Red River | NetApp®

THE SHIFTING STORAGE LANDSCAPE:

WHAT'S NEW & NOTEWORTHY IN SAN-OPTIMIZED STORAGE

Leveraging Innovation and Accelerated Architectures

It's long been understood that data center modernization begins and ends with data management. Every advancement in IT technology, including the latest in AI and predictive analytics, starts with data. This core focus on data storage and protection is well placed. Continuous data availability is an undeniable mandate, and many organizations struggle to find the top performance they need while balancing the budget.

This can be seen in Storage Area Networks (SAN), which are an important part of modernization efforts, as they bring together the high-performance networking, servers and storage that organizations need to manage growing data volume. SANs are known for improving application availability and data accessibility because they provide centralized storage that is accessible to many servers. But the storage engine behind these networks is crucial to keeping pace.

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In particular, enterprise operations typically have both SAN-based workloads (ERP, databases, VDI) and unstructured data NAS workloads in one environment. Some organizations separate these workloads based on internal policies that require dedicated storage to isolate some or all of the SAN workloads. Those SAN workloads need high performance, continuous availability and operational efficiency while maintaining contrained budgets, in short an intelligent data infrastructure is needed.

Choosing a Storage Solution that "Makes the Grade"

With data modernization as an imperative, it's fundamental to adopt data storage solutions that "make the grade" across key performance objectives to enable effective management of block workloads (such as FCP, iSCSI, NVMe/TCP and NVMe/FC) and begin to leverage intelligent data infrastructure for full growth. Here are the primary criteria to consider when choosing a sustainable storage solution.

Sacrificing any one of these criteria can dramatically impact cost and efficiency in the long-run, leading to limitations as organizations grow and execute next generation applications to support mission objectives.

Solutions should:

1. Enable innovation and contribute to competitive advantage

2. Improve scalability

3. Remove silos and create a unified and accessible system

4. Meet all performance needs within budget

5. Improve Data Securty & Compliance

6. Increase efficiency

7. Support a strong data governance strategy

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So what are the available options for organizations looking to modernize their data center strategy?

A. Stay the Course: Not making a decision on storage technology is in fact a decision to stay the course. Aging infrastructure and ongoing maintenance of applications contributes to rising costs in data management that accrue over time. As the demands for data-heavy applications across AI continue to increase, many organizations find their current environment is not suited to leverage these tools effectively.

B. Hyperconverged Infrastructure: While there are many advantages to hyperconverged options, the grass isn't always greener on the other side. Hyperconverged infrastructure can increase costs and limit scalability. Scalability, while available, can come with strings attached – with some solutions requiring organizations to add more compute along with storage, which drives costs.

C. Lift & Shift to Cloud: Relying on cloud storage has its advantages, however it may not be a cost-effective option when needing long-term storage for large-scale projects. Maintaining security and compliance for financial, healthcare and other regulated industries will require the highest level of security, which can be costly to maintain.

Reconsidering Another Path: SAN Infrastructure Backed by All-Flash Arrays

In the past, all-flash arrays have been considered too costly for organizations managing tight budgets. New technology in the market is proving that data center leaders can capture all the benefits of flash storage with a lower total cost of ownership than most people expect.

All flash systems offer the high-speed data processing and low latency that data-intensive applications and workloads need to run efficiently and reduce energy costs as well as carbon footprint. A capacity flash offering recently introduced is allowing leaders to shift from hybrid systems to consume more flash at a competitive price point.

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So organizations that are prioritizing AI and efficient data management have good reason to consider flash storage.

With 20x the performance of HDD technology, flash can accelerate common enterprise applications, such as Oracle Database, MS-SQL, SAP, and VDI, as well as data analytics. The speed of flash enables customers to access information faster and more effectively and frees up IT staff to focus more on strategic business goals and less on unplanned fire drills.

But flash solutions come in various offerings and it's important to do a direct comparison to ensure the right fit. For organizations needing the flexibility to scale, all-flash systems that offer nondisruptive scale-out make it possible to start small and grow big. Flash storage that is NVMe-ready can also help future-proof infrastructure for new technologies and eliminate costly and disruptive forklift upgrades. If an organization's IT strategy calls for a potential cloud element down the road, a flash system that supports cloud integration provides maximum flexibility for the future.

Data Governance & The Storage Decision

In the process of data modernization and evaluating next-generation storage options comes the question of how to align technology with a stable data governance approach. Each technology option comes with trade-offs, but data governance cannot be one of them.

Chief data officers, CIOs, CTOs and all IT leaders are tasked with ensuring data security and management amid strapped budgets. In modern environments it is a struggle for leaders to know what type of data they have in their environment and where it is stored. It can be on-prem or in the cloud, in structured platforms like a block array or unstructured like an SMB share or NFS export. So as data center modernization initiatives get started, managing the data volume and location are challenges leaders are looking at from the top down – and how modernization efforts can simplify the complexities of the environment.

It's impossible to do data center modernization without focusing on storing, protecting, replicating, identifying and classifying data well. The technology has to follow suit and prevent data vulnerabilities that result in broader organizational impact.

Traditionally, flash arrays have been considered an ideal technology but one that is generally out of reach for most organizations. However, in recent years there's been a resurgence in making this technology more attainable.

NetApp All-Flash ASA

NetApp ASA arrays are primed to take on any SAN workloads with the ability to multi-task. It is the only SAN-optimized storage that offers all-flash performance for the price of disk and can stay sharp even while encrypting, compressing, deduplicating and protecting data.

These all-flash arrays deliver a simplified and consistent SAN experience for mission-critical databases and other SAN workloads. Built on an end-to-end NVMe architecture, the NetApp ASA systems deliver industry-leading availability, superior performance, and simplified data management across any hybrid cloud.

If a customer has unplanned downtime in excess of 31.56 seconds per year, remediation is provided.

Continuous Availability

ASA systems ensure continuous access to data during unplanned outages with symmetric, active-active controller architecture. With both active controllers supporting storage operations to the same drive, this symmetric active-active configuration provides uninterrupted access to data, with rapid failover recovery. NetApp provides:

- **Six Nines Data Availability Guarantee:** If a customer has unplanned downtime in excess of 31.56 seconds per year, remediation is provided.
- **4:1 Storage Efficiency Guarantee for SAN Protocols:** If NetApp doesn't meet your workload efficiency goals, they will make it right – at no cost to you.

Security & Data Governance Everywhere

Red River and NetApp help organizations prioritize security and governance while maintaining performance. Encryption and key management help guard sensitive data on premises, in the cloud, and in transit. With ASA arrays, NetApp provides:

- Protection against threats with multifactor authentication, role-based access control, and multi-admin verification.
- FIPS 140-2 compliance (Level 1 and Level 2) with self-encrypting drives and use any type of drives with software-based encryption.
- Disk sanitization, logging and auditing monitors, and secure multitenancy to meet governance and compliance requirements.
- Guaranteed data recovery in the event of a ransomware attack.

To learn more about SAN-optimized storage, contact us at **info@redriver.com**

ABOUT NETAPP

NetApp is an intelligent data infrastructure company, combining unified data storage, integrated data services, and CloudOps solutions to turn a world of disruption into opportunity for every customer. NetApp creates silo-free infrastructure, harnessing observability, and AI to enable the industry's best data management. As the only enterprise-grade storage service natively embedded in the world's biggest clouds, their data storage delivers seamless flexibility and creates a data advantage through superior cyber resilience, governance, and application agility.

ABOUT RED RIVER

Red River brings together the ideal combination of talent, partners and products to disrupt the status quo in technology and drive success for business and government in ways previously unattainable. Red River serves organizations well beyond traditional technology integration, bringing more than 25 years of experience and mission-critical expertise in managed services, cybersecurity, modern infrastructure, collaboration and cloud solutions.

Learn more at **redriver.com**.