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MARCH 2026

Transforming Storage for the Modern Era With NetApp Keystone Storage as a Service

Simon Robinson, Principal Analyst

Abstract: The pressure on IT organizations to keep pace with the fast-evolving demands of modern workloads is exposing multiple frailties within legacy storage infrastructures. The obvious answer is to modernize, but with many priorities to juggle, this is often easier said than done using traditional capex approaches for IT purchasing. Instead, more organizations are evaluating "storage as a service" (STaaS) models that offer an attractive blend of cloud-based, subscription economics, while retaining control over their data. NetApp's Keystone has been designed to deliver just this, offering a range of pay-as-you-go options for data environments that span the entire hybrid multicloud.

Storage struggles to keep pace with fast-changing IT demands

As the pace of innovation across IT accelerates, IT leaders require an infrastructure foundation that can keep up. Yet, for many organizations, the storage environment is acting as a barrier, rather than an enabler, of broader IT innovation and transformation. A combination of outdated storage infrastructure and a patchwork of brittle storage silos is pushing up operational complexity and costs, inhibiting innovation and increasing financial and operational risk.

The negative effects of running an outdated storage environment are especially consequential in an era where data is a critical foundation of the digital initiatives that organizations are prioritizing, including cyber-resiliency, AI, and cloud migrations. According to recent research by Enterprise Strategy Group (now Omdia), 69% of IT leaders said IT infrastructure complexity was slowing down IT operations and digital initiatives. Moreover, a similar proportion (68%) highlighted storage specifically as a major pain point for their IT organization.[1]

Specific storage challenges vary widely across organizations, but our research finds that many organizations still struggle with basic blocking and tackling, including ensuring adequate performance for increasingly demanding applications, ensuring data is on the right tier of storage, effectively integrating storage with the broader IT environment, provisioning and managing capacity, and managing costs.[2]

Given these challenges, transforming to a modern storage footing seems like the obvious solution. However, many organizations are ill-equipped to modernize, lacking the funds to make heavy upfront capital investments and the skills required to transform. Additionally, the precise future infrastructure requirements

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[1] Source : Enterprise Strategy Group (now Omdia) Complete Survey Results, *The Critical Role of Storage in Building an Enterprise AI Infrastructure*, September 2025.
[2] Ibid.

of fast-evolving workloads such as AI are difficult to predict. Underinvest in infrastructure, and an organization may find itself having to upgrade sooner than planned, which involves additional cost, effort, and time. Overinvesting, on the other hand, may result in underutilization and wasted spending—not just on excess storage, but on data center real estate, power, and cooling. Hence, the traditional capex approach for storage and broader IT procurement is increasingly ill-suited to the surging demands and practical realities of the modern IT environment.

Over the last several years, the industry has responded to these challenges through the development of on-premises STaaS capabilities. Taking a cue from the public cloud model, these offerings enable organizations to deploy and consume on-premises infrastructure on a "pay-as-you-go" basis, paying only for the capacity they actually need. This approach avoids up-front capital expenditure and enables customers to scale their storage up or down as required, based on changing demands. The key difference versus traditional public cloud models is that these offerings are designed to run on premises, inside a customer's own environment, where they can remain in complete control of their infrastructure and data. This latter point is of particular importance to organizations operating in highly regulated industries, such as financial, healthcare, education, and government.

The growing appeal of the on-prem STaaS model to IT decision-makers is validated by Enterprise Strategy Group (now Omdia) research, where 78% of respondents said they were either already deploying such models or actively evaluating them.[3] What is fascinating is that organizations adopting these models reported a wide range of benefits, including multiple "soft" benefits that are more difficult to quantify but are, nonetheless, critical, as well as concrete financial benefits.

As noted in Figure 1, the most-frequently cited benefit—cited by more than half of respondents—is that these consumption-based models free up IT personnel time so employees are spending less time "keeping the lights on" (i.e., managing backups and performing updates, patches, and overall troubleshooting) and more time concentrating on tasks that add value to the business. This latter point may explain why many organizations also reported that the use of STaaS models has helped them improve IT staff retention. Another commonly cited benefit was in the area of mitigating financial risk:[4] Since customers only pay for the hardware they actually use, they are able to keep storage costs down, potentially freeing up budget to invest in other IT projects, such as AI.
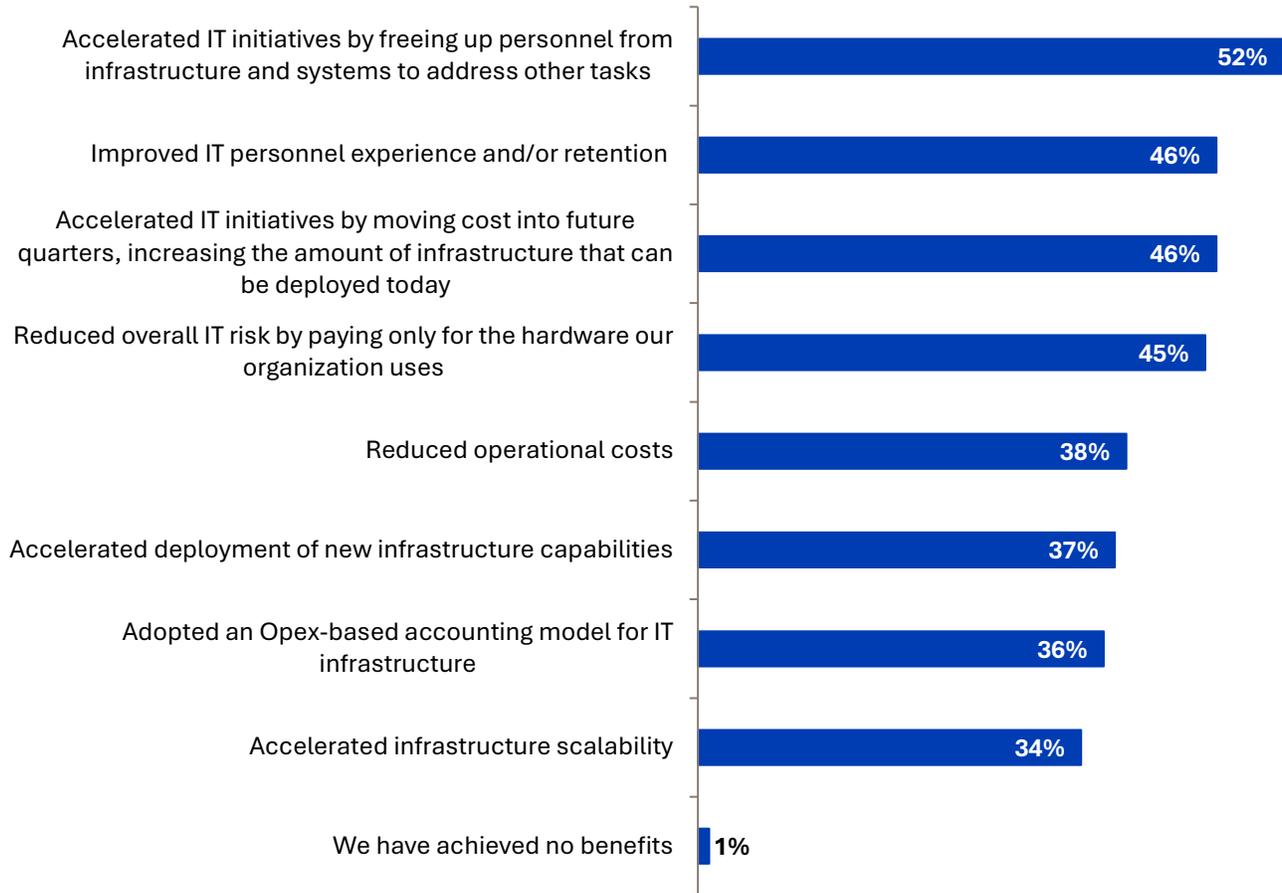
These benefits underscore why more organizations are considering STaaS as part of their data and storage modernization strategies. However, not all STaaS offerings were created alike, and capabilities from different vendors vary widely.

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[3] Source: Enterprise Strategy Group (now Omdia) Research Report, *Navigating the Cloud and AI Revolution: The State of Enterprise Storage and HCI*, March 2024.
[4] Ibid.

Figure 1. Benefits from deploying on-premises STaaS

Which of the following benefits, if any, has your organization achieved, or does it expect to achieve, by leveraging a consumption-based model for data center storage or HCI? (Percent of respondents, N=293, multiple responses accepted)

Benefit	Percent
Accelerated IT initiatives by freeing up personnel from infrastructure and systems to address other tasks	52%
Improved IT personnel experience and/or retention	46%
Accelerated IT initiatives by moving cost into future quarters, increasing the amount of infrastructure that can be deployed today	46%
Reduced overall IT risk by paying only for the hardware our organization uses	45%
Reduced operational costs	38%
Accelerated deployment of new infrastructure capabilities	37%
Adopted an Opex-based accounting model for IT infrastructure	36%
Accelerated infrastructure scalability	34%
We have achieved no benefits	1%

Source: Omdia

NetApp Keystone – delivering STaaS for the modern era

As a strategic supplier of enterprise storage solutions, NetApp plays a critical role in the data infrastructure ecosystem. In recent years, the company has responded to changing customer demands and now has a comprehensive portfolio of STaaS capabilities under the Keystone brand.

NetApp Keystone is a subscription-based storage service that simplifies managing, protecting, and scaling data across hybrid multicloud environments. With service-level agreement (SLA) backed performance; built-in security; and flexible, pay-as-you-go pricing, Keystone delivers a cloud-like experience that reduces complexity, accelerates deployment, and keeps data always available as business needs evolve.

What makes Keystone different?

NetApp's objective with Keystone has been simple: to turn enterprise storage into a cloud-like experience. Keystone enables customers to modernize, transform, and radically simplify the way they deploy, manage, and pay for their data infrastructure by presenting all of the functionality found across the entire Keystone portfolio through a unified subscription.

Notable aspects of Keystone include:

- **Risk mitigation.** Keystone offers a fresh approach to storage deployment and operation that delivers substantial benefits while mitigating financial and operational risks. The ability to scale on demand, move workloads across the hybrid cloud freely, and deploy new capacity in days rather than months changes the economics and accelerates time to value, while translating lumpy capex into predictable operating expense that is aligned to actual usage. Meanwhile, peace of mind comes via SLA-backed guarantees that provide consistent performance and up to five nines availability.

- **Unified hybrid cloud storage.** Unlike other offerings that are fragmented across multiple storage types, tiers, and locations, Keystone is predicated on a single subscription for all storage types (i.e., file, block, and object) that can span across public cloud, on-premises, and edge locations. This significantly simplifies the billing and contract processes, as well as operations. In addition, a single management control plane eliminates silos to reduce complexity, while self-service, centralized visibility offers control for all storage resources.

- **Capacity and performance flexibility.** While alternative approaches often have rigid requirements around scale, Keystone is designed with flexibility in mind. This recognizes the reality that IT leaders often have limited visibility into their future capacity requirements, especially for emerging applications such as AI, which may potentially lead to significant data growth or changing performance requirements. Keystone allows customers to dynamically scale up or down by up to 25% annually, as well as shift workloads between on-premises and cloud locations, as needed. Contract terms allow for annual adjustments to committed capacity, avoiding overprovisioning and lock-in.

- **Built-in cyber resilience.** Keystone includes all NetApp functionality, including NetApp's cutting-edge and comprehensive security and cyber-resilience capabilities. Notable aspects here include NetApp's AI-powered ransomware detection and immutable data copies, backed by an optional Ransomware Recovery Guarantee for data restoration.

- **Automated tiering.** In the current environment where storage media supply is constrained and costs are rising, it's more important than ever that data resides on the most cost-appropriate storage tier. Here, Keystone ensures that cold or infrequently accessed data is automatically offloaded to lower-cost storage, such as to on-premises object storage or to the public cloud. According to NetApp, this can result in TCO reductions of up to 50% without manual intervention.

- **Native multicloud integration.** A major aspect differentiating NetApp overall is that it's the only storage vendor to offer comprehensive integration with all major public cloud providers—AWS, Google Cloud, and Microsoft Azure—each of which sells NetApp-based offerings as a first-party service. This is particularly valuable in the context of Keystone, as it enables seamless data mobility and operations across the hybrid cloud. As more organizations look to unify their on-premises and cloud-based operations and procurement, Keystone can act as a unifying enabler, with deep integration ensuring consistent data

services, the elimination of storage silos, and the simplification of vendor and contract procurement and management across the entire hybrid cloud environment.

Figure 2. Overview of NetApp Keystone
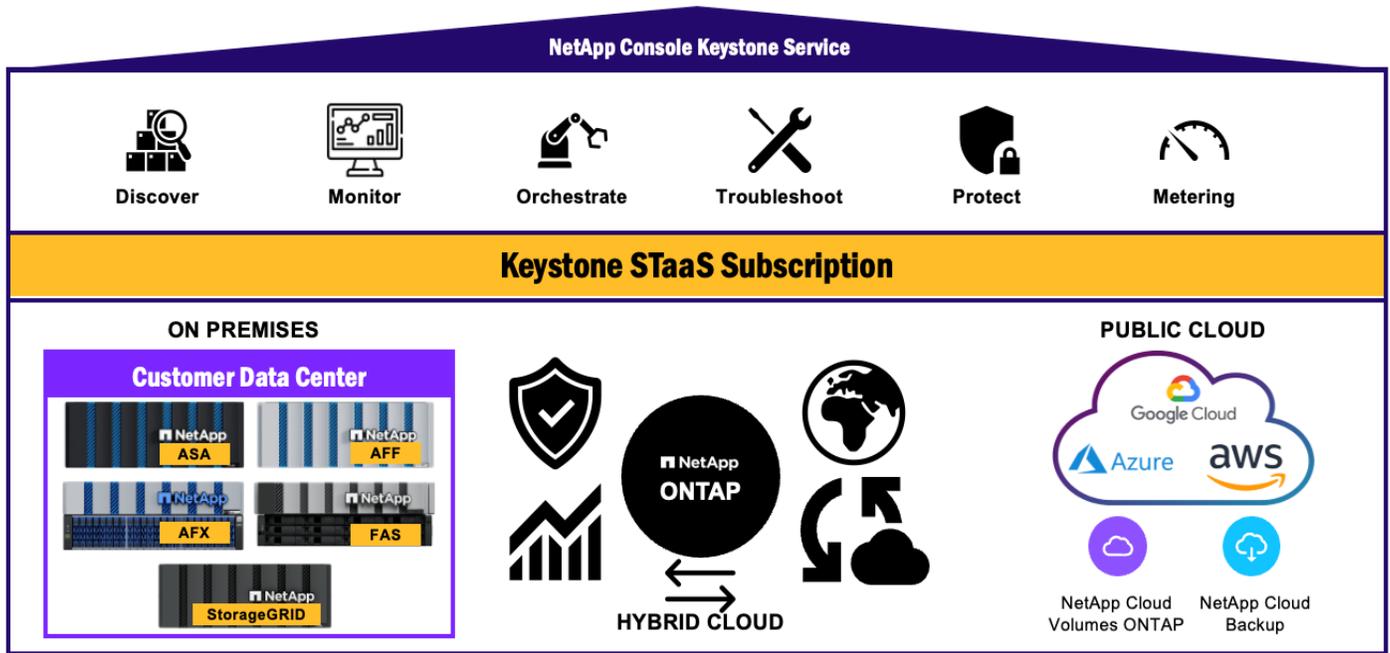
Conclusion

Complexity, inefficiency, and cost within the enterprise storage infrastructure is nothing new, but the growing demands of the modern IT application stack are pushing many organizations to their breaking point. Many IT leaders look at the simplicity, scale, and cost-effectiveness of the public cloud model and, not unreasonably, ask, "Why can't I have that for my on-premises environment? And, since I'm at it, why can't this integrate seamlessly with my public cloud environment?"

The answer is that delivering this in an elegant, effective manner requires the right storage technology foundation. NetApp's Keystone takes the foundational storage innovation that NetApp has created over the last 30 years and makes it consumable in a way that enables, rather than inhibits, modern IT requirements. Accordingly, Keystone should be regarded as much more than a "capacity on demand" service. It delivers this of course, but by embedding core NetApp functionality in key areas such as security, resiliency, availability, and performance, it is also a platform that can enable and transform broader IT outcomes across the entire hybrid cloud environment. IT leaders looking to reimagine their data strategy for the modern IT era are encouraged to take a closer look at NetApp Keystone.

For more details about NetApp Keystone, please visit this link.