

WHITE PAPER

# Addressing the Top Three Drivers of Multicloud Complexity

Accelerate Operations Everywhere with Greater Multicloud Consistency, Simplicity, and Freedom

By Scott Sinclair, Practice Director; and Monya Keane, Senior Research Analyst  
Enterprise Strategy Group

June 2023

# Contents

Introduction .....	3
Complexity Concerns Are Driving Leaders to Rethink Multicloud Strategies .....	3
The Three Common Drivers of Multicloud Complexity and the Rising Cost of the Cloud .....	5
Rethinking a Multicloud Strategy to Make IT Multicloud by Design .....	6
Example of a Multicloud by Design Approach .....	7
Conclusion .....	8

## Introduction

Is your organization multicloud by design ... or by accident? The rise of the digital business has placed IT operations right at the spearhead of revenue opportunity, which has increased pressure on those teams to accelerate operations, including in terms of embracing multicloud IT.

Overall, 59% of IT decision makers surveyed by TechTarget's Enterprise Strategy Group (ESG) now report that data is their business. An additional 22% say that data helps support their business, and they plan to develop new data-centric products in the next 24 months. Additionally, nine out of ten IT groups report that they are moving faster than they did three years ago, with 41% of them accelerating operations by more than 50%.<sup>1</sup>

That connection between digital initiatives and business growth has created a pervasive need to accelerate digital operations in a major way. It has fueled scale ups in IT operations everywhere—across multiple data centers, public cloud providers, and edge locations.

Today, 86% of organizations are leveraging more than one public cloud provider, and 65% are leveraging more than two.<sup>2</sup> There are several commonly cited advantages to multicloud computing, for example, a certain cloud platform might handle large numbers of requests per unit time, requiring small data transfers on the average, while a different cloud platform might perform better for a smaller number of requests per unit time involving large data transfers. Some cloud providers also offer more big data analytics tools or other specialized capabilities, such as machine learning, than their competitors. Additional advantages include the ability to avoid vendor lock-in, the ability to find the optimal cloud service for a particular business or technical need, and increased redundancy.<sup>3</sup>

However, distributing IT operations and infrastructure in this manner can come at a cost. Organizations often adopt multiple cloud providers seeking greater flexibility, but multicloud environments create complexity, sometimes enough to offset any flexibility-related benefits. The distributed and siloed nature of multicloud IT can often limit data and application portability, which can further strain existing on-premises operations that are already likely to be struggling with the limitations of traditional infrastructure.

Sixty-four percent of ESG survey respondents agree that the complexity of their IT infrastructure is slowing down operations, developers' velocity, and the advancement of important digital initiatives.<sup>4</sup> In other words, excessive complexity due to distributed operations can actually be counterproductive.

The fact is that contemporary IT is multicloud and will continue to be multicloud. But for organizations to harness multicloud benefits, IT decision makers need to put deliberate thought into re-examining their architectural approach to ensure that acceleration benefits remain as the environment scales.

## Complexity Concerns Are Driving Leaders to Rethink Multicloud Strategies

A majority of organizations (53%) surveyed by Enterprise Strategy Group (ESG) report that they not only use multiple cloud service providers (CSPs) for IaaS or PaaS services but leverage those providers in meaningful ways

---

<sup>1</sup> Source: Enterprise Strategy Group Research Report, [Data Infrastructure Trends](#), November 2021.

<sup>2</sup> Source: Enterprise Strategy Group Research Report, [Application Infrastructure Modernization Trends Across Distributed Cloud Environments](#), March 2022.

<sup>3</sup> Source: TechTarget, [multi-cloud strategy](#).

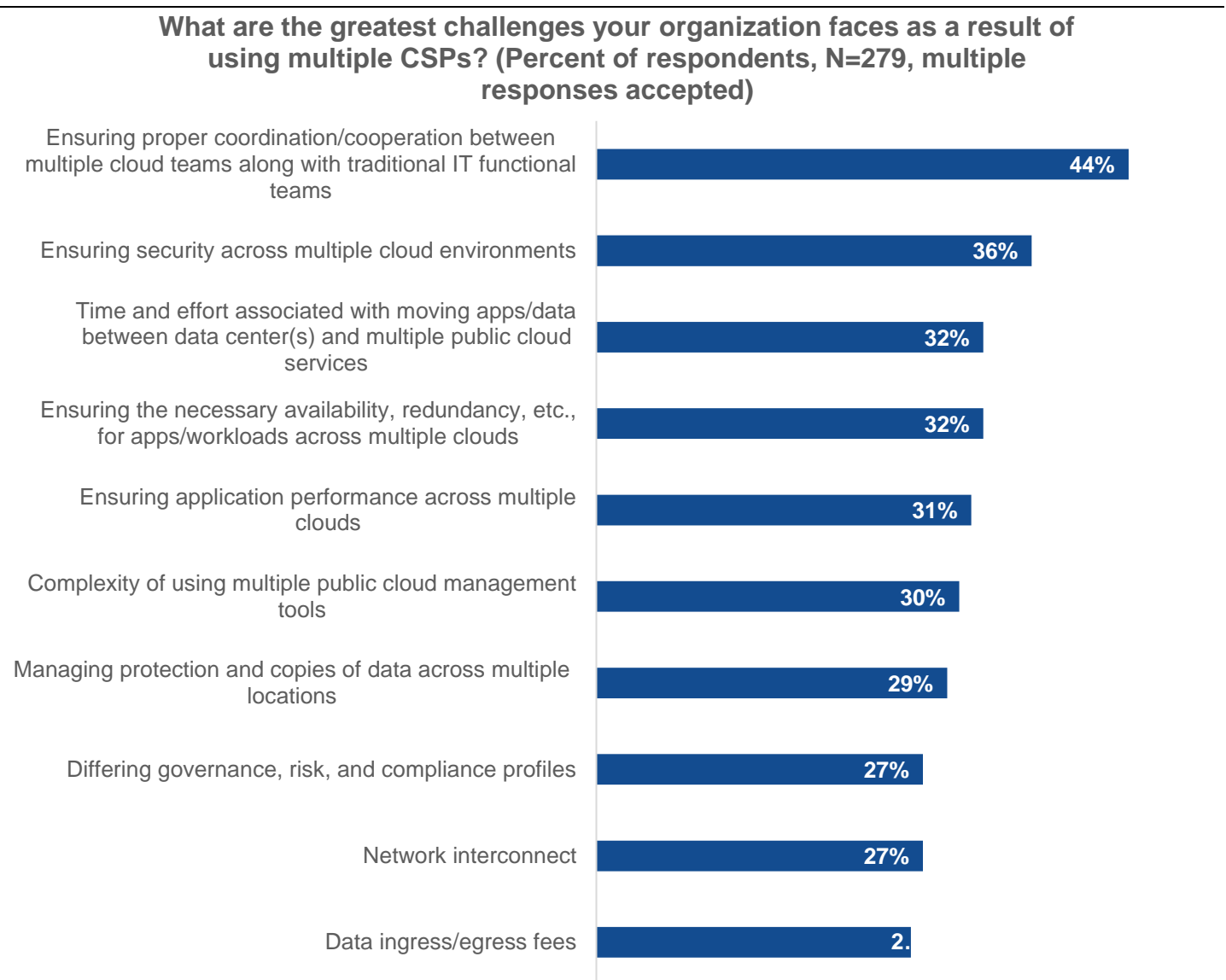
<sup>4</sup> Source: Enterprise Strategy Group Research Report, [Data Infrastructure Trends](#), November 2021.

(i.e., for production or business-critical workloads). Among those organizations, 63% often use multiple IaaS or PaaS providers—with applications hosted in more than one public cloud.<sup>5</sup>

Unsurprisingly, leveraging multiple cloud providers introduces even more layers of complexity, including challenges associated with:

- Coordination.
- Aligning infrastructure capabilities to applications' requirements tied to performance, availability, and security.
- Moving applications and data across various clouds (see Figure 1).<sup>6</sup>

**Figure 1. Top Ten Common Challenges When Leveraging Multiple Cloud Providers**



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

<sup>5</sup> Source: Enterprise Strategy Group Research Report, [Application Infrastructure Modernization Trends Across Distributed Cloud Environments](#), March 2022.

<sup>6</sup> Ibid.

In a multicloud ecosystem, each cloud environment is, in effect, its own separate silo or island. Each has its own set of proprietary tools and its own separate cloud teams managing and maintaining the environment. And with the rise of cloud-native applications, the distribution of IT environments across multiple public clouds (and the increased complexity that follows) will likely only accelerate in the coming years.

Consider the impact of containers, for example. ESG has found that the most commonly identified impact of container technology on overall IT infrastructure strategy relates to the increased number and type of locations that organizations must manage when deploying new applications (cited by 48%). Similarly, 44% of respondents have told ESG that using container technology has also increased their adoption of infrastructure solutions that span multiple sites.<sup>7</sup>

## The Three Common Drivers of Multicloud Complexity and the Rising Cost of the Cloud

The numerous challenges illustrated in Figure 1 all stem from three fundamental drivers:

- The distributed nature of multicloud IT, which hinders data and application portability and adds cost, complexity, and risk to data movements.
- The siloed and diverse nature of each environment, which can make it hard to select the optimal cloud environment for a given app or use case. Each location may require different expertise and tools to use it effectively. That, then, eventually results in siloed teams and extra complexity in regard to collaboration efforts.
- The limitations of traditional operations on-premises, which burdens IT staffs and further limits flexibility in choosing a deployment location.

As mentioned, multicloud IT will be the dominant architecture for businesses moving forward. But its many challenges are driving IT and business leaders to be more thoughtful in architecting their multicloud strategies. They need to consider not only the complexity of the multicloud environment they are creating, but also the cost—multicloud-related complexity can hinder an organization’s visibility, making it difficult to optimize cloud costs as the cloud environments grow.

Enterprise Strategy Group conducted a survey of CIOs, CTOs, VPs, directors of IT, and senior members of finance, procurement, and related administrative groups who are knowledgeable about their organizations’ cloud-related spending. Their companies were primarily focused on financial services (banking, securities, insurance), manufacturing, and technology. ESG found that:<sup>8</sup>

- 87% of the organizations represented (including those excluded from the final sample) have audited their cloud infrastructure spending.
- On average, their public cloud spending accounts for approximately 40% of the total IT solution/service budgets.
- Across their industries, spending percentages were almost identical (estimated averages: financial services 39.3%, manufacturing 39.3%, and technology 40.4%).
- 80% found their cloud spending to be moderately to significantly higher than they expected. On average, their spending was 24% higher than anticipated.

<sup>7</sup> Ibid.

<sup>8</sup> Source: Enterprise Strategy Group Custom Research for Dell, *Uncovering the Public Cloud Spending Quantification Conundrum*, May 2022.

In summary, IT is overspending, and in an economic climate that is currently far from certain, that means less money is available for other initiatives.

## Rethinking a Multicloud Strategy to Make IT Multicloud by Design

Organizations concerned about agility and cost control know that they should be rethinking their multicloud strategies, but there are several realities they need to be aware of:

- The environment will become more distributed as it scales up—not just in terms of the infrastructure components in use, but also how applications are deployed. In that study for example, 55% of the respondents believe that distributed applications (in which data, infrastructure, and microservices combine to provide application functionality that spans multiple cloud environments) will be the norm for their business-critical workloads.
- No single cloud or infrastructure technology provider can give you everything you need.
- A hyper-focus on improving velocity today may not equate to greater productivity returns in the long run as selecting the more readily available technology over the optimal one can lead to inefficient and overly costly cloud architectures as environments scale.
- The solutions, technologies, and cloud services being used today will likely not be the right solutions in three years' time.

Thus, when seeking out solutions, look for ones that can overcome multicloud environment challenges. Specifically:

1. **Simplify the management and movement of applications and data across multiple locations** by providing a consistent experience that can span multiple providers and locations. Consistency is the key to accelerating operations and reducing risk, even as environments become more distributed. In particular, look for a solution that simplifies data mobility. Enterprise Strategy Group research shows that 50% of organizations are moving data between multiple clouds all the time or regularly. For organizations under 10 years of age, the percentage reporting data movements all the time or regularly between multiple clouds is even higher at 78%.<sup>9</sup> Meanwhile, 65% agree that their organizations face challenges with application and data portability across those locations.<sup>10</sup> The answer is to leverage familiar tools and technologies to simplify that management effort. Familiarity reduces risk and minimizes human errors that can lead to security gaps or other negative outcomes.
2. **Address the silos created by cloud platforms being tied to specific locations** by leveraging solutions that offer choice of deployment for each of your workloads. Certain teams and application environments often prefer a particular cloud environment, so leverage solutions that offer deployment freedom and a choice of experience anywhere on- or off-premises.
3. **Address operational burdens on internal personnel** by leveraging solutions that offer infrastructure as-a-service options on-premises. It is possible to accelerate mission-critical operations by freeing personnel from the mundane maintenance work that is consuming so much of their time. Adopting an as-a-service model simplifies operations, reduces IT and business risk, and accelerates operations by moving costs to future quarters so that more infrastructure investing can be done today (see Figure 2).<sup>11</sup> It also helps with staffing issues, especially in an age of shrinking budgets and competitive hiring.

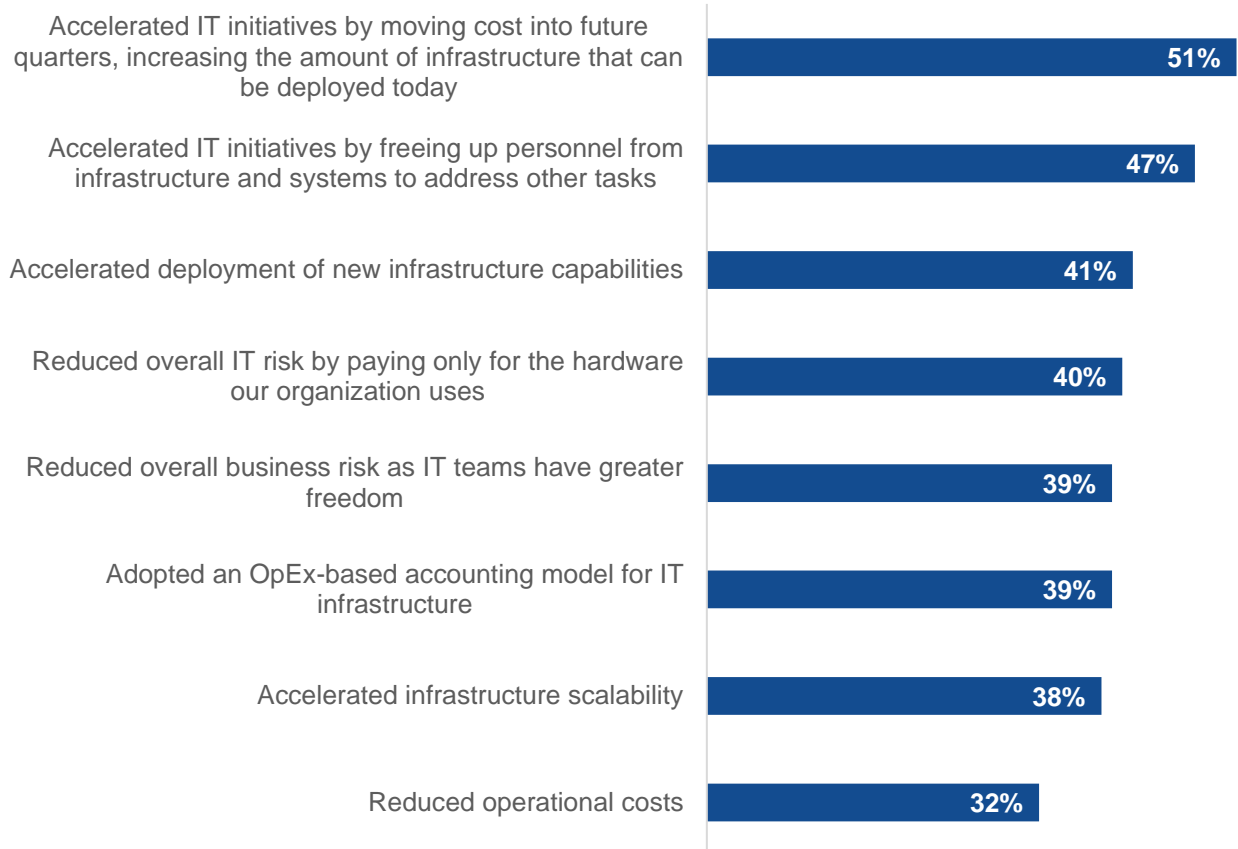
<sup>9</sup> Source: Enterprise Strategy Group Research Report, [Application Infrastructure Modernization Trends Across Distributed Cloud Environments](#), March 2022.

<sup>10</sup> Source: Enterprise Strategy Group Research Report, [Data Infrastructure Trends](#), November 2021.

<sup>11</sup> Ibid.

**Figure 2. Benefits of a Pay-for-use Model for On-premises Infrastructure**

**What benefits has your organization achieved by leveraging a pay-for-use model? (Percent of respondents, N=191, multiple responses accepted)**



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

## Example of a Multicloud by Design Approach

[Dell Technologies](#) delivers “multicloud by design” through its [Dell APEX portfolio](#), which has been designed to simplify operations in a complex multicloud environment. Dell understands that different organizations typically have different areas of expertise as well as different preferences when it comes to cloud experience. To this end, Dell is not simply extending its experience everywhere, rather Dell delivers the choice of cloud experience anywhere.

For organizations that prefer this experience, Dell has extended its storage, data protection, and cyber recovery software to the public cloud as part of its APEX portfolio. In this way, users benefit from management consistency and simplified mobility of applications and data across multiple public clouds and on-premises environments. By extending the organization’s existing experience to multiple locations, organizations maximize the value of their existing technology investments, IT skill sets, and service provider commitments, while reducing the complexity and risk associated with scaling up multicloud adoption.

While Dell’s ability to extend its experience to multiple clouds is incredibly valuable, Dell takes its multicloud by design approach another step further by allowing users of its APEX portfolio to extend the experience of the cloud stacks to data center, colocation, and edge environments. As a result, organizations can accelerate IT operations

and application development on premises by providing a consistent public cloud experience in the data center. This option also allows organizations to meet regulatory compliance and data sovereignty requirements by retaining workloads on premises while still providing the desired cloud experience.

In other words, if your organization prefers an on-premises experience, Dell allows you to extend that experience to the public cloud. But if your organization prefers the experience of one of the major cloud stacks, Dell offers you the choice to extend that experience back on premises.

In addition to offering a choice of experience, the Dell APEX portfolio also brings the agility of the cloud operating model to dedicated IT environments with a variety of subscription and as-a-service solutions designed to reduce IT workload, accelerate technology deployment, control costs, and manage end-of-life assets sustainably.

Ultimately, Dell's APEX portfolio delivers a comprehensive solution for organizations to realize the benefits of multicloud, without many of the constraints that result from the traditional multicloud model where siloed locations require different distinct experiences. With APEX, organizations are provided choice and consistency of experience to eliminate unnecessary complexity, inefficiency, and cost, which frees up their teams to focus on innovation.

## Conclusion

Today, nearly every organization maintains a diverse application environment spanning multiple locations on and off premises. Distributed multicloud and hybrid cloud environments are not going away. That is not the question. The question is, however, whether your distributed multicloud environment will be a benefit to your organization or a burden.

Precisely predicting application requirements over the next three to five years may be impossible, but we know for certain that your requirements in the future will be different than they are today. The ability to fully harness the flexibility of multicloud environments is one of the best ways to position your organization for success. And, accessing those flexibility benefits requires working with a technology partner that can deliver solutions that span multiple locations, multiple public cloud providers, and multiple orchestration layers.

Dell's strategic focus in the realm of multicloud is to provide its clients the highest levels of flexibility and choice of deployment location, public cloud partner, and orchestration environment. Dell is building on a long history of innovation and service as a trusted infrastructure partner, and it is going to continue to expand its APEX portfolio moving forward. That expansion will center on bringing already-trusted, best-in-breed products to different cloud locations.

Looking ahead, as your organization builds out its multicloud environment, you want a vendor that can simplify your management, governance, and security needs across your multicloud landscape, while providing choice of experience. In order to achieve those goals, look to vendors, like Dell, that have had established success delivering solutions that consolidate and simplify the technology from multiple partners. With its APEX portfolio, Dell provides the cloud operating model to dedicated IT environments, even extending to client devices. When it comes to experience, Dell not only extends its own software and technology to the public cloud, but also offers the option to leverage the cloud experience in on-premises IT environments as well.

Businesses are struggling with the distributed nature of multicloud IT, the siloed and diverse nature of each environment, and the limitations of traditional on-premises operations. Dell can directly help organizations conquer those challenges. It unifies multicloud operations, provides flexibility in workload placement, and brings the best of public cloud and private cloud together.



©TechTarget, Inc. or its subsidiaries. All rights reserved. TechTarget, and the TechTarget logo, are trademarks or registered trademarks of TechTarget, Inc. and are registered in jurisdictions worldwide. Other product and service names and logos, including for BrightTALK, Xtelligent, and the Enterprise Strategy Group might be trademarks of TechTarget or its subsidiaries. All other trademarks, logos and brand names are the property of their respective owners.



Information contained in this publication has been obtained by sources TechTarget considers to be reliable but is not warranted by TechTarget. This publication may contain opinions of TechTarget, which are subject to change. This publication may include forecasts, projections, and other predictive statements that represent TechTarget's assumptions and expectations in light of currently available information. These forecasts are based on industry trends and involve variables and uncertainties. Consequently, TechTarget makes no warranty as to the accuracy of specific forecasts, projections or predictive statements contained herein.

Any reproduction or redistribution of this publication, in whole or in part, whether in hard-copy format, electronically, or otherwise to persons not authorized to receive it, without the express consent of TechTarget, is in violation of U.S. copyright law and will be subject to an action for civil damages and, if applicable, criminal prosecution. Should you have any questions, please contact Client Relations at [cr@esg-global.com](mailto:cr@esg-global.com).

---

**About Enterprise Strategy Group**

TechTarget's Enterprise Strategy Group provides focused and actionable market intelligence, demand-side research, analyst advisory services, GTM strategy guidance, solution validations, and custom content supporting enterprise technology buying and selling.

 [contact@esg-global.com](mailto:contact@esg-global.com)  
 [www.esg-global.com](http://www.esg-global.com)