

A Forrester Consulting
Thought Leadership Paper
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Unlock The Value Of Cloud: A Spotlight On IT Executives

How To Expand Your Hybrid Cloud With
Consistency, High Performance, And Security
Everywhere

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Hybrid cloud adoption is accelerating: nearly seven in 10 enterprises are building a comprehensive cloud strategy today, and six in 10 are already adopting a hybrid approach.

Executive Summary

The rapid pace of innovation in both public and private cloud platforms is driving strong adoption from enterprises that are building and modernizing the applications that create competitive advantage. Fifty-nine percent of companies today already use multiple public and private clouds to meet different service, performance, and security needs — implementing a multicloud strategy. Leading companies create a true hybrid cloud by integrating apps, services, and platforms using a common software framework, or stack, for greater workload portability on- and off-premises.

To accelerate adoption and gain the greatest benefits from hybrid cloud, technology leaders must actively seek platforms, tools, and services that help make hybrid cloud simpler, safer, faster, and easier to manage. Leaders who encourage the development of technology management teams to build new cloud-native applications, using the public cloud while also supporting private, on-premises platforms for modernizing legacy applications, can reap the comprehensive benefits from each type of infrastructure. Tech leaders recognize that many core business applications will remain in-house, but that doesn't negate the achievable benefits that a broad range of cloud platforms and tools has the ability to provide.

In May 2017, Intel commissioned Forrester Consulting to evaluate hybrid cloud adoption, perceptions, and investment plans. This spotlight focuses on specific findings and considerations for VP and C-level IT decision makers. Forrester conducted an online survey of 148 senior IT respondents from North America, Europe, and Asia to explore this topic.

KEY FINDINGS

- › **Hybrid cloud delivers both tangible and valuable business benefits.** Integrating public cloud services with private enterprise cloud infrastructure gives companies choice, flexibility, and access to innovation. Hybrid cloud users report greater management of IT resources, higher cost efficiency, stronger security, enhanced scalability, and improved data management.
- › **Enterprises struggle with inconsistent platforms and management tools.** The biggest threat to hybrid success is a plethora of disconnected management tools and inconsistent cloud platforms. Complexity kills efficiency. IT decision makers overcome this by investing in consolidated and unified monitoring tools and by encouraging their cloud platform vendors to leverage established security, performance, and compute components.
- › **Many organizations do not optimize their workload configurations.** More than half of companies surveyed do not actively optimize workload configurations today and are therefore failing to maximize the benefit of their hybrid clouds.
- › **Companies turn to trusted vendors to help them expand hybrid cloud capabilities with consistent security and performance.** Decision makers strongly prefer integrated solutions from vendors they trust. Security concerns top the list of hybrid cloud challenges. Starting with a strong security foundation built on known and trusted technologies is the best way for companies to safely expand their hybrid cloud with confidence.

Hybrid Cloud Adoption Is Accelerating

Enterprise cloud computing adoption has accelerated over the course of the last several years. Sixty-eight percent of enterprise decision makers rated developing a comprehensive cloud strategy as a high or critical priority in 2016, up from 52% in 2012; this percentage is continuing to rise.¹

Hybrid cloud is now seen as the key to business technology transformation. IT organizations are moving an ever-increasing amount of enterprise workloads to both private and public cloud platforms — rarely relying on a single platform. Forrester Data Business Technographics® shows that multicloud and hybrid cloud deployments are now the norm, as cost and agility benefits have been shown to outweigh the management complexity of using multiple platforms. Our study further validated these trends, finding that:

- › **Hybrid cloud is already commonplace — and growing.** Forrester’s data shows that 59% of North American and European organizations with a cloud strategy have a hybrid cloud today, which is a mix of hosted private, internal private, and public cloud platforms.² Our study found that most organizations that utilize hybrid cloud have between one and three of each type of cloud platform.
- › **There are as many reasons to go multicloud as there are permutations of multicloud.** Companies often start by using different public or private clouds for different workloads or use cases. Many organizations initially use public clouds for data backup and disaster recovery, and most private clouds are initially built to support software development and testing. When asked why they use multiple clouds, respondents cited these use cases, as well as the general desire to take advantage of the unique performance and service levels for each on-premises or off-premises platform (see Figure 1). Going further than multicloud capability, modern hybrid cloud solutions can greatly simplify workload mobility and cloud federation between service providers, thus providing significant value beyond using public cloud as just a secondary storage tier, for example.³
- › **Data center consolidation and automation are huge IT priorities over the next 12 months.** Enterprise IT leaders are under enormous pressure to increase services while decreasing costs. Consolidation and automation are part of this strategy, yet organizations still generally gain better cost efficiencies by leveraging different platforms for their respective strengths. This leads organizations to virtualize, consolidate, and automate their data center infrastructure, while leveraging cloud infrastructure-as-a-service (IaaS) and platform-as-a-service (PaaS) at the same time. Hybrid cloud offers efficiency and flexibility as organizations look to consolidate and optimize their use of all infrastructure, simultaneously, whether in the data center or in the public cloud.



Figure 1

“Why do you use multiple cloud platforms?”

(Showing top five responses)

32% For backup/recovery of data, to leverage cloud storage services

32% To allow us to bargain for the best price and avoid vendor lock-in

30% Because different users require different cloud services

30% To bridge cloud-native SaaS and/or packaged apps, which run on different platforms

29% To lower storage costs by leveraging cloud storage platforms

Base: 148 C-level and VP enterprise IT decision makers responsible for cloud decisions

Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, May 2017

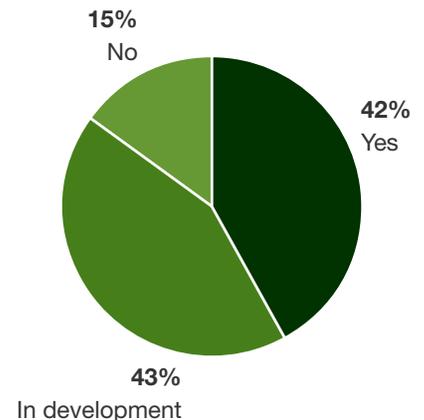
Enterprises Struggle With Inconsistent Cloud Platforms And Management Tools

When considering an investment in multiple cloud solutions, a common concern is management complexity. How will companies retain control and security as the number of different cloud platforms expands? Increasingly, the number of disparate tools and platforms logically adds complexity, and this complexity is daunting for IT pros who are already stretched thin. However, the right strategy can overcome these challenges. 2016 saw a consolidation in the market for cloud management tools, as organizations looked to build consistency across tools and environments.⁴ Our survey found that many organizations still have room for improvement in this area, as:

- › **Many organizations do not optimize their workload configurations.** Less than half of companies surveyed actively optimize workload configurations today and are therefore likely not effectively rightsizing workloads in public or private clouds (see Figure 2). IT decision makers have increased cloud spending in 2017, and Forrester forecasts an increase in cloud monitoring and management solutions as a critical part of this investment.⁵
- › **The methods for tracking and measurement are inconsistent.** The way organizations track security, cost, and performance varies widely. Twenty-eight percent of our VP and C-level respondents reported challenges with tracking costs across multiple clouds, and 20% said that monitoring is more difficult in a hybrid environment. Methods for tracking security, cost, and performance will vary widely whether you're tracking public or private clouds, or both. To reduce complexity, companies should encourage the use of consistent platforms and tools wherever possible across public and private clouds. The public cloud's capability is based on the same essential infrastructure components that are found in the data center. The more that companies can prioritize platforms that leverage the components they already know and trust, the less variation they will introduce with each new cloud platform.

Figure 2

“We take steps to optimize workload configurations and cloud placement.”



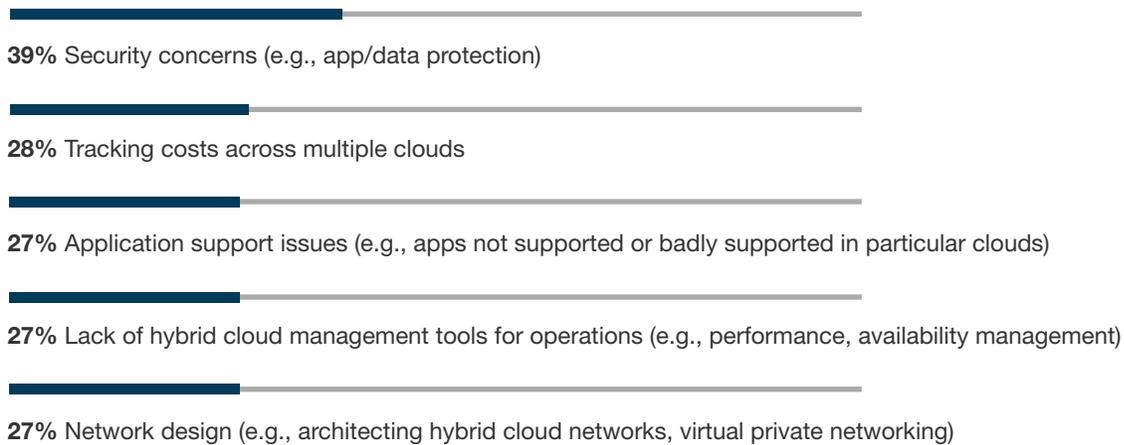
Base: 147 C-level and VP enterprise IT decision makers responsible for cloud decisions

Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, May 2017

› **Complex deployments require advanced skill sets.** The top challenges inhibiting further expansion of hybrid cloud are security/privacy concerns, lack of cloud platform and management skill sets, and lack of consistent monitoring or management tools across platforms (see Figure 3). Without consistent platforms and security, current staff skills will be stretched, limiting how much more hybrid companies can safely adopt cloud solutions. These concerns will continue to hold companies back from becoming more hybrid.

Figure 3

“What challenges have you faced deploying/using multiple cloud platforms/environments?”



Base: 148 C-level and VP enterprise IT decision makers responsible for cloud decisions
Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, May 2017

Organizations Will Modernize More Business-Critical Apps And Data Using Secured Hybrid Clouds



Regardless of any concerns or challenges, hybrid cloud is here to stay, and companies slow to embrace and optimize hybrid environments will increasingly find themselves at a competitive disadvantage. By moving more secure workloads, data, and business-critical apps to both public and private cloud platforms, the trend is showing that companies plan on becoming more hybrid over time. Our study found that:

- › **Hybrid cloud provides tangible business benefits.** There are important reasons that so many organizations are using multiple hybrid clouds. The top cited benefits include better IT cost management overall, improved data management, better flexibility, and stronger security (see Figure 4). Perhaps most important is the fact that hybrid clouds help speed application modernization, which is a key IT priority in the age of the customer.⁶ To stay ahead of their digital competitors, companies seek hybrid cloud because a hybrid model can offer higher consistency, better security, and more agility than any one public or private cloud can alone.
- › **Decision makers seek integrated solutions from vendors that they trust.** Integration is paramount to a successful hybrid cloud strategy, as it is only when platforms are integrated that IT pros can effectively monitor, optimize, and secure their workload configurations. Our study found that when considering cloud investments, 69% of VP and C-level decision makers prefer to use integrated hybrid cloud solutions from vendors that they know and trust rather than using multiple different best-of-breed solutions.

Figure 4

“What do you perceive as the top benefits of using hybrid cloud?”



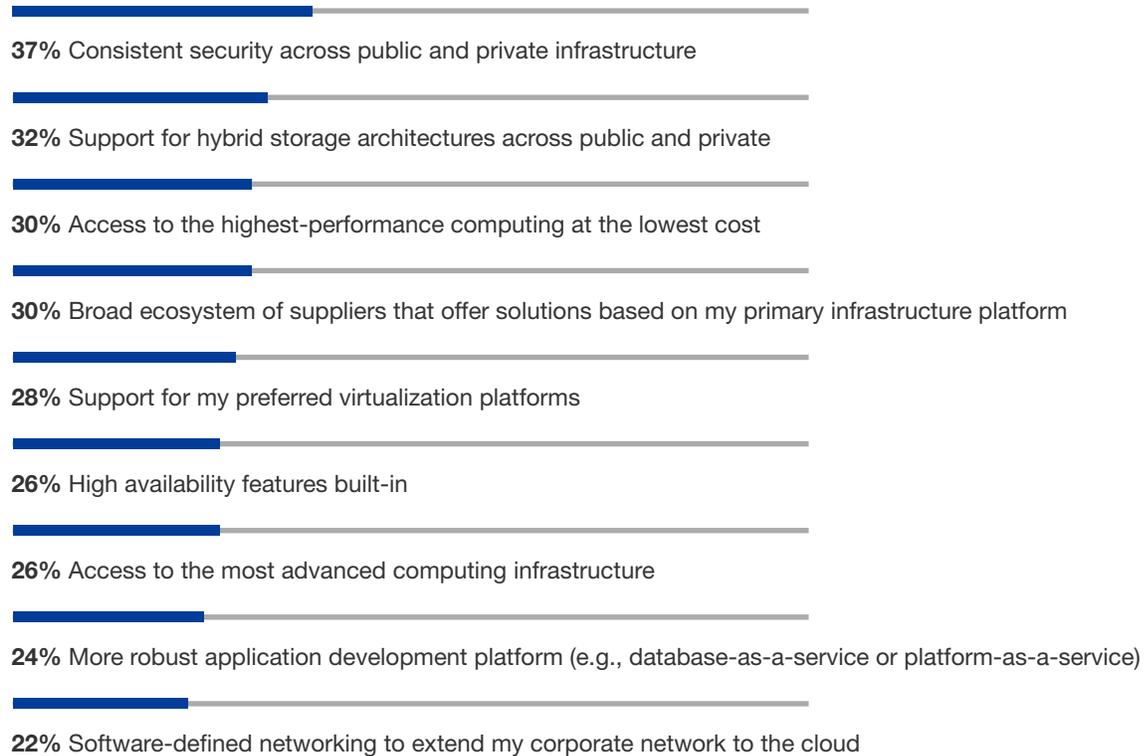
Base: 148 C-level and VP enterprise IT decision makers responsible for cloud decisions
Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, May 2017

Hybrid cloud unlocks more ways to save IT costs, including “own the base and rent the spike” strategies.

› **Consistent security, performance, and availability top the list of what companies demand from their hybrid cloud platforms.** There are a number of features and capabilities that are important to IT executives as they build out their hybrid clouds. As organizations look to expand their hybrid deployments, their top demands are consistent security, support for hybrid storage architectures, highest compute and storage performance at the lowest cost, and a broad ecosystem of suppliers with compatible solutions (see Figure 5).

Figure 5

“Which features of a hybrid cloud infrastructure platform are most important to you?”



Base: 148 C-level and VP enterprise IT decision makers responsible for cloud decisions
Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, May 2017

Key Recommendations

Leading technology executives reject a one-size-fits-all approach to cloud platforms. Public cloud platforms are best suited to building elastic cloud-native apps, while private cloud is often used to modernize core business applications in place — without the added costs and risks of migration. Hybrid cloud combines the best of both, but if executives don't address inconsistency and complexity up front, hybrid can be more trouble than it's worth. Leading executives take the pain out of hybrid cloud by:



Adopting modern efficiency platforms for hybrid cloud innovation and self-service orchestration. Look for both public and private cloud platforms based on the most efficient, performant, and manageable modern infrastructure components, from compute to storage to networking. Make sure your business and development consumers have a cloud-like experience (self-service and on-demand provisioning) across all the private and public clouds they use.



Optimizing your workload strategies for multicloud environments. Evaluate your app requirements to determine what makes sense to modernize in the public cloud (with elastic, on-demand infrastructure and cloud-native development services) and what makes sense to modernize on-premises (to maintain control and optimize the use of existing infrastructure).



Taking an app-driven, step-wise approach to becoming more cloud-native. Run an app portfolio analysis to identify which of your existing apps are best modernized in your own data center because of performance or integration requirements. Continuously review and prioritize all legacy apps as you transform your business. And, at the same time, build new, greenfield apps as cloud-native. A strong hybrid cloud foundation supports both efforts.



Thinking extension, rather than addition, when it comes to management tools. Prioritize extending your well-known, trusted platforms and management tools into the hybrid cloud over adding new security, performance, or cost management tools for each new cloud platform you use.



Starting with a unified and cross-cloud approach to management. Choose public cloud providers that offer modern converged infrastructure and private cloud software platforms, so you can take advantage of your existing IT skill sets and monitoring tools as your hybrid cloud expands.



Maintaining consistent security, high availability, and the lowest cost across cloud platforms. The leading public clouds already rely on the same fundamental compute and virtualization technologies that you are likely using to modernize your own data center. It's up to you to ensure that all on- and off-premises infrastructure provides consistent protection.

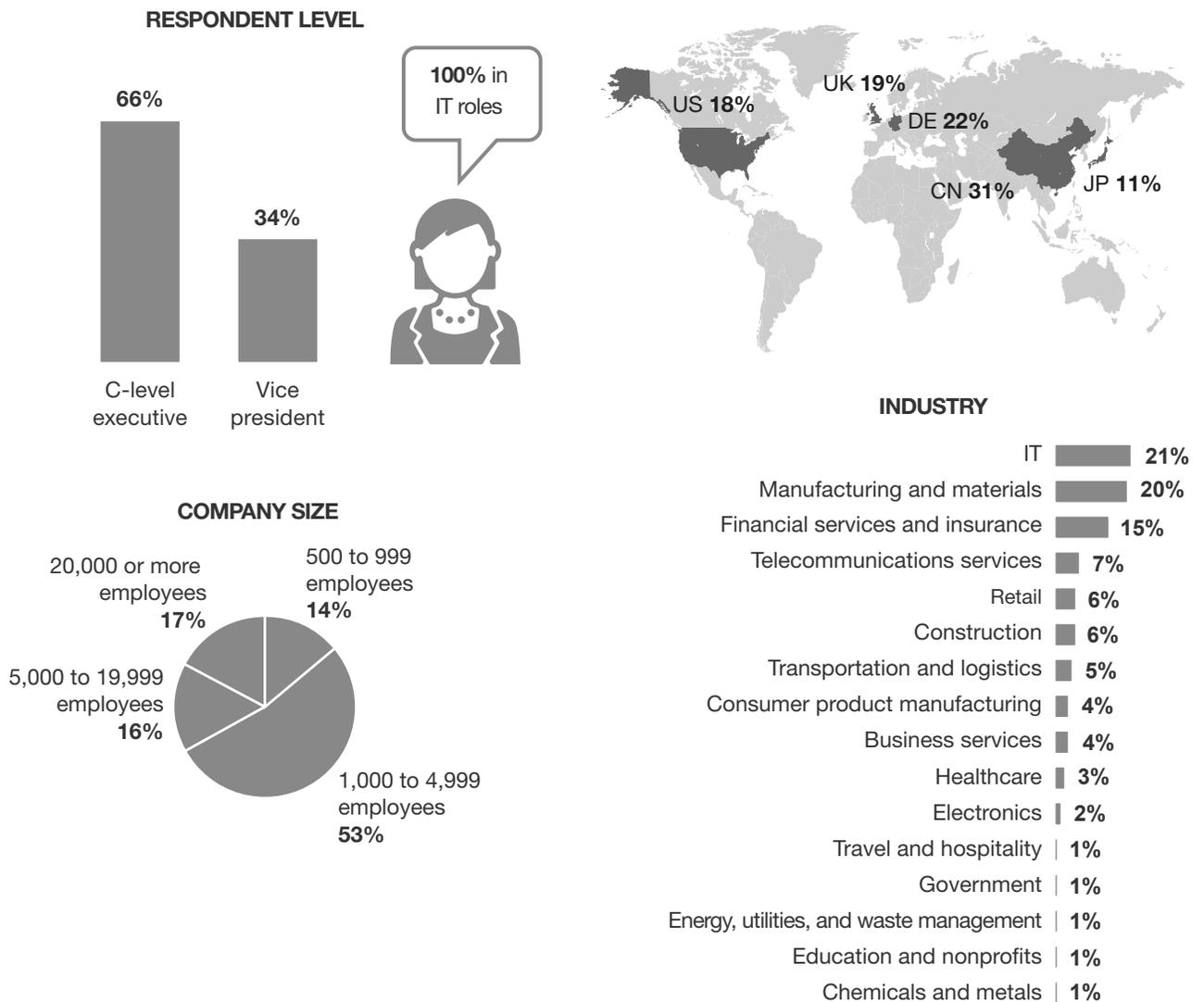


Finding the right partners. Don't go it alone. Reach out to your trusted infrastructure, support, and software ecosystems providers. The right hybrid partners take on some of the multicloud integration complexity and let you expand your use of hybrid cloud with confidence.

Appendix A: Methodology

In this study, Forrester conducted a double-blind online survey of 515 cloud decision makers from enterprises in the US, Germany, UK, Japan, and China to evaluate their adoption behaviors and attitudes toward hybrid cloud solutions. Survey participants included manager-level and above IT decision makers at organizations with a cloud strategy (148 of these respondents were VP-level or higher). Respondents were offered a small incentive as a thank you for time spent on the survey. The survey was conducted in May 2017.

Appendix B: Demographics/Data



Base: 148 VP and C-level enterprise IT decision makers responsible for cloud decisions
 Note: Percentages may not total 100 because of rounding.
 Source: A commissioned study conducted by Forrester Consulting on behalf of Intel, May 2017

Appendix C: Supplemental Material

RELATED FORRESTER RESEARCH

“Benchmark Your Enterprise Cloud Adoption,” Forrester Research, Inc., January 3, 2017.

“Justify Your Hybrid Cloud Future With A Solid Business Case,” Forrester Research, Inc., July 6, 2017.

Appendix D: Endnotes

¹ Source: “Benchmark Your Enterprise Cloud Adoption,” Forrester Research, Inc., January 3, 2017.

² Source: “Benchmark Your Enterprise Cloud Adoption,” Forrester Research, Inc., January 3, 2017.

³ Source: “Hybrid Cloud Is The Foundation For Storage Agility And Economics,” Forrester Research, Inc., April 28, 2017.

⁴ Source: “Scoring Forrester’s 2016 Cloud Predictions,” Forrester Research, Inc., December 22, 2016.

⁵ Source: “Benchmark Your Enterprise Cloud Adoption,” Forrester Research, Inc., January 3, 2017.

⁶ Source: “Vendor Landscape: Cloud Migration Services,” Forrester Research, Inc., March 28, 2017.