applications and users, whether the focus is capacity or performance.

It is benefits and use cases like these above that drive SDS's nearly 26% growth rate.[4] And it is why IT leaders serve their stakeholders well by considering Universal SDS for their organizations.

Distinguishing Features of DCIG TOP 5 Enterprise SDS Universal Storage Solutions

DCIG TOP 5 solutions evidence rich support for multi-cloud SDS deployment and storage.

DCIG evaluated fourteen SDS-based solutions for a universal, multi-protocol use case. Using feature-based analysis and comparisons of defensible data derived from publicly available sources, vendors, and DCIG's own experience, DCIG's TOP 5 Enterprise SDS Universal Storage Solutions evidence these characteristics in contrast with the other evaluated solutions.

Robust support. DCIG TOP 5 providers display robust support capabilities. All DCIG TOP 5 vendors provide 24x7x365 technical support and at least one-hour support response times. In contrast, only half the other evaluated solutions provide one hour response times. All DCIG TOP 5 vendors offer community support forums and knowledgebases for self-service support. In short, DCIG TOP 5 solutions evidence a greater breadth of support options than the other solutions.

Multi-cloud support. DCIG TOP 5 solutions evidence rich support for multi-cloud SDS deployment and storage. Each of the major cloud providers, such as Amazon, Azure, and Google, is supported. Many of these SDS products can be found with cloud market-place offerings to simplify deployment, configuration, and optimum performance. Such broad support offers flexibility in matching a cloud provider's capabilities with the needs of the business.

Broad OEM support. In addition to capabilities for deploying SDS on commodity-based servers, vendors supplying DCIG TOP 5 solutions self-certify their solutions to work on popular OEM equipment such as Cisco, Dell, Fujitsu, Hewlett Packard Enterprise, Lenovo, and Supermicro. Such broad support gives enterprises confidence in running SDS on servers from their preferred equipment providers.

Data protection features. DCIG TOP 5 solutions reflect robust data protection and cyber-resiliency features for protecting data from inadvertent or malicious data loss. For example, all DCIG TOP 5 solutions provide replication and snapshot options for recovering from inadvertent or malicious data loss. All DCIG TOP 5 solutions provide both at-rest and in-flight encryption. Each of the DCIG TOP 5 solutions supports multi-factor authentication and role-based access controls for data security. In contrast, only 55% and 75% of the other evaluated solutions provide multi-factor authentication and role-based access controls.

SDS management options. DCIG TOP 5 solutions provide multiple ways to manage their SDS product. Each offers a command line interface (CLI) and a web-based GUI. Each solution offers a unique client application as well, compared with 66% of the other evaluated solutions. These different options allow users to interact with their storage in their preferred way.

4. https://www.enterprisestorageforum.com/software/sds-market/. Referenced July, 2022.

Enterprise SDS Universal Storage Solutions

Veritas InfoScale™

Upon DCIG's completion of reviewing multiple, available SDS-based universal storage solutions, DCIG ranked Veritas InfoScale as a TOP 5 solution. Veritas represents a long-established name in enterprise storage software. Veritas InfoScale™ SDS enables deployment flexibility by running on a broad set of operating systems across physical, virtual, cloud, and container platforms. Veritas designed InfoScale to support an enterprise's most important services, with rich features for application high availability and performance. With InfoScale, enterprises can adapt its functionality to fit their specific environment.

Veritas designed InfoScale to support an enterprise's most important services, with rich features for application high availability and performance.

Notable features that earn Veritas InfoScale a DCIG TOP 5 award include:

Application resiliency. Understanding that enterprise workloads differ in priority, Veritas designed InfoScale to ensure data availability for mission-critical applications. Through monitoring application resource states, InfoScale's Intelligent Monitoring Framework (IMF) provides near instantaneous notification of an availability change. Such a change automatically initiates failover processes. A failover may be as straightforward as an application restart or as complex as starting disaster recovery procedures across disparate platforms and interdependent services. These and other InfoScale availability features ensure enterprises exceed their application service level objectives.

Cloud integration. Organizations can leverage InfoScale for both hybrid-cloud and multi-cloud data environments. This includes providing persistent storage services for Kubernetes environments. Administrators can automate data movement from on-premises to the cloud and between clouds. Organizations can configure their applications for high availability spanning cloud regions or cloud providers. With InfoScale, enterprises can manage all their cloud data from a single platform. The Veritas InfoScale Operations Manager provides visibility and control of an organization's storage with views across its physical, virtual, and cloud environments.

Flexible Storage Sharing. InfoScale's Flexible Storage Sharing features let enterprises pool and share SAN attached, direct attached, or network-shared storage for physical, virtual, cloud, and containerized environments. IT administrators can create logical volumes using multiple storage types for a single namespace and create specialized storage classes for performance, availability, and security to match an application's requirements. The Flexible Storage Sharing elements are transparent to any application using it. For cloud deployments, InfoScale can share cloud volumes between nodes (and across Availability Zones) to provide a highly available clustered file system for critical applications, whether local or remote. ■

About DCIG

The Data Center Intelligence Group (DCIG) empowers the IT industry with actionable analysis. DCIG analysts provide informed third-party analysis of various cloud, data protection, and data storage technologies. DCIG independently develops licensed content in the form of DCIG TOP 5 Reports and Solution Profiles. Please visit **www.dcig.com.**