



ESG WHITE PAPER

Delivering on as-a-Service with Dell APEX Data Storage Services

Organizations are Improving the Way They Consume Data Center Infrastructure

By Scott Sinclair, ESG Senior Analyst
and Monya Keane, ESG Senior Research Analyst

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Introduction

A business's ability to succeed in capturing new opportunities depends directly on how efficiently and effectively it leverages its data and technology to improve operations and customer engagement. In a recent ESG research study, nearly every IT organization surveyed (99%) said they are in some phase of digital transformation.¹

ESG research shows that businesses seeking to transform themselves digitally do so because they want to become more efficient (reported by 52% of respondents), deliver a better customer experience (cited by 47%), and/or develop new data-centric products and services (41%).¹ To ensure the success of these digital initiatives, however, IT organizations must often accelerate their application and infrastructure modernization efforts.

However, accelerating IT initiatives is difficult to do in an era plagued by increasingly complex and diverse technologies, plus mounting skills shortages, as technology demands pull expert resources away from infrastructure toward other IT fields such as application development and data science. Other common challenges today include under/over provisioning-related worries, CapEx increases, painful technology refresh cycles, unpredictable data growth, frequently changing business requirements, and cloud confusion/complexity.

To truly transform, organizations must offload lower-value IT activities and allow their IT teams to concentrate on what matters. One option is to shift from a traditional capital-centric buying model to an as-a-Service model. Fortunately, a leader in technology and customer support—[Dell Technologies](#), through its Dell APEX Data Storage Services offering—has expanded its broad portfolio into new offering models, giving customers new ways to manage, access, and consume technology.

Mounting Complexity and Skills Shortages Are Driving IT Transformation

Even as digital initiatives maximize a business's ability to thrive, the added burden they create is often too much for traditional IT technologies and practices to support in the long run.

Nearly half of surveyed IT decision makers told ESG they believe IT is more complex than it was just two years ago. That rise in complexity, combined with IT skills shortages, is a forcing function for IT transformation.

Multiple factors are causing the increase in IT complexity (see Figure 1). More than a third (35%) of survey respondents identified concerns over their volume of data storage as a factor behind the complexity increase, while 29% reported that they have a major digital transformation program underway, and it is driving the increases in IT complexity that they are experiencing.¹

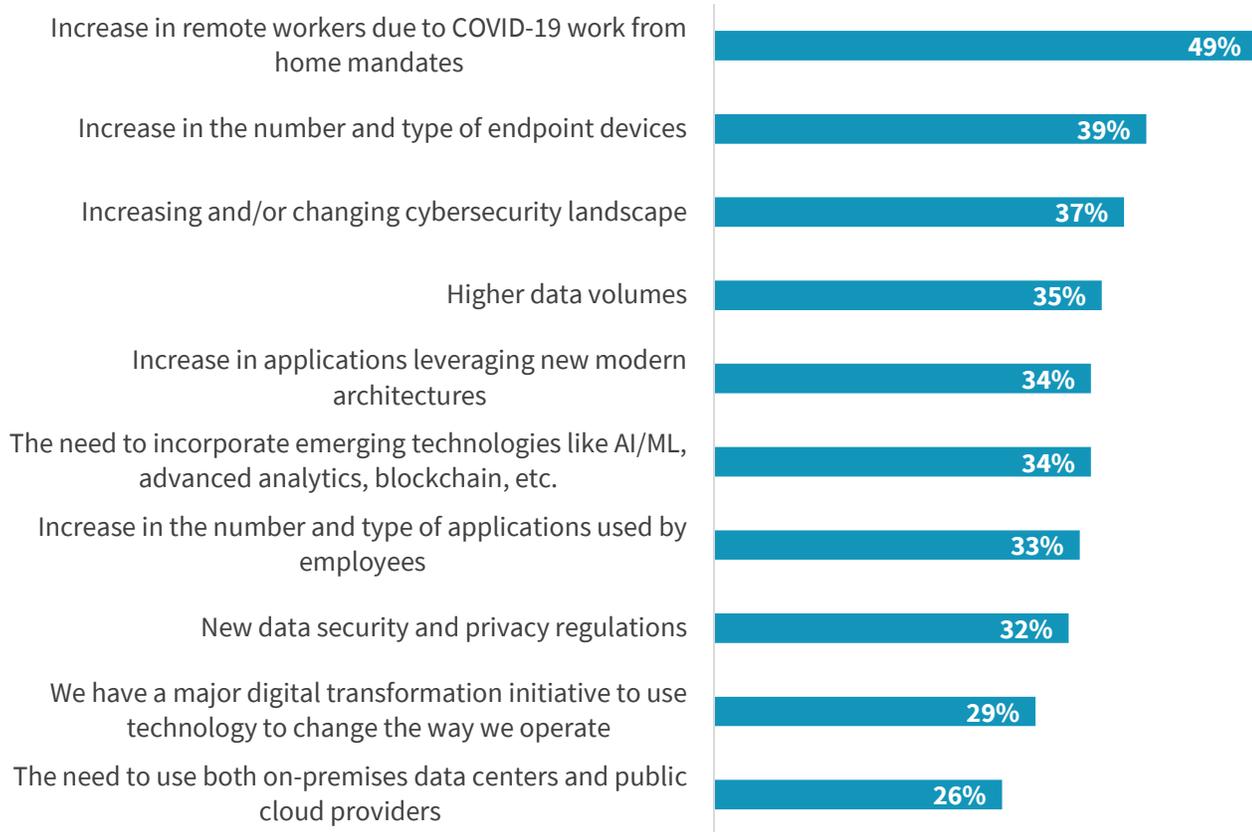
On the skills side of the equation, more than one in three organizations (39%) reported having problematic skills shortages in IT architecture and planning, and 18% said they are experiencing skill shortages in the area of storage administration.¹ As mentioned, IT hiring patterns appear to be transitioning away from domain experts such as storage admins and toward IT generalists—67% of respondents told ESG that the majority of positions they had open were for generalists rather than domain experts such as storage administrators.² These challenges are compelling IT organizations to look for ways to simplify and focus on what matters most to the business as a whole.

¹ Source: ESG Complete Survey Results, [2022 Technology Spending Intentions Survey](#), November 2021.

² Source: ESG Survey Results, [2021 Data Infrastructure Trends](#), September 2021. All ESG research references and charts in this white paper are from this survey results set unless otherwise noted.

Figure 1. Top Ten Drivers of IT Complexity

What do you believe are the biggest reasons your organization’s IT environment has become more complex? (Percent of respondents, N=329, five responses accepted)



Source: ESG, a division of TechTarget, Inc.

Think of it this way: Before you turn on the water in your house, did you have to decide what pipes to buy or what type of pump to install? Did you need to install a valve in the yard? With electricity, did you have to figure out which wires, insulation, and transformer were best? We don’t do those things; we simply buy our water and electricity as services.

Storage is also a service now. People receive value from this utility model. It’s simple, and it frees up resources to focus on other work. This is why ESG is now observing modern businesses shifting from managing infrastructure components and architecting their environments toward buying infrastructure as-a-Service.

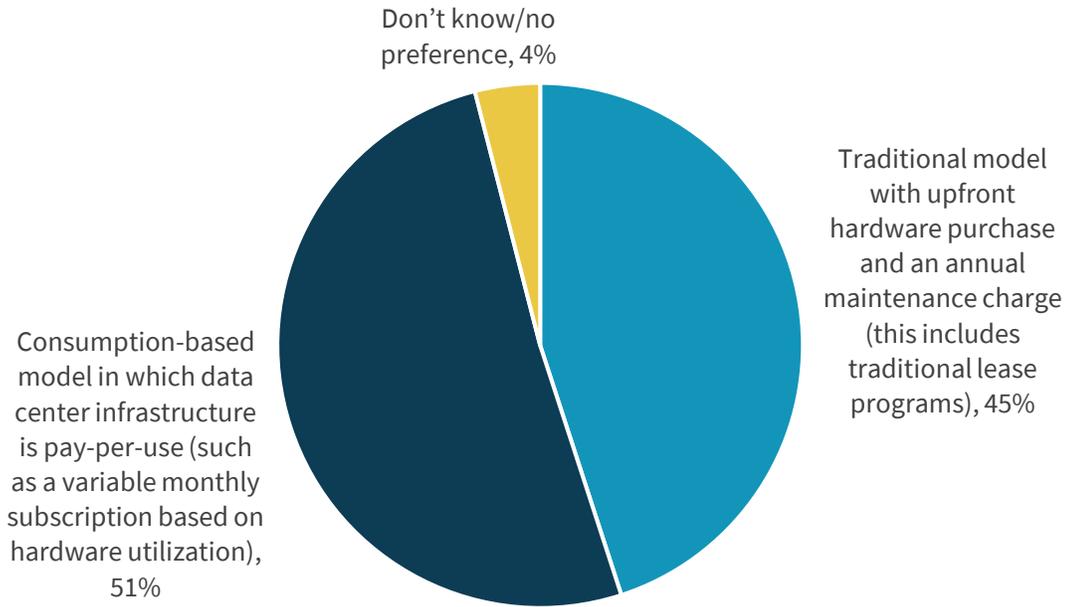
Transformational Benefits of Storage as-a-Service

The benefits of the as-a-Service model for data center and storage infrastructure are obvious, which is why adoption is increasing. When ESG asked IT decision makers about their preferred consumption model for on-premises data center infrastructure, 51% preferred a consumption-based model, such as Storage as-a-Service, instead of the traditional model that requires an upfront hardware purchase (see Figure 2).

Storage as-a-Service (STaaS) is the place to start, given the crucial role storage technology plays in determining application performance and innovating with data. An additional factor to consider is the growing complexity organizations are experiencing with their storage environments due to the increased diversity of storage technologies, the challenge of increasing volumes of data, and the complexity of that data.

Figure 2. Storage Buying Preferences Support Interest in Managed Pay-per-use

Assuming the net-costs were the same, which of the following would be your organization’s preferred payment model for on-premises data center infrastructure?
(Percent of respondents, N=359)

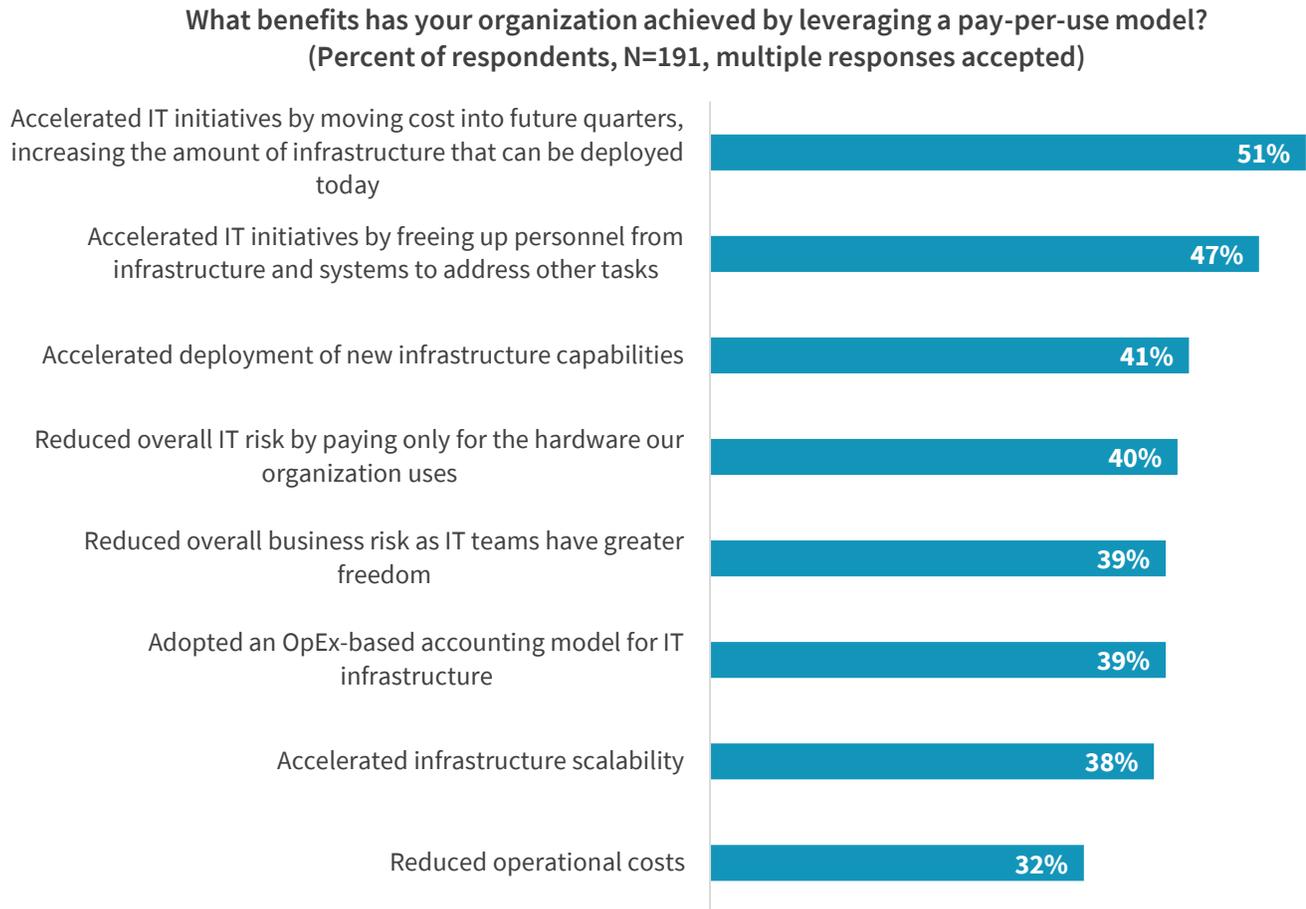


Source: ESG, a division of TechTarget, Inc.

As-a-Service models are already a part of data center infrastructure environments. Almost three-quarters (73%) of ESG survey respondents reported that at least 21% of their annual data center IT infrastructure spending is pay-per-use. It does not have to be “all or nothing,” but organizations that aren’t considering this approach or planning to implement it to handle at least a small portion of their data storage requirements are missing out.

Why Organizations Choose Storage as-a-Service

When it comes to the benefits that organizations receive as a result of leveraging a consumption-based model, such as STaaS, for part or all of their existing data center infrastructure, the top responses all align with the opportunity to accelerate operations (see Figure 3).

Figure 3. Realized Benefits from Leveraging a Pay-per-use Model for On-premises Infrastructure

Source: ESG, a division of TechTarget, Inc.

By leveraging consumption-based models, such as STaaS, organizations can:

- Accelerate digital initiatives by shifting IT costs into later quarters, freeing up more budget money for additional transformation activities now.
- Accelerate IT and digital business initiatives to respond to business and market changes more dynamically.
- Reduce the burden on IT architecture, planning, and procurement resources, freeing them up for other tasks.
- Reduce the burden on (and free up) IT operations and infrastructure management resources.
- Simplify and/or offload IT architecture and planning activities, reducing risk.
- Deliver elastic resources that can scale up and down to align with business needs.
- Enable an organization to transition to an OpEx model and move assets off the balance sheet.
- Enable an organization to adopt a cloud operating model with cloud consumption/cloud economics.

Why Not Choose as-a-Service?

According to ESG research, the most common reason that some organizations still use a traditional CapEx model is that it is corporate policy (cited by 36%). The second most common reason is that STaaS is viewed as too expensive (29%), and the third most common reason is that their current budget structure makes it too difficult to adopt as-a-Service offerings (28%).

Often, the idea of STaaS being too expensive stems from a comparison of the capital expense of hardware to the full as-a-Service cost. Some organizations neglect to account for the benefits of freeing personnel for other activities and forget about the costs related to all the work that goes into each forklift tech refresh cycle.

If there are not sufficient growth opportunities in an organization and it has predictable, low-growth application demands, then sticking with traditional capital purchasing may be the lower-cost option. For basically every other organization, STaaS may be the better choice.

For vendors, this is why it is important to offer options to users. Vendors must offer traditional payment models for organizations that prefer those models or are required by their budgetary process to use them, but vendors must also offer as-a-Service models for organizations looking to leverage the benefits of consumption-based, pay-per-use models while also offloading the management cost and complexity. For organizations that desire the benefits of consumption-based models but have the in-house expertise to manage the technology, some vendors also offer a pay-per-use option where the solution is managed by the user. The optimal option often depends on the organization's specific requirements and capabilities.

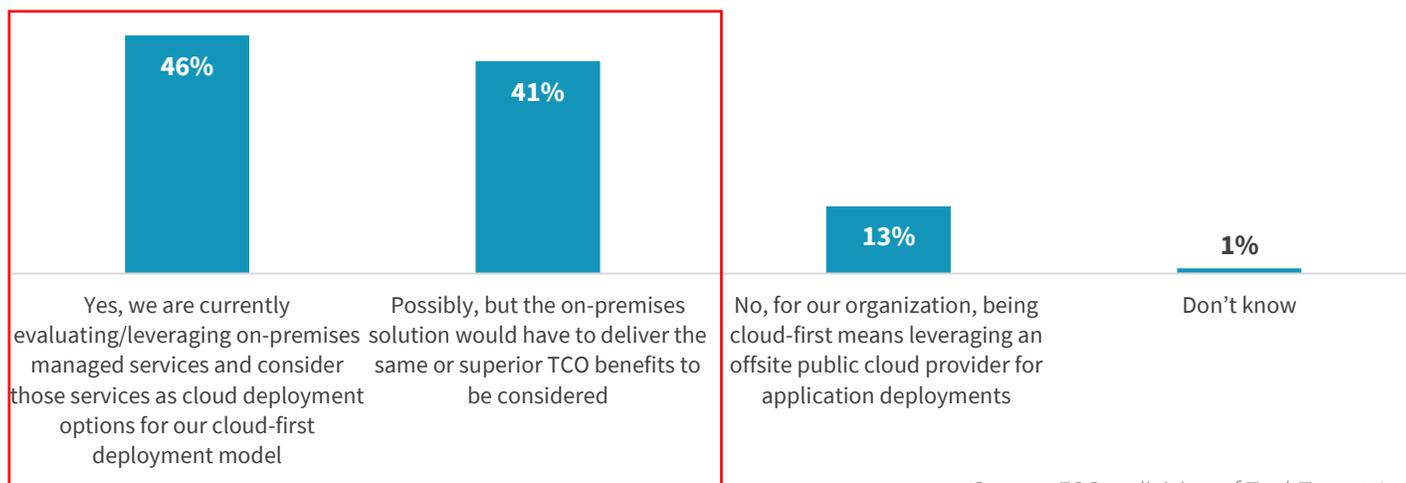
Data Center Infrastructure Delivered in an as-a-Service Model Complements a Broader Cloud Strategy

Public cloud services are part of any cloud environment but supplementing them with infrastructure that is consumed in an as-a-Service model can mitigate a number of common challenges organizations experience with public cloud providers. STaaS deployed in customer data centers or colocation facilities can reduce egress fees, eliminate the need for data repatriation, and provide a way to leverage newer infrastructure technologies sooner. STaaS also offers more security/control, offering the ability to maintain existing security products and procedures, eliminating gaps that can occur in a transition to off-premises infrastructure. STaaS also often provides lower latency, supports regulatory adherence, and enables IT to use enterprise-class storage features that are available on an array but not in the cloud.

In a recent ESG research study, IT decision makers who identified their organization as "cloud-first," meaning their organization deploys new applications using public cloud services unless someone makes a compelling case to deploy it on-premises, were asked to provide more context around what qualified as "cloud-first" (see Figure 4). Specifically, these IT decision makers in "cloud-first" organizations were asked whether an on-premises managed infrastructure service, such as STaaS, would meet their organization's requirements for "cloud-first" deployments. Nearly half (46%) of respondents stated that they were evaluating/leveraging on-premises managed services and considered them as cloud deployment options for their organization's cloud-first deployment model, and an additional 41% said this type of service possibly qualified under their organization's cloud-first deployment model, assuming it offers similar or better TCO benefits to the public cloud.

Figure 4. 87% Identify that On-premises Managed IaaS May Qualify for “Cloud-first” Deployments

You described your organization as having a cloud-first policy when it comes to new application deployment. Would an on-premises infrastructure service procured by your organization in a cloud-like manner (e.g., as-a-Service with an OpEx consumption-based payment model) and deployed and managed by a third-party provider in your data center meet your requirements for application placement as “cloud-first”? (Percent of respondents, N=159)



Source: ESG, a division of TechTarget, Inc.

Even among “cloud-first” organizations, the potential benefits of STaaS solutions beyond those of the major public cloud providers has begun to resonate. The additional option to deploy STaaS in a colocation facility, particularly if that facility is cloud-adjacent (meaning it is located in close physical proximity to the data centers utilized by public cloud providers), provides additional flexibility benefits to organizations interested in simplifying operations even further or wishing to take advantage of public cloud-based services. Leveraging a cloud-adjacent colocation facility for STaaS enables organizations to grow their business and expand operations without the burden of standing up additional data center facilities. The value of these services increases significantly if deployments can span multiple geographies. Cloud adjacency also enables low-latency multi-cloud connectivity to the organizations, partners, and ecosystems that deliver the most value, without any egress fees, significantly reducing the risk of being “locked in” to a particular provider.

While most organizations’ experience with public cloud services is generally positive, data repatriation still happens—often because necessary due diligence or refactoring weren’t done prior to the public cloud migration. The challenges that lead to repatriating data—related to security, cost, performance, and availability—can be mitigated with Storage as-a-Service deployed on-premises or in a colocation facility.

Storage as-a-Service with Dell APEX Data Storage Services

Dell APEX Data Storage Services allows organizations to focus on their data and their preferred business outcomes rather than the infrastructure. Dell Technologies is not only an established leader in storage technology, it is also known for service and delivery capabilities, and it is world renowned for its just-in-time manufacturing and logistics model. Experience such as that is invaluable when the goal is to deliver predictable, enterprise-level global technology services. This is not an offering from a new startup. Dell Technologies is an established and trustworthy IT leader.

With Dell APEX Data Storage Services, the storage infrastructure will be deployed on-premises in the user’s preferred data center location or in a Dell-managed interconnected colocation facility but will be fully owned and maintained by Dell. Storage capacity is then monitored via the Dell APEX Console, which enables a simple configuration process along with predictable and centralized cost management. Users select the type of data service they desire, management option, deployment location, base capacity, performance tier, and term, and Dell Technologies will then manage the rest. Users

pay monthly for a chosen base capacity and pay the same rate for any additional capacity utilized. Capacity utilization can also be scaled up or down based on business needs.

Based on customer requests, Dell also offers a customer-managed option for users that want the benefits of a pay-per-use model but have the in-house expertise to manage it effectively. Given the investments that Dell Technologies has made in ensuring management simplicity for its storage technology, this should be a consideration for existing Dell storage customers.

In addition to options for block and file storage, Dell APEX Data Storage Services also offers a backup target option. With Dell APEX Data Storage Services Backup Target, Dell Technologies offers multiple levels of performance, capacity, and resiliency to meet the needs of an organization's specific backup storage environment. By leveraging an as-a-Service model for the backup environment as well as the production storage environment, Dell can further reduce the operational burden on IT personnel. Organizations can focus more personnel on high-value initiatives and spend less time on maintenance and administrative tasks. Coupled with Dell's data reduction, end-to-end data verification, and data invulnerability architecture, Dell APEX Data Storage Services Backup Target can also help reduce the cost and risk associated with data protection.

Benefits of Dell APEX Data Storage Services

By leveraging Dell APEX Data Storage Services to address block and file storage needs, organizations and businesses can dramatically reduce the internal operating burden of managing infrastructure. With the Dell APEX Data Storage Services Backup Target, these benefits are further extended to the data protection environment as well. As a result, organizational resources can more effectively be allocated to focus on business outcomes rather than managing infrastructure. The result offers a wide range of business benefits, including:

- **Reduced burden on personnel and operations** – Strong technical talent is at a premium, given widespread skills shortages across multiple technical fields. Offloading infrastructure planning, maintenance, and support frees personnel, allowing talent to reallocate their time to higher value tasks. Dell APEX Data Storage Services can also be deployed offsite at a Dell-managed interconnected colocation facility, through a partnership with Equinix, in addition to or instead of on-premises deployment. The option to leverage Dell APEX Data Storage Services in colocation facilities further simplifies deployment and further eases the burden on in-house resources.
- **Reduced infrastructure risk** – Planning, technology transitions, troubleshooting, and support activities all create risk for IT organizations and the businesses they support. As a pay-per-use service, Dell APEX Data Storage Services effectively eliminates the risk of under-provisioning infrastructure, which can occur with a traditional CapEx model. With Dell APEX Data Storage Services, the base commitment capacity can also be raised at any point in the contract, offering increased benefits as needs scale. As the technology designer, Dell has a wealth of knowledge to pull from about how their technology performs in a wide variety of application infrastructure environments. Not only is much of the risk offloaded to Dell with APEX Data Storage Services, but the associated risk should also be reduced, given the larger body of knowledge available to Dell.
- **Accelerated digital initiatives** – With Dell APEX Data Storage Services, infrastructure is no longer a bottleneck for growth. By paying for what you use and having the ability to expand capacity as needed, new projects no longer require massive capital outlays or time-consuming infrastructure deployments to get started. As a result, digital initiatives can move at the pace desired by the business, not one dictated by infrastructure availability.

- **Multi-cloud connectivity** – Another benefit from the partnership with Equinix is that APEX Data Storage Services can be deployed offsite at Dell-managed interconnected colocation facilities adjacent to the major public cloud providers, such as AWS, Google Cloud, and Azure. As a result, data located on Dell APEX Data Storage Services can be made accessible to applications located on those cloud platforms while still meeting performance, scale, and availability needs and without incurring egress fees.
- **Accelerated geographic expansion** – Dell APEX Data Storage Services has expanded its support to many geographies across the globe. For global businesses or organizations seeking to accelerate business expansion, Dell APEX Data Storage Services can simplify and accelerate those initiatives.
- **Simplified off-premises disaster recovery** – With the option to deploy Dell APEX Data Storage Services offsite at colocation facilities, the solution can simplify the management and maintenance of offsite disaster recovery infrastructure environments.
- **Reduced risk of data and data management activities** - Data security and regulatory compliance are top business concerns and are typically made more complex as infrastructure spans multiple locations, such as public cloud environments, that can limit visibility. Security design and implementation are core parts of Dell APEX Data Storage Services, offering secure access control, threat management, cryptography, system auditing, and accountability. When deployed offsite, physical security is an essential tenet of Equinix colocation services, with industry-standard certifications such as ISO, SOC, and NIST.

The Bigger Truth

When you make a traditional CapEx purchase, you and your organization assume the responsibility to ensure the infrastructure can not only deliver the capabilities necessary for your applications today, but often three, four, and even five years in the future as well. In times when data and application growth were much lower, that was an easier proposition. Today, there are likely far more valuable uses of time. This is why the market is shifting toward consumption-based approaches for infrastructure.

With an as-a-Service offering, such as Dell APEX Data Storage Services, planning, management, and support activities get much easier or become offloaded altogether. And if your application environment scales faster or slower than expected, much of the risk falls on Dell to adapt, not on your organization.

Dell has been observing the market and watching its customers' interest evolve and grow. It understands what's going on in the landscape. Dell also has a very broad portfolio of infrastructure solutions that have been integrated into its APEX portfolio and they are all market-leading offerings for data protection, servers, hyperconverged infrastructure, and more. That is quite a differentiator versus other storage vendors.

Dell is innovating to enable its customers to focus on maximizing the value of their data and their applications and not on maintaining and supporting the hardware. The result accelerates initiatives and increases agility to respond faster to market demands, but ultimately it offers greater freedom to focus on what matters most to the business. If you're thinking about Storage as-a-Service, it's important to remember that "buying cloud" does not necessarily mean you're buying something in a data center far away. Dell Technologies is actually taking a data-first approach versus a cloud-first approach. The cloud isn't a destination where everything goes; it's a hybrid model that should include a combination of hyperscalers and on-premises solutions. To learn more, visit Dell.com/APEX-Storage.

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 www.esg-global.com

 contact@esg-global.com

 508.482.0188