ESG WHITE PAPER

Cloud Adoption Done Right

How to Simplify Your Journey to the Public Cloud, Speed Business Transformation, and Uncover New Ways to Drive Future Growth

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Contents

Executive Summary	3
Overview	
Common Obstacles to Application Modernization and Cloud Adoption	
Application Dependencies	8
Governance	8
Conquering the Complexities of the Cloud	8
Key Considerations When Picking an MSP	8
Don't Go It Alone: Value of a Strategic Cloud Partner	9
The Bigger Truth	9

Executive Summary

Organizations have made the public cloud a main part of their overall cloud strategy to ignite innovation and accelerate IT transformation. The public cloud offers businesses the potential to uncover new ways to drive future growth and deliver better customer experiences, deeper insights, increased uptime, and reliability by leveraging scalable and as-a-service economic models. However, the benefits of the cloud can be overshadowed by its complexity and ever-changing technologies, often making these outcomes hard to achieve. Many companies have been multi-cloud by mistake and now must take an active, strategic approach to ensure the right workload is on the correct cloud. Add to this that the cloud often requires new skills, tools, processes, and a keen understanding of application dependencies. This paper examines the biggest challenges to a cloud-ready infrastructure and explores several approaches organizations can take to design and implement cloud strategies to better take advantage of the right cloud environments.

Overview

Moving to the cloud offers organizations measurable business benefits such as scalability, high availability, cost savings, and performance efficiencies. The cloud-native approach is an effective overall application infrastructure modernization strategy. When data is in the cloud and not siloed, analytics tools and services can be utilized, and companies can also leverage their data in new ways. It gives organizations the ability to capture the intelligence embedded in that organizational data, empowering them to make better decisions while the flexible, pay-as-you-use subscription pricing model helps reduce costs and drives sustainable growth. The public cloud model also lets organizations have faster, easier access to data for accelerated product and services delivery time to market (see Figure 1 and Figure 2).¹

Figure 1. Changing Where Cloud-native Applications Are Run Is Faster than Traditional Applications

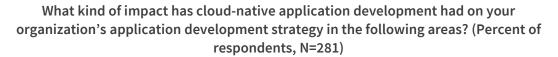
How much faster is the process of changing where a cloud-native application is run (i.e., moving the workload from one public cloud to another or to on-premises infrastructure) compared to traditional applications? (Percent of respondents, N=365)

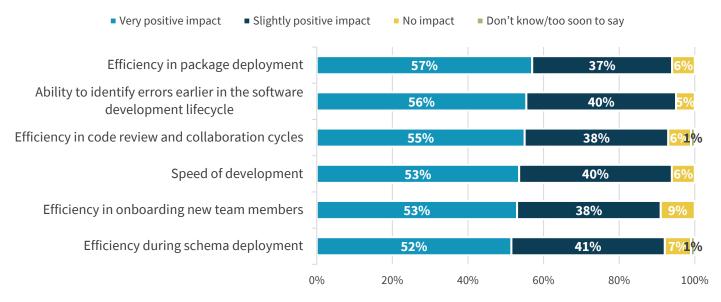


Source: ESG, a division of TechTarget, Inc.

¹ Source: ESG Research Report, *Cloud-native Applications*, May 2022.

Figure 2. Cloud-native Application Development Provides a Faster Time to Value than Traditional Apps





Source: ESG, a division of TechTarget, Inc.

With organizations focusing less on maintenance, IT resources are able to focus on continuous, revenue-generating innovation and improved overall quality of applications—whether they are modernizing legacy applications or building cloud-native applications from scratch.

These are just some of the reasons that public cloud adoption is on the rise, although traditional data centers are not going anywhere. For example, ESG research shows that edge locations are expected to increase, with nearly four in ten organizations expecting to operate more than 500 edge locations over the next two years. And according to this same research study, storage in these locations is expected to grow, with one-third of organizations expecting to grow more than 50%.²

This suggests that most companies will continue to expand their cloud adoption yet will still need easy access to data, wherever it resides—requiring application portability and easy transfer of workloads between their on-premises data centers and public and hybrid clouds. In fact, ESG research confirms that application deployments are spread across multiple cloud service providers, as shown in Figure 3.

Most Organizations Use Multiple Cloud Service Providers

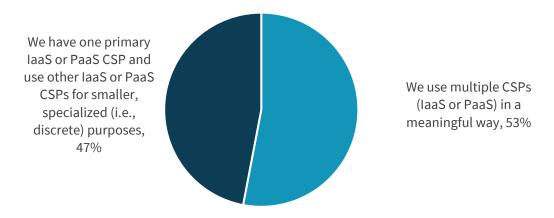
ESG research shows that 9 in 10 organizations leverage multiple cloud service providers, and 65% leverage at least 3 public cloud providers.³

² Source: ESG Survey Results, <u>Hyperconverged Infrastructure 2.0</u>, October 2021.

³ Source: ESG Complete Survey Results, *Distributed Cloud Series: Application Infrastructure Modernization Trends*, March 2022.

Figure 3. Multi-cloud Is Being Used in a Meaningful Way

You mentioned you consume public cloud infrastructure services from at least 2 unique CSPs. How would you describe this usage? (Percent of respondents, N=279)



Source: ESG, a division of TechTarget, Inc.

Common Obstacles to Application Modernization and Cloud Adoption

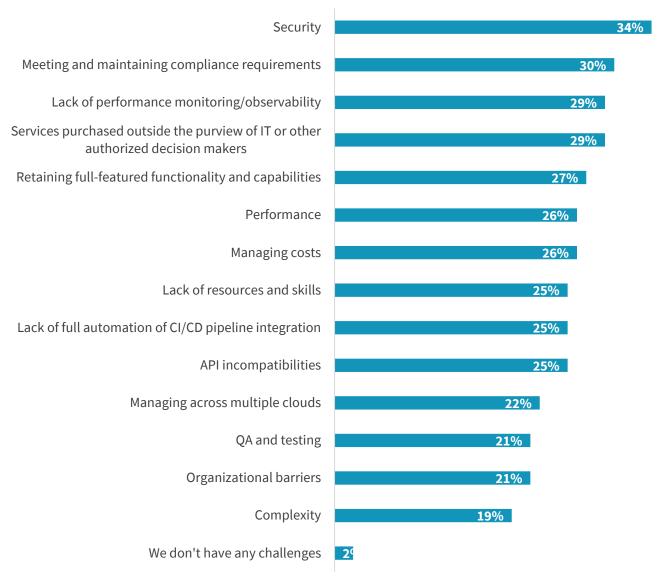
As organizations look to modernize the applications that have long lived inside the walls of their data centers as part of the mandate from executives to deliver digital transformation programs, many businesses face an IT skills gap and technology resource constraints for these types of initiatives. Other dependencies to consider as applications are transformed to live in the cloud include how to ensure data sovereignty and manage security, compliance, and regulatory requirements on a public cloud.

In fact, according to ESG research, security, compliance, and lack of observability are the most common cloud-native application challenges (see Figure 4).

⁴ Source: ESG Research Report, *Cloud-native Applications*. May 2022.

Figure 4. Challenges of with Cloud-native Applications

What are the biggest challenges your organization has faced, or expects to face, with its cloud-native applications? (Percent of respondents, N=387, multiple responses accepted)



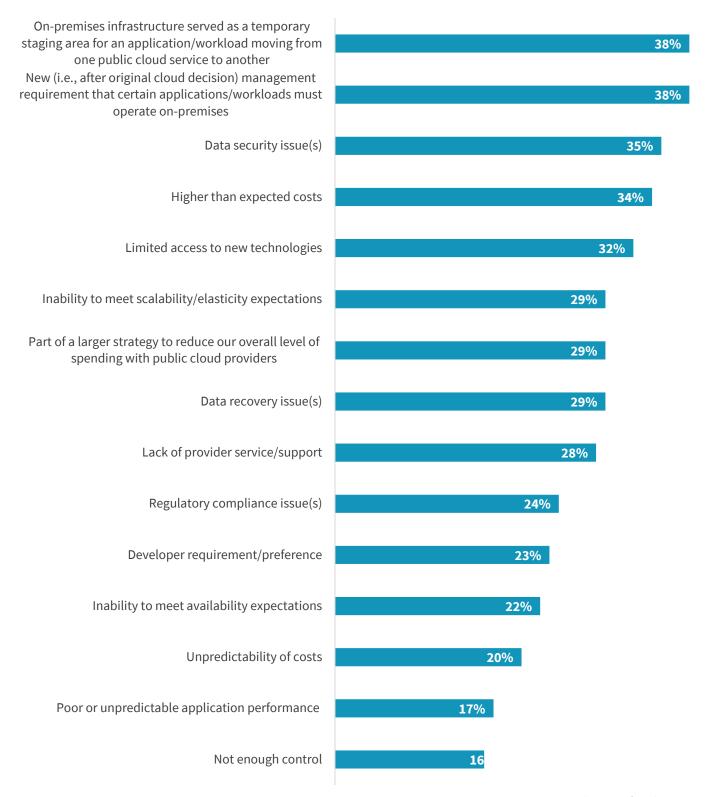
Source: ESG, a division of TechTarget, Inc.

Organizations are faced with additional, critical questions to explore, such as whether it is worth refactoring applications or moving them as is, what data to store in which cloud location, and how to operationalize and manage this on an ongoing basis. As some companies are refactoring applications to be cloud-native, they are finding that the process can, often times, be too time-consuming and expensive, with many finding themselves bringing applications back on-premises to rebuild them and take them to new cloud instantiations. In ESG research, we see that fifty-two percent of organizations have moved workloads back to on-premises data centers in the past 12 months for a variety of reasons (see Figure 5).⁵

⁵ Source: ESG Complete Survey Results, <u>Distributed Cloud Series: Application Infrastructure Modernization Trends</u>, March 2022.

Figure 5. Workload Repatriation Rationale Shifting: Cloud Often Still the Destination

What were the reasons behind your organization's decision to move an application(s)/workload(s) back to on-premises infrastructure? (Percent of respondents, N=167, multiple responses accepted)



Application Dependencies

Other applications may be end-of-life or otherwise not appropriate for the cloud, so those remain on-premises. Organizations require easy access to those business applications and data, regardless of where they reside. Business-critical data and applications need to be portable between public cloud service providers (such as Azure or AWS), on-premises private clouds (data centers), and the hybrid cloud layer to dynamically meet ever-changing external requirements around data sovereignty, compliance, and regulatory mandates, while also meeting security requirements and delivering on business resiliency and zero-downtime SLAs. Sorting through all of this to craft an effective cloud migration strategy requires expertise combined with knowledge of the business that helps avoid a "trial and error" approach and maintains operational readiness with no disruption to day-to-day operations.

Governance

Like any other part of an organization's infrastructure, on-premises or in a colocation, the public cloud must fall under the purview of governance, risk, and compliance (GRC). This is an ever-changing landscape, with new industry and government regulations appearing daily. Organizations must partner with service providers that can meet the requirements.

Conquering the Complexities of the Cloud

Trying to manage the day-to-day operations of multiple cloud environments in-house can consume IT staff and be costly in terms of time, money, and innovation. One approach worth considering is working with an experienced managed service provider (MSP) that is cloud-agnostic, understands the unique requirements and objectives of the business, and keeps a strong focus on delivering strategic outcomes. Depending on the level of expertise, they can provide recommendations for an organization's best cloud options, which should support strategic business outcomes.

Key Considerations When Picking an MSP

A managed service provider should:

- Be able to identify, develop, and deploy a clear roadmap focused on organizational goals and budget.
- Be able to architect and deploy a purpose-built solution designed to meet specific business needs and continuously monitor, audit, and recommend adjustments to achieve industry best practices for the cloud.
- Have access to experienced cloud architects who embrace proven techniques and industry-leading tools that help
 accelerate current and future digital initiatives, speed cloud adoption, and enable the organization to maximize all
 that a public cloud provider has to offer—whether it's Google Cloud Platform (GCP), Amazon Web Services (AWS), or
 Microsoft Azure Cloud.
- Act as a trusted partner to help reduce cloud costs and provide transparency around related spending with comprehensive monitoring of cloud utilization rates and resources.
- Have best practice frameworks and tools that support security and compliance efforts to help ensure the cloud environment and enterprise data are protected from the latest threats.
- Alleviate complexity, including technical debt, compliance issues, and management of multiple public cloud vendors and their inherent numerous services and features.

- Enable the organization to fully leverage organizational data with real-time insights, decision modeling, and business intelligence for faster, smarter decisions.
- Be able to design highly available cloud solutions that maximize uptime and reliability for organizational systems.

A top-tier provider offers services that are cloud-agnostic, with a transparent infrastructure and managed services for any of the major cloud service providers, colocations, or on-premises data centers. The MSP will make storage, compute, and networking transparent by offering monitoring and management services across the entire landscape. They will have the ability to perform performance tuning and usage optimization of the underlying PaaS and IaaS infrastructure to meet application requirements. They provide automation, migration services, security, compliance, and cost governance best practices to offload or train organizations' teams.

Don't Go It Alone: Value of a Strategic Cloud Partner

As a cloud-agnostic managed services and hybrid IT provider, TierPoint delivers a broad spectrum of cloud solutions that are designed to help meet performance and availability requirements based on organizational objectives.

- TierPoint has a breadth of expertise and experience from running its own public cloud for years.
- TierPoint has experience with helping organizations know where to start with the cloud and be successful, such as not only implementing application modernization on their behalf but also disaster recovery.
- TierPoint brings knowledge about how to decide whether application modernization is right for the application, which cloud to use with which component, and how an organization will run it on an ongoing basis.
- Having the right staff to monitor and manage the cloud infrastructure takes experience. TierPoint helps organizations build that muscle.
- TierPoint brings and manages an industry-leading tech stack to help the organization.

The Bigger Truth

Public cloud adoption continues to grow, as its compelling benefits of innovation, cost efficiencies, and easier governance become harder to ignore. The public cloud offers a platform for organizations to rethink how applications are deployed and architect software solutions that fuel innovation and competitive advantage. It is important to find the right combination of solutions from a trusted partner—whether it's public cloud, regional cloud provider, or on-premises—to help address the unique workload needs of organizations.

In spite of all the advantages of a cloud-native approach as part of an effective application infrastructure modernization strategy, the cloud migration challenges are real. At ESG, we have seen many companies attempt a DIY approach, often resulting in applications being repatriated back on-premises creating delays and higher costs. Often organizations find themselves with a shortage of IT staff with the necessary skills to manage the complexities of the cloud. These complexities make it worth considering working with an experienced managed service provider, one that uses proven, leading-edge technology in order to give an enterprise the ability to fully leverage all the benefits the public cloud has to offer.

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