IDC TECHNOLOGY SPOTLIGHT

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While the use of public cloud-based storage services has grown rapidly, there are still key reasons to keep a workload on premises. On-premises storage as a service can provide a "cloud-native" experience while addressing these reasons.

The Value of On-Premises Storage as a Service with Cloud Operations for Critical Workloads

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Introduction

Public cloud-based information technology (IT) services have grown rapidly over the past decade, and in 2019, the total amount of public cloud-based storage as a service spend surpassed that of on-premises storage spend. IDC predicts that by the end of 2022, public cloud-based storage services spend will be almost three times as large as on-premises storage spend. The market for on-premises storage is not small, though: It will reach $33.0 billion by the end of 2022 and is expected to grow at a 3.5% compound annual growth rate to hit $37.0 billion by 2026, according to IDC.

AT A GLANCE

WHAT'S IMPORTANT

Despite the rapid growth of public cloud-based storage, there will continue to be a need for on-premises options for at least the next five years.

KEY TAKEAWAY

Security, data gravity, latency, application dependencies, availability, and regulatory compliance requirements for certain workloads demand nonpublic cloud-based deployment options. In meeting these requirements, though, enterprises do not want to give up the "cloud experience."

Even in the face of the move to public cloud, on-premises storage spend continues to grow for very good business reasons. Today, up to 70% of enterprise applications and data remain on premises due to concerns around security, data gravity, latency, application dependency, and regulatory compliance. Many of these applications are block based and mission critical, and block-based public cloud offerings also do not guarantee the level of data availability needed for these workloads. In addition, the time and effort associated with re-architecting applications for the public cloud may just not be worth the effort, so it's easier to keep them running on premises.

The public cloud does, however, offer features that are attractive to IT organizations. Access to new infrastructure can be provided rapidly when it is needed, pay-as-you-go consumption models align storage spend better with actual usage, and IT managers don't have to manage the infrastructure themselves. Cloud-based services also offer the opportunity to easily scale up as well as down (a feature of interest when seasonal demands abate). In an effort to offer many of the same advantages of the public cloud experience, some vendors have introduced subscription-based consumption models for on-premises storage infrastructure. The availability of managed services on premises can deliver these advantages. However, they can limit choice across a vendor's portfolio, lack the self-service agility of true storage as a service, and generally don't provide levels of availability suitable for mission-critical workloads.

Benefits

The mainstream acceptance of public cloud has changed IT expectations. More than 90% of enterprises today are running hybrid cloud environments in production, and hybrid cloud is the way IT infrastructure will be deployed going forward. Having once been exposed to it, many end users, developers, and IT managers alike want a consistent, cloudlike experience across *all* IT infrastructure. This experience means the same self-service agility, usage-based consumption models, offloaded IT infrastructure management, and nondisruptive continuous technology refresh that the public cloud provides. On-premises, mission-critical enterprise applications, however, will continue to demand security, performance, availability, and compliance capabilities that public clouds are not expected to offer in the next few years. In IDC's opinion, this will lead to the emergence of on-premises, storage-as-a-service solutions that leverage the enterprise-class capabilities of established storage vendors' flagship offerings. Such on-premises storage as a service can provide a "cloud-native" experience while addressing enterprise requirements for high availability, data control, and self-service agility.

Considering HPE GreenLake for Block Storage

Hewlett Packard Enterprise (HPE) is a $28 billion vendor of technology solutions as a service. It offers a broad portfolio that includes cloud services, compute, high-performance computing and artificial intelligence (AI), intelligent edge, software, and storage. In 2021, HPE's enterprise storage business grew at 6% to crest $3.1 billion. The company has established a strong reputation for highly reliable cloud-native data infrastructure, offering a 100% data availability guarantee on its flagship HPE Alletra 9000 storage platform. HPE's cloud-based AIOps platform, HPE InfoSight, proactively monitors and manages systems for maximum efficiency, uptime, and performance, and it has been leveraging AI technologies to help improve the customer experience longer than AIOps platforms from other enterprise storage vendors.

In November 2017, HPE introduced HPE GreenLake to provide a new suite of "pay-per-use" IT solutions available for top customer workloads such as big data, backup, open database, SAP HANA, and edge computing. HPE GreenLake has since evolved to become an edge-to-cloud platform that brings the cloudlike experience to more areas of IT. It now offers unified management for hybrid cloud environments, over 50 cloud services, and the availability of HPE GreenLake in the online marketplaces of several leading distributors. In HPE's FY21 (which ended on November 30, 2021), HPE GreenLake drove an annualized revenue run rate of $796 million, up 36% from the prior year, indicating one of the strongest shifts to the cloudlike operating model for its customers among the enterprise storage providers participating in this market.

By the end of 2021, HPE was noticing an unmet market need for a more cloudlike on-premises storage-as-a-service experience that was appropriate for block-based, mission-critical workloads. Key challenges with existing storage-as-a-service offerings for these types of workloads include an inability to guarantee the level of availability needed and a lack of true public cloud self-service agility. In March 2022, HPE introduced HPE GreenLake for Block Storage to specifically address those requirements. The offering is a cloud-managed service, built from HPE Alletra storage platforms (Alletra 9000, Alletra 6000), that supports mission-critical, business-critical, and general-purpose block-based applications and brings the cloud operational model to on-premises, colocation facility, or edge location workloads. The deployed infrastructure, regardless of location, is managed through a single software-as-a-service (SaaS)-based cloud console that is accessible from any location on any device and shepherded by HPE InfoSight to provide AIOps for optimal operation.

Here's how HPE GreenLake for Block Storage addresses customer requirements for high availability, data control, and self-service agility:

- **High availability.** HPE GreenLake for Block Storage is designed to guarantee 100% data availability for designated mission-critical applications (along with "six-nines" availability for all other workloads running on the provisioned infrastructure). Customers do not have to set this up: A user just specifies which workloads are mission critical, business critical, or general purpose, and HPE (or a certified partner) ensures that level of availability is maintained, even as capacity under management grows.
- **Data control.** With the infrastructure deployed in on-premises or colocation facilities, the customer has the control to meet compliance and governance requirements concerning data location. With the flexibility the service offers to locate storage infrastructure anywhere, IT managers can address data gravity issues, colocating storage with other relevant resources (compute, related data sets, etc.). Service-level agreements (SLAs) around performance and availability address other requirements, which may be difficult to meet in public cloud environments.
- **Self-service agility.** HPE GreenLake for Block Storage provides simple, rapid purchasing with its SLA-driven quoting and rapid ordering. A user specifies four key parameters — an availability tier, a performance level, reserve capacity, and subscription term — and HPE (or a certified partner) delivers and deploys the right infrastructure to meet requirements. Once the infrastructure is deployed, intent-based provisioning delivers an AI-driven, application-centric approach to workload rollout. A user selects the storage tier and workload type and specifies the capacity and protection policy. At that point, built-in AI-driven intelligence recommends the optimal system within an organization's entire managed fleet for the workload. Intelligent quality-of-service (QoS) controls let users set priorities on an application (or application group) to ensure performance expectations are met.

Under this model, the deployed infrastructure is owned by HPE but accessed by authorized customer constituencies using role-based access control. For this storage, IT managers no longer need to handle forecasting, procurement, maintenance, upgrade, technology refresh, or decommissioning activities, freeing them up to focus on more strategic activities. HPE GreenLake for Block Storage can help boost agility, lower risk, speed time to value, and reduce costs, providing on-premises storage-as-a-service with cloud operations that can handle performance- and availability-sensitive business requirements.

HPE GreenLake for Block Storage offers key advantages over more traditional ownership models for on-premises storage infrastructure. Because the traditional acquisition timeline is time consuming, most IT managers overpurchase storage capacity, buying to meet their storage requirements over the next several years. This front-loads purchases and results in a significant amount of capacity that remains unused during most of the life of the storage system. HPE GreenLake for Block Storage shifts costs so they are more in line with actual usage yet can rapidly provision new capacity when it's needed. It does all this with a service that meets the performance and availability requirements of block-based, mission-critical, and business-critical workloads.

It is interesting to note that on-demand cloud-based data services from HPE do not end at block storage. HPE GreenLake offers a suite of cloud-based data services that can be used together or separately with a unified cloud operating experience, including backup and recovery (HPE Backup and Recovery Service), performance optimization (HPE CloudPhysics), data operations management (HPE Data Ops Manager), setup services, and HPE InfoSight — all of which are accessible from the HPE GreenLake Cloud Platform.

Challenges

Given that data control is one of the key reasons that customers keep workloads on premises, IT managers may at first hesitate to use a storage-as-a-service offering for mission-critical data. HPE GreenLake for Block Storage allows customers to specify the policies that govern how their data is stored, protected, accessed, and managed even though they are not responsible for many of the day-to-day operations to maintain it. HPE GreenLake for Block Storage also allows customers to select performance and availability levels at the application level, effectively moving from a LUN-centric to a much simpler application-centric storage management model. HPE will need to effectively explain the capabilities and advantages of HPE GreenLake for Block Storage to put any customer concerns about data control to rest.

Conclusion

As enterprises continue to leverage public cloud-based technologies, there will still be a clear need for on-premises storage infrastructure. To meet the security, data gravity, performance, availability, regulatory, and governance requirements of certain workloads, enterprises will continue to deploy on-premises infrastructure but will come to expect a cloud-native experience across other areas, such as procurement, provisioning, infrastructure maintenance, unified management, and pay-as-you-go consumption. As businesses evolve into digital-first enterprises, IT organizations need flexibility in how they acquire, manage, and pay for their IT infrastructure. The HPE GreenLake for Block Storage offering is designed to meet all these metrics, with its on-premises storage-as-a-service solutions based on a proven set of enterprise-class storage platforms and backed by a 100% data availability guarantee. IDC believes the market for on-premises storage infrastructure will continue to be important, and to the extent that HPE can address the challenges described in this paper, the company has a significant opportunity for success.

HPE GreenLake for Block Storage delivers cloud-managed storage services for block-based mission-critical workloads — on premises and with a 100% data availability guarantee — for a true, "storage-as-a-service" with cloud operations experience.

About the Analyst

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Eric Burgener is Research Vice President within IDC's Enterprise Infrastructure Practice. Mr. Burgener's core research coverage includes storage systems, software, and solutions for both structured and unstructured data storage, quarterly trackers, and end-user research as well as advisory services and consulting programs. He brings more than 30 years of experience working in enterprise storage-related roles in start-up and larger vendors as well as venture capital, regularly presents at industry events, and is often quoted by the press in his research area. He was awarded the Alexander Motsenigos Memorial Award for Outstanding Innovation in Market Research in 2017 by IDC and is an active participant in the IT Buyer's Research Program at IDC.

MESSAGE FROM THE SPONSOR

HPE GreenLake for Block Storage is the industry's first storage as a service that offers self-service and a 100% availability guarantee built in for mission-critical environments. It's a new cloud data service available through the HPE GreenLake edge-to-cloud platform that eliminates storage complexity by providing a cloud experience everywhere. This frees up organizations like yours to simplify operations and move faster – while maintaining control of your data on premises.

In bringing the self-service cloud operational model to on-prem workloads, HPE GreenLake for Block Storage helps you speed digital transformation through data-first modernization. This means empowering line-of-business and application admins to accelerate app deployment by effortlessly self-provisioning storage – instantly, and without going to the public cloud. And it enables your IT teams both to transform from operator to service provider and to start managing business outcomes instead of infrastructure.

Learn how HPE GreenLake for Block Storage can help you transform faster.

Start today

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