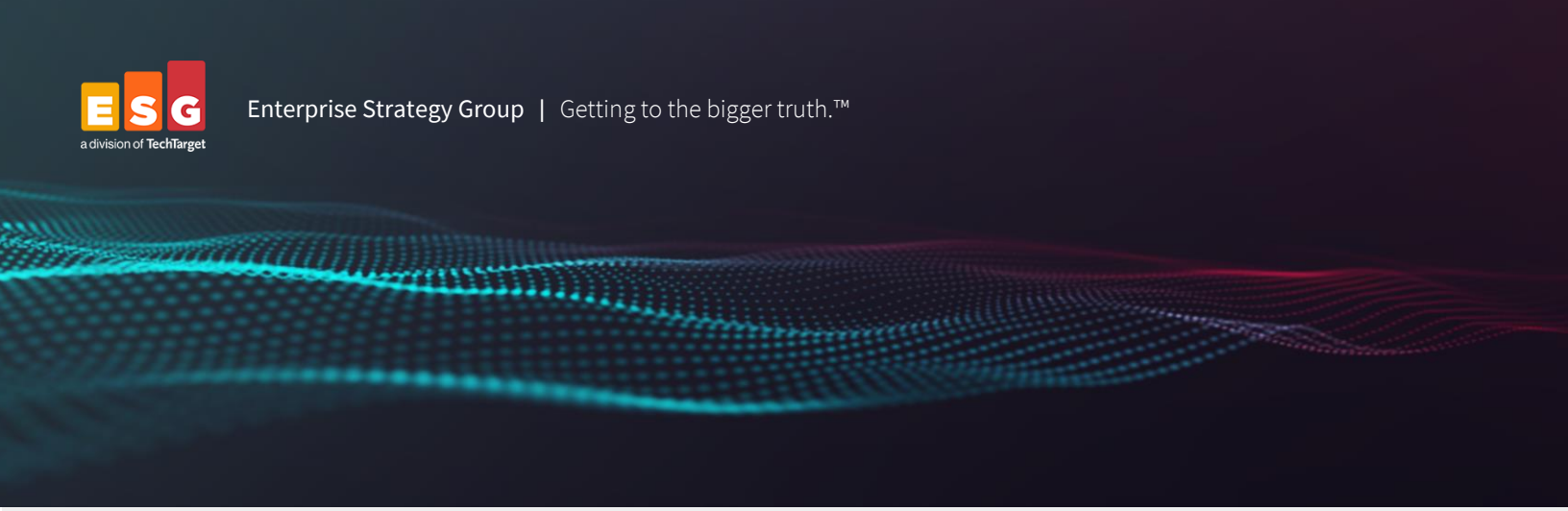


ESG WHITE PAPER

As-a-service IT: Maximizing Your Return, Wherever You Are on Your Modernization Journey

Evaluating As-a-service Consumption and Agile Infrastructure Options for On-premises IT

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

September 2022

This ESG White Paper was commissioned by Pure Storage and is distributed under license from TechTarget, Inc.

Contents

Introduction

IT's role in business has changed. Where it once was regarded as a cost center, it is now often considered to be a revenue creator. This evolution has fundamentally shifted IT organizations' priorities when it comes to infrastructure design and architecture. Today, a major emphasis is being placed on acceleration.

Consider that 59% of IT decision makers surveyed by ESG say that data is their business, and 22% of respondents indicated that they plan to develop new data-centric products and services in the next two years. In fact, nine out of ten IT organizations say they must move faster than three years ago when deploying applications, infrastructure, and services, with 41% of them accelerating by more than 50%. Additionally, 67% report that they are under pressure to accelerate IT infrastructure provisioning and deployment to support developers and line-of-business teams.[1]

With everything moving so fast now, businesses must enhance agility and operational efficiency across their entire IT infrastructure landscape, especially within the data center. Public cloud services provide a lot of advantages, but on-premises applications and infrastructure will continue to be a necessity. Operational agility, flexibility, and acceleration will be essential everywhere apps live—whether on- or off-premises.

Unfortunately, there is simply not enough budget and people available to accelerate operations sufficiently using traditional systems alone. Every budget or personnel allocation comes with significant opportunity costs. These allocations "steal resources" away from digital initiatives that could result in revenue increases and operational improvements for the business.

Traditional architectures are rigid, not agile. They hinder organizations' ability to upgrade and scale their environments by requiring prohibitive upfront outlays that siphon budget money away from meaningful initiatives. That's why businesses that desire more cloud-like agility, both on-premises and across their hybrid cloud environments, are investing in:

- As-a-service consumption models for on-premises infrastructure—especially storage, since it plays a key role in successful data management.
- Upgradeable architectures—infrastructure that can be easily upgraded while data and services stay online to expedite users' access to modern functionality.

Of course, some organizations may not be ready to make a full-scale transition from a traditional CapEx model to a managed as-a-service model. Fortunately, they have options. They can still make incremental steps to modernize their on-premises infrastructure and start reaping the associated acceleration-related benefits very quickly.

The Unsustainability of Traditional IT Infrastructure

Traditional IT infrastructure is holding organizations back. As data-access demands scale, so too has the data itself, and it is resulting in storage-sprawl issues and sustainability challenges. ESG research shows that organizations are experiencing a 35% annual growth rate for on-premises capacity on average.[2]

But inevitably, as IT scales up and the distribution of data and infrastructure spreads out, so too does IT complexity. Sixty-four percent of ESG survey respondents say the complexity of their IT infrastructure is slowing down ongoing operations

[1] Source: ESG Research Report, *Data Infrastructure Trends*, November 2021.
[2] Source: ESG Survey Results, *2021 Data Infrastructure Trends*, September 2021.

and digital initiatives alike. In terms of data storage in particular, 64% agreed that data storage infrastructure requirements and spending are hard to predict for their organizations.[3]

Traditional infrastructure puts a lot of cost and operational burdens on IT resources. Often, it's necessary for IT to "rip and replace" older infrastructure to gain access to storage-related technology advances. This is another added burden limiting IT operations and business acceleration efforts.

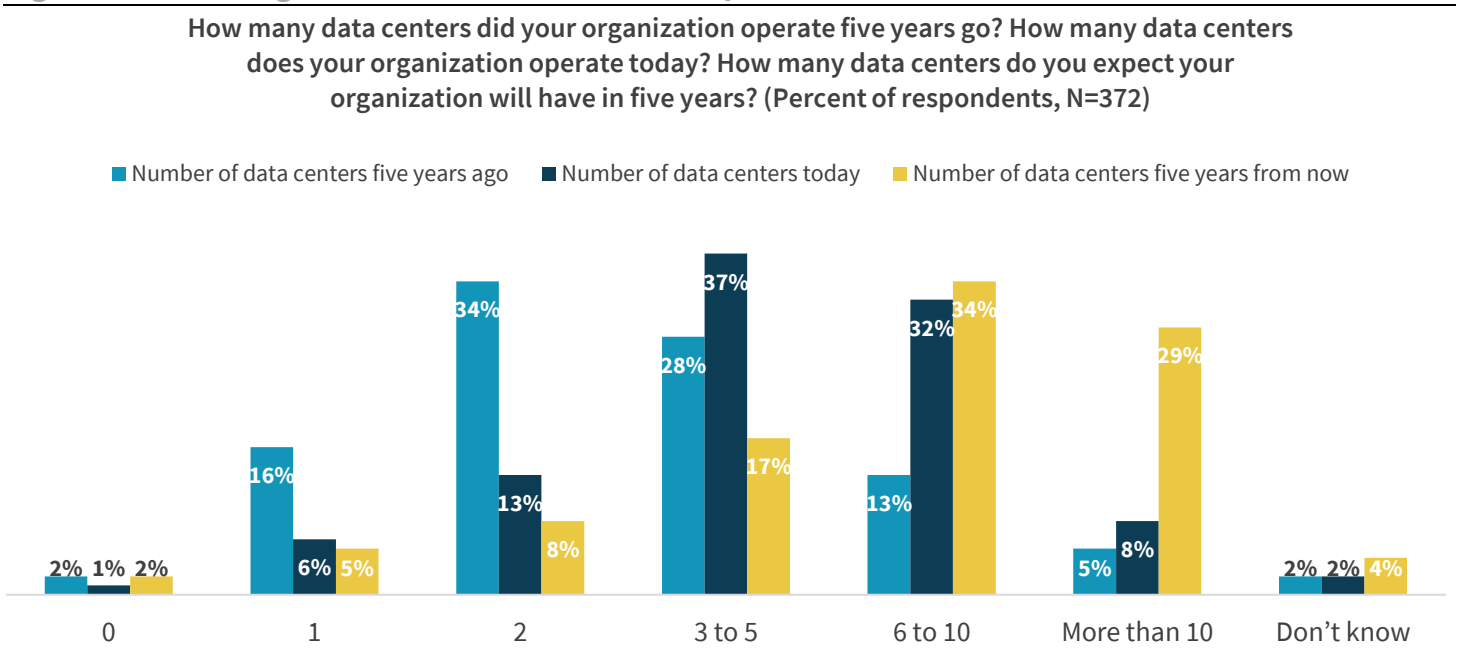
Increasing these burdens even further is a shortage of skills across IT. Among ESG survey respondents, 39% report experiencing a problematic shortage of IT architecture and planning specialists.[4] And a majority of respondents—66%—have taken on added/new responsibilities to support their organization's digital transformation goals/initiatives (or at least are being pressured to do so).[5]

The Data Center Modernization Movement

Even with the recent increased adoption of public cloud services, the narrative that the data center is "dead" or even declining is outright false. Hybrid cloud IT will likely remain the deployment model of choice because organizations need flexibility for cost, performance, compliance, and other reasons.

In a recent research study, ESG asked IT decision makers to identify how many data centers they owned, operated, and managed five years ago, how many they own/operate today, and how many they expect to own/operate in five years. The percentage selecting "zero" in five years was only 2%. In fact, ESG expects the average number of data centers to increase over the next five years, with the percentage of organizations owning/operating six or more data centers likely increasing from 40% today to 63% in five years (see Figure1).[6]

Figure 1. The Average Number of Data Centers Is Expected to Increase



Source: ESG, a division of TechTarget, Inc.

[3] Source: ESG Research Report, *Data Infrastructure Trends*, November 2021.
[4] Source: ESG Survey Results, *2022 Technology Spending Intentions Survey*, November 2021.
[5] Source: ESG Research Report, *Data Infrastructure Trends*, November 2021.
[6] Source: ESG Research Report, *Application Infrastructure Modernization Trends Across Distributed Cloud Environments*, March 2022.

Therefore, IT leaders—appreciating that their data centers will remain an essential element of their IT infrastructures for the foreseeable future—are investing in modernization.

As Figure 2 shows, few organizations (12%) intend to get away from running data centers entirely. Fewer still (9%) expect to maintain what they have today. Combined, 79% will instead modernize over the next three years, focusing on moving some workloads to the cloud, improving hybrid and multi-cloud interoperability, and becoming more cloud-like overall in their data center operations.[7]

Figure 2. Dominant Three-year Data Center Strategies

Source: ESG, a division of TechTarget, Inc.

This kind of modernization work presents an opportunity to become more cloud-like everywhere. Almost two-thirds of survey respondents (64%) view data center design as strategic, giving their business a competitive advantage.[8] Forty-seven percent of organizations surveyed by ESG expected to increase their data center infrastructure spending in 2022, and an additional 48% expected to maintain their current spending rate.[9]

The Role of As-a-service and Consumption-based IT in Data Center Modernization

The specific driving forces behind the desire for more cloud-like operations include accelerating IT operations, improving developers' velocity, and shortening the time to value for digital initiatives. Here is a quick overview to illustrate how organizations are accomplishing those goals. They are using:

- Traditional CapEx on-premises IT with ongoing subscription—Infrastructure that they purchase, manage, and maintain themselves. Via an ongoing subscription, they pay for the ability to protect infrastructure investments and to upgrade them over time.
- As-a-service on-premises IT—Infrastructure physically located at sites they own, but managed and maintained by a provider, with services delivered under an agreement tied to outcomes (such as performance or availability SLAs), and often paid for based on consumption over time (i.e., capacity used per month).

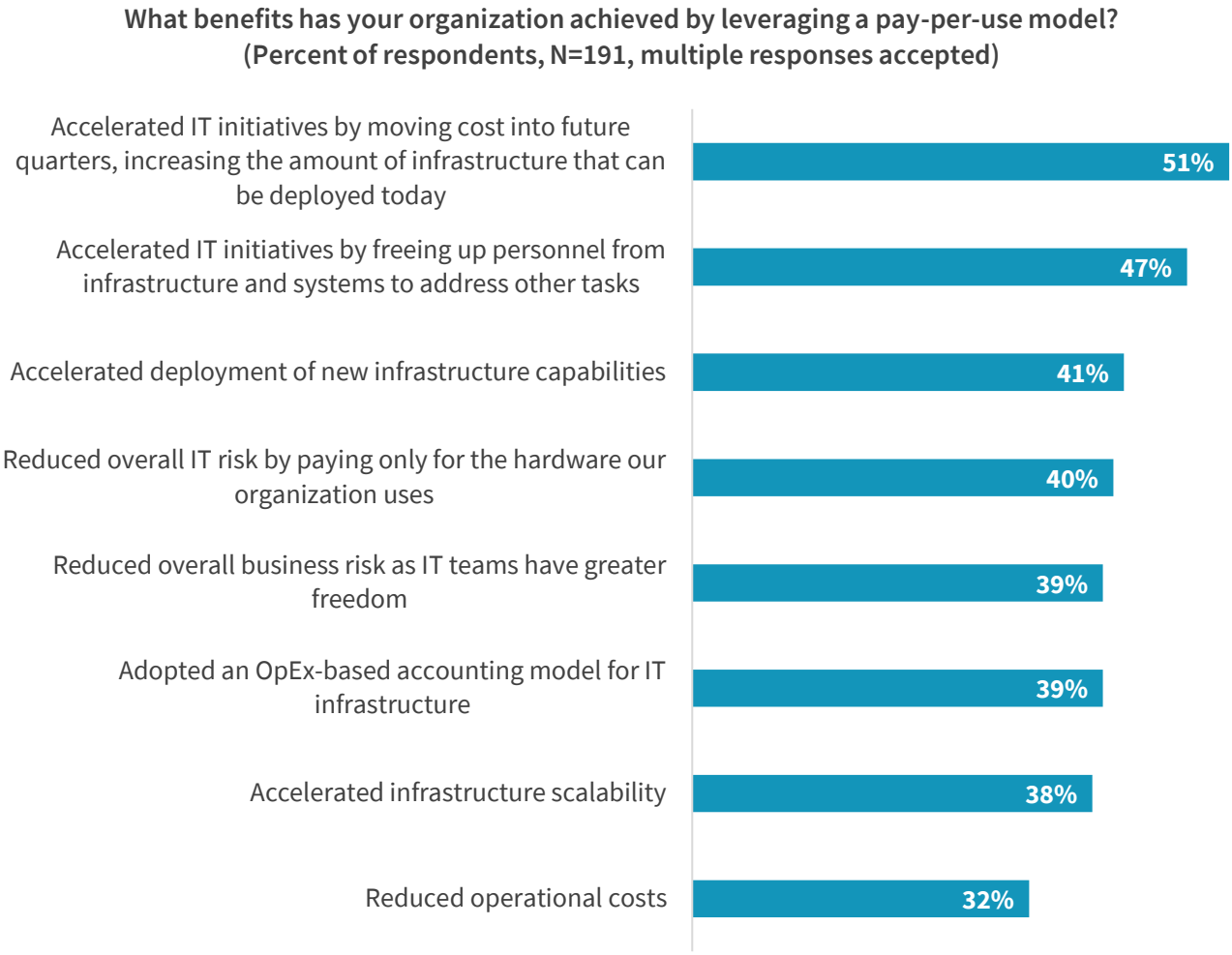
[7] Ibid.
[8] Source: ESG Survey Results, *2021 Data Infrastructure Trends*, September 2021.
[9] Source: ESG Research Report, *2022 Technology Spending Intentions Survey*, November 2021.

- Hybrid CapEx and consumption-based options, such as an ownership subscription—Another option has recently emerged that enables organizations that still require or prefer CapEx-based initial payments or outright infrastructure ownership to still enjoy the risk protection and simplicity benefits offered by consumption-based models.

Adoption of consumption-based procurement and as-a-service IT for on-premises resources plays a massive role in accelerating digital initiatives. Importantly, it also gives end-users access to infrastructure resources more quickly than what was possible previously. Among respondent organizations, 51% identify a consumption-based approach as their preferred procurement model over the traditional CapEx model, with 52% already using consumption-based models for their on-premises infrastructure.[10] Adopting an as-a-service pay-per-use model also reduces burdens on IT admins, enabling them to better support new digital initiatives and fuel competitive success.

As Figure 3 shows, the top three benefits of a pay-per-use model for on-premises infrastructure are all acceleration-based. These benefits are followed by benefits related to risk reduction (because you only pay for what you use) and providing IT organizations freedom to allocate more time to mission-critical tasks (cited by 39%).[11] Additional benefits tie into improving employee satisfaction as well—when there are not enough people on staff due to skills shortages, it's best to have them focus on tasks that are rewarding to them.

Figure 3. Benefits of a Pay-per-use Model for On-premises Infrastructure

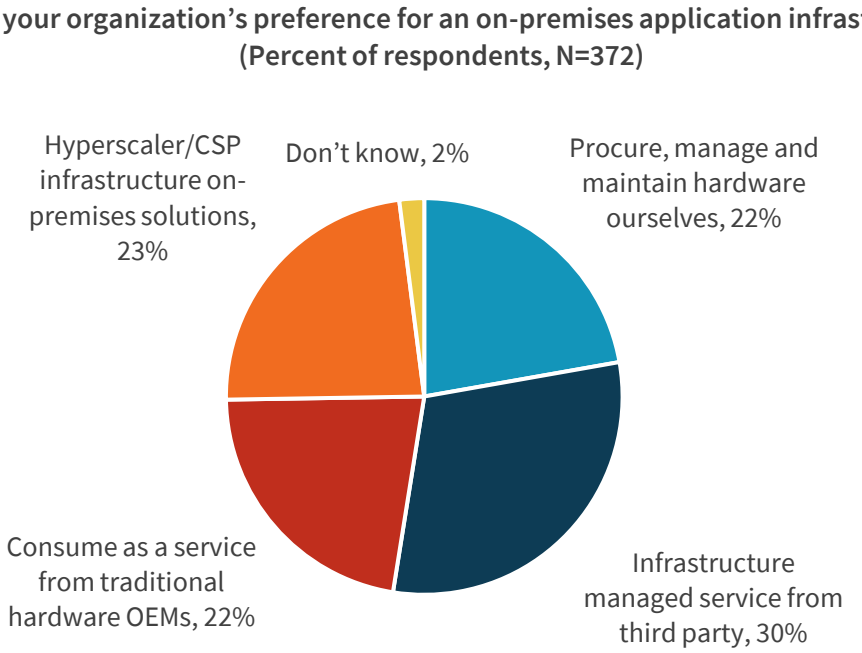


Source: ESG, a division of TechTarget, Inc.

[10] Source: ESG Research Report, *Data Infrastructure Trends*, November 2021.
[11] Ibid.

However, the manner through which organizations wish to adopt infrastructure continues to vary (see Figure 4).[12] Even though 22% of surveyed organizations still wish to procure, manage, and operate their infrastructure themselves, that preference will not prevent them from enjoying the benefits of consumption-based IT. Even if their preference is for a traditional cost-upfront CapEx purchase, they can reap some of the benefits of consumption-based IT via an ongoing subscription that includes hardware and software upgrades and that eliminates infrastructure rebuy cycles.

Figure 4. On-premises Infrastructure Adoption Preferences



Source: ESG, a division of TechTarget, Inc.

Access to consumption-based procurement of on-premises, as-a-service IT delivers acceleration benefits. But IT organizations deserve the choice to consume those services in a manner right for them, based on their needs—both from an application standpoint and an organizational/budgetary standpoint.

Factors to Consider When Evaluating On-premises, As-a-service IT

ESG believes that traditional IT infrastructure is unsustainable. Not enough people are available to scale as quickly as the business requires, while also managing every component in the environment. Ultimately, therefore, we need to change how we evaluate on-premises infrastructure. It must:

- Deliver on essential enterprise requirements.
- Deliver the performance, availability, protection, and security required for the workload.
- Be simple to manage, operate, and scale.

[12] Source: ESG Research Report, *Application Infrastructure Modernization Trends Across Distributed Cloud Environments*, March 2022.

In addition, it must help accelerate operations by:

- Reducing upfront costs to help accelerate access to infrastructure.
- Staying continuously modern. Ensure that the as-a-service-based option, consumption-based option, or traditional ownership with subscription option provides fast access to the latest and greatest hardware, without infrastructure rebuy or complex implementation, data migration, and upgrade cycles.
- Reducing operational burdens with simplicity built into the design, even at scale.
- Removing operational burdens from existing IT staff.
- Supporting efficient operation and overall sustainability by minimizing infrastructure sprawl.

Additional differentiators and benefits to look for include:

- The number of options available to procure the infrastructure: Not all organizations want to switch to an OpEx model. Does the vendor have options that will accommodate them?
- A hardware architecture that aligns itself with a consumption-based model. If the vendor will need to rip and replace all hardware every few years to keep its customers consistently modern (or swap out hardware to support scaling/growth), ultimately the associated costs will likely be passed on to the organization itself.
- Scalability, which is, in fact, a major factor—especially for infrastructure. An organization's need for better performance or additional features over time might require an entirely different product from the vendor. That could be a big aggravation if the vendor has not eliminated artificial barriers between its midrange and enterprise-scale products.

The Bigger Truth

The benefits that as-a-service delivers should be truly additive, as opposed to just helping mask deficiencies in the underlying infrastructure. The most agile infrastructure, combined with the most flexible consumption choices, will equal the best option for most organizations.

IT decision makers should look at the bigger picture in regard to where they're trying to take their IT function in general—not just in terms of infrastructure, but in terms of the overall evolution of their operation to make it less reactive, more proactive, and better built to support a digital business. This is about operational efficiency, cost savings, and reduction of impacts on personnel time.

The data center is not going away. Organizations are looking to have, on average, more data centers in the future than they do today. But few businesses want to manage them anymore. They want more of a cloud-like, as-a-service operational experience to help them modernize and reduce their risk.

But not all organizations have reached the same point on their journeys. The key is to make sure that, regardless of where they are, they ultimately wind up with a storage infrastructure that is flexible and agile enough to meet their needs today and tomorrow. And for that, they'll need a consumption model that not only suits them now, but will also take them wherever their destination is.

Enterprise Strategy Group is an integrated technology analysis, research, and strategy firm that provides market intelligence, actionable insight, and go-to-market content services to the global IT community.

www.esg-global.com contact@esg-global.com 508.482.0188