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IBM Announces IBM Storage Ceph as a Service

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Overview

IBM recently announced that it will begin offering its IBM Storage Ceph software-defined storage technology as an on-premises integrated as-a-service solution. With this offering, IBM takes responsibility for deployment and maintenance, and users will be able to pay for storage capacity based on commitment and usage on a per-month basis. With businesses facing increased pressure related to budget constraints and IT complexity, this option is a welcome addition to the enterprise storage market and should greatly simplify the use of Ceph storage technology.

Analysis

As businesses enter the era of artificial intelligence (AI), enterprise organizations are reaching a tipping point with data storage. Increased regulatory pressure, emphasis on security, and cost concerns have all led to an increase in the on-premises storage of data, and the role of on-premises infrastructure is even more important in data-intensive initiatives such as artificial intelligence.

According to Enterprise Strategy Group research:[1]

- 84% of organizations agreed that the growth of AI (including generative AI) has led to them reevaluating their application deployment strategy.

- 78% of organizations agreed that they prefer to run AI applications on premises.

- 76% of organizations agreed that they view on-premises application deployments more favorably today than they did five years ago.

As businesses scale business critical and data-intensive workloads, including AI, on premises, demand for cost-effective, scalable storage has reached all-time highs. The inherent flexibility of software-defined storage technology delivers exactly the cost-effective scale that businesses require, but historically, those benefits have been tempered by the complexity of hardware integration, deployment, and maintenance. In the contemporary enterprise, the pressures of staying cyber-resilient and architecting new initiatives—like AI—steal cycles from IT infrastructure operations, storage included. For example, 80% of storage administrators have taken on new responsibilities to support their organizations' digital transformation initiatives or are under pressure to do so.[2]
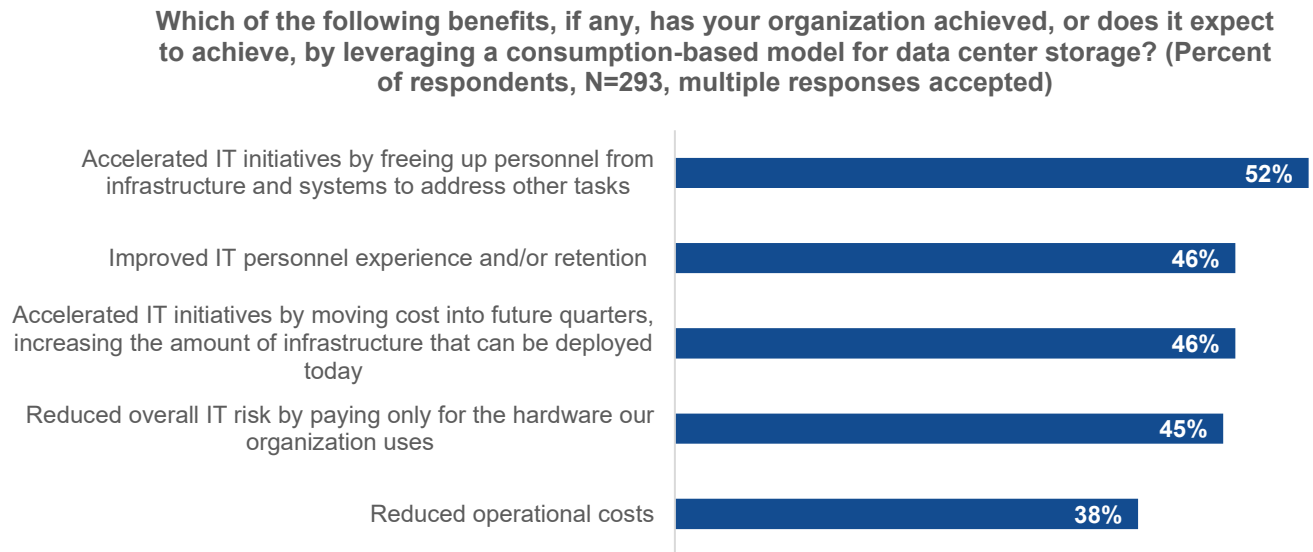
The result is that businesses must radically simplify on-premises infrastructure. The level of scale required for the AI era is not sustainable given traditional systems-based or even software-based approaches to data storage. Increased pressures on internal personnel have already led to recent growth in the adoption of on-premises infrastructure options that can be procured via a consumption-based model or as-a-service, and the pressures of AI will likely accelerate this trend.

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[1] Source: Enterprise Strategy Group Complete Survey Results, *Understanding Workload, App, and Data Deployment and Migration Decision-making*, July 2024.

[2] Source: Enterprise Strategy Group Complete Survey Results, *Navigating the Cloud and AI Revolution: The State of Enterprise Storage and HCI*, February 2024. All data in this brief is from this study, unless otherwise noted.

The top benefits of as-a-service infrastructure options often manifest in the radical simplification that businesses now demand (see Figure 1). Specifically, the ability to accelerate initiatives via freeing up personnel (cited by 52%) and achieving increased budget flexibility (46%) combined with benefits tied to IT personnel experience/retention (46%) and operational costs (38%) highlight the already significant benefits being experienced.

Figure 1. Top Five Benefits of Deploying Storage as-a-service

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? (Percent of respondents, N=293, multiple responses accepted)

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%

Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Conclusion

CIOs have been enamored with the potential of open source software-defined storage since the advent of Ceph. The opportunity to increase hardware flexibility while significantly reducing the costs of data storage fueled early adoption. Those early deployments delivered on that promise of flexibility, but they often came at a cost of management complexity. Since Ceph's release, Red Hat, and now IBM, have enhanced both the capability and usability of the technology—it features multi-protocol support with block and object protocols, along with security, availability, and data protection services such as object lock, erasure coding, and replication.

The introduction of Storage Ceph as a service potentially transforms what is possible for enterprise organizations. Businesses can harness the cost-effective scale of Ceph (IBM promotes a starting price of $0.026 per GB/month) while offloading the maintenance effort to IBM. For example, IBM handles security and patch management while providing continuous system monitoring, proactive maintenance, and issue resolution.

As businesses enter into an AI-era where data is increasingly valuable, the challenge of budgeting for and managing the scale of data storage will limit the success businesses can achieve. Ultimately, enterprises must re-evaluate their on-premises options for infrastructure. Since its introduction, Ceph has been viewed as an option to reduce the cost of storage. Now that IBM has made Storage Ceph available as a service, its most commonly perceived former "weak spot" has transformed into a strength.

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