

# *Road to* **MULTI CLOUD**



# Start your engine

The road to cloud nirvana isn't an easy one. It's paved with many a broken EC2 instance, misconfigured S3 buckets, and a whole lot of poorly written YAML. But now that road often passes through multiple providers.

According to [Gartner](#), around **75% of organizations that use the cloud deliberately adopt a multicloud strategy**, up from 49% in 2017. Most organizations use some combination of the “Big 3”—Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform—which together account for [63% of global spend](#).

But while leaders continue to default to cloud, technologists are falling behind when it comes to learning new cloud technologies. Only 8% of technologists have extensive experience with cloud tools. The gap between what leaders want and what technologists can execute on creates three foundational obstacles to multicloud success.

We're here to help you navigate the road to multicloud—and lend you a hand overcoming the most common multicloud speedbumps. So hop in.

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# Multicloud in the rearview mirror

To build better multicloud strategies, we have to understand where we are and how we got here.

Multicloud is a cloud computing strategy where an organization uses multiple cloud service providers or platforms to host an application or website ([software as a service](#), or SaaS), to run specific tasks related to an application ([platform as a service](#), or PaaS), or as an underlying technology infrastructure ([infrastructure as a service](#), or IaaS).

Yet that's not how it started out. Understanding this evolution of multicloud is key to developing new strategies for success across all cloud platforms.



# In the beginning, there was hybrid cloud

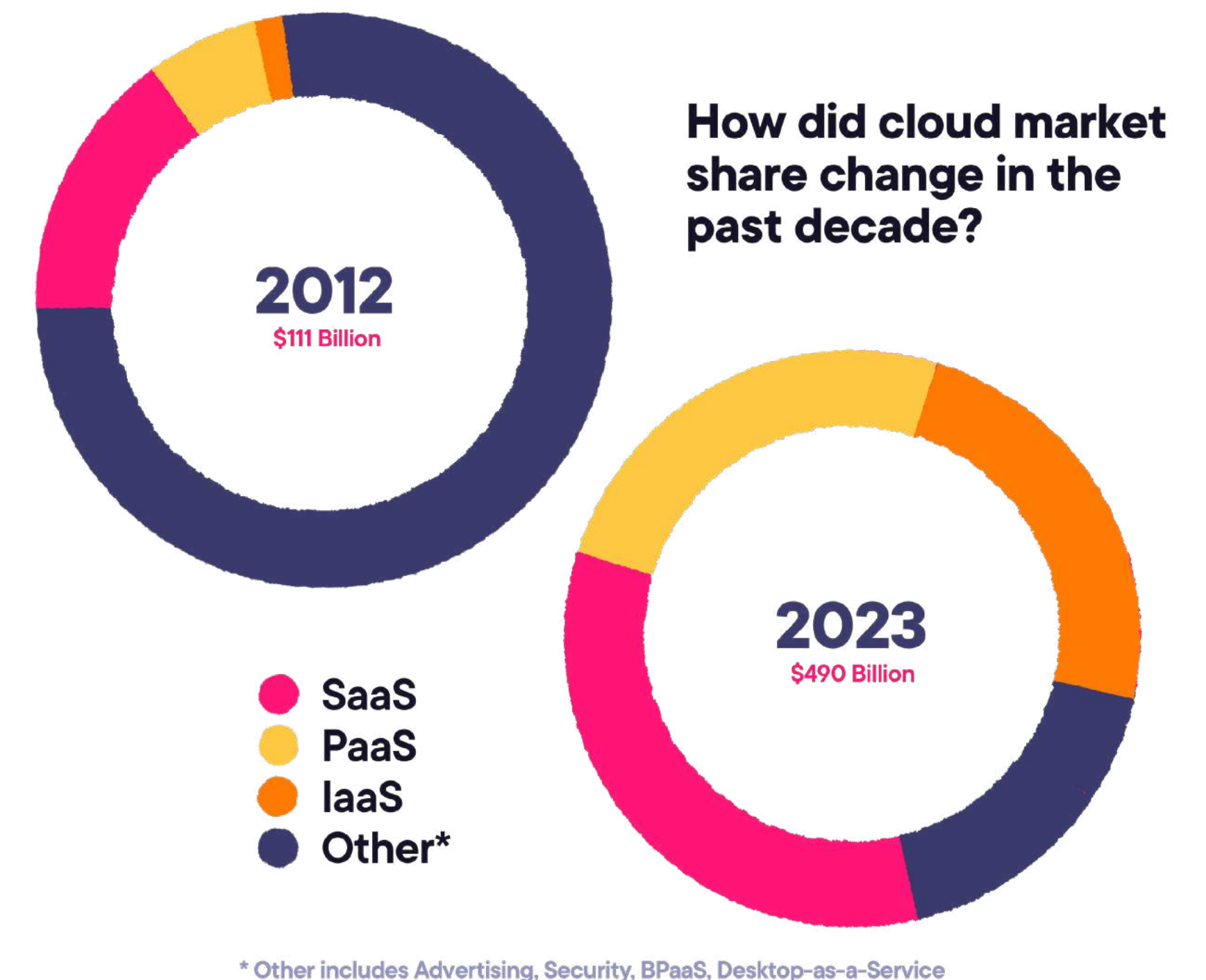
When cloud computing offerings first launched in 2006, they weren't popular. Underdeveloped features and functions made it difficult for organizations to make the switch. So they didn't—until 2010, when private clouds became functional enough for organizations.

Hybrid cloud was introduced in 2011 with little fanfare. Shifting workloads between cloud offerings was tricky, and few organizations had the ability to effectively do it. But they were still looking for the agility, tools, and storage cloud computing provided.

## The tipping point came in 2012.

Google Compute Engine, HP Cloud, and Microsoft Windows Azure arrived on the scene to compete against AWS and Rackspace for a piece of the cloud computing market. Then CloudBolt changed the game by developing a hybrid cloud management platform, making hybrid cloud strategies more accessible and efficient.

This all led to a boom in cloud computing and a jump in market value from [\\$111 billion in 2012](#) to [\\$131 billion in 2013](#). Yet we were still defining cloud computing. According to Gartner, **SaaS made up nearly 14.7% of that total. IaaS was only 5.5% and PaaS only 1%.** What made up the other 80%? Cloud advertising and cloud business process services (BPaaS). But we were making strides, especially as cloud-based security offerings launched on the market.



# The rise of multicloud

One of the most prominent use cases for cloud computing in the early 2010s was software development. In 2013, organizations began moving their production workloads and development to IaaS platforms. And by 2017, the SaaS segment accounted for [64% of worldwide public cloud revenue](#).

This changed the game for organizations across the globe and paved the way for multicloud adoption. Organizations adopted multiple SaaS applications to support human resources, customer relations, and supply chain departments. And so began the rise of multicloud.

MILE  
2000

## Free-for-all in the cloud

Free trials and accounts for SaaS products make it easy for anyone to sign up for multiple software solutions running across multiple cloud platforms without IT departments knowing.

MILE  
2010

## Starting to strategize

Organizations take a more proactive approach to multicloud strategies. These strategies are largely driven by a fear of vendor lock-in, creating over-engineered solutions.

MILE  
2020

## Multicloud by design

Forward-thinking organizations lean into cloud-native features in individual public cloud offerings and take advantage of each platform's strengths, building better solutions for their customers.



# Multicloud: A destination or just the beginning?

While many organizations have joined the multicloud bandwagon, too many don't have the organizational maturity to develop, implement, and maintain a fully functional, strategically designed multicloud infrastructure. But that doesn't mean we don't have an eye on the future of cloud computing.

For organizations looking to take advantage of cloud-specific capabilities, the destination isn't just implementing a multicloud environment. It's operating within an ROI-positive multicloud strategy. And yet the organizations leading the charge in cloud computing are already looking beyond multicloud.



## The charge for supercloud

Whether you call the next phase in multicloud evolution metacloud, supercloud, cross-cloud, or data cloud, it's the ability to have a layer of cross-cloud services that sit above cloud providers.

### THE GOAL

**Build one security, governance, and operational system among the clouds instead of in each cloud provider using their native features.**

It shifts the definition of multicloud from using multiple cloud providers to building holistic cloud solutions in and among cloud platforms. And changes the game entirely.

## Navigating multcloud challenges

Multicloud use is on the rise. But for many organizations, this brings more challenges than solutions. Until multicloud reaches the next phase of running one system among cloud platforms, organizations are going to have to contend with three main challenges to their current multicloud environments.

## Top 3 Challenges to Multicloud Environments



# 1

**Implementing a multicloud strategy by accident**



# 2

**Securing a multicloud environment**



# 3

**Managing multicloud complexities**

## Detouring into multicloud without a map

Humans will always find the path of least resistance, which sometimes means going outside approved software or policies—especially if it makes their lives easier. With the introduction of self-serve SaaS, it's too easy for non-technical team members to buy, download, and use cloud-based solutions without IT teams knowing.

Multicloud strategies let organizations take advantage of platform-specific features for better user experiences or as part of a larger resiliency strategy. But these detours into other cloud platforms create additional management overhead, open up organizational security risks, and increase cloud costs.

### So how do you make sure you don't end up stranded, wondering which way is north?

1. Implement a platform-agnostic cloud governance policy
2. Educate team members about the cloud governance policy and how to spot outliers
3. Focus on outcomes when developing approved software lists with non-technical departments

You won't stop humans from taking the detour if they think it's easier or faster. But you can place roadblocks to slow them down or set up checkpoints to turn them around.

## Crossing the not-so-stable bridge between cloud platforms

Leaders and technologists identified cloud security as the biggest cloud skills gap. **Adding another cloud platform to your existing environment makes security strategy even more complicated.**

Read more about  
the state of cloud in  
our 2022 report.

[Learn more](#)



# 5 myths of multicloud security

Many factors can weaken the bridge between your cloud platforms. Finding out how each cloud platform operates is critical to getting your security strategy right. And that starts with understanding the top five cloud misconceptions that impact said strategy.



## Every cloud provider outlines their shared responsibility model the same way

Different cloud providers structure their shared responsibility models differently, so your team needs to understand the ins and outs of each cloud's security practices and features.



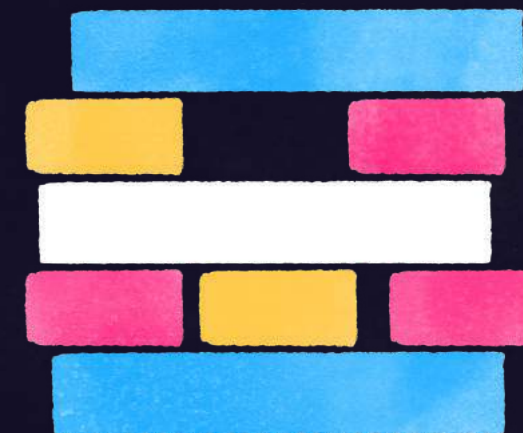
## The responsibility for security falls on the cloud providers

Each cloud provider has a shared responsibility model that outlines the security responsibilities they own and which they delegate to you.



## I don't need more security tools

Your existing tools may work well for your on-premise infrastructure or hybrid cloud environment, but they may not be enough in the world of multicloud. Vet new tools for assistance with visibility, access management, key management, and workload management.



## Everyone will do their part as defined in the shared responsibility model

According to [Gartner](#), 99% of cloud security failures will be the customer's fault. Leaders need to stop questioning whether the cloud is secure and start questioning whether they're using the cloud securely.



## On-premise and multicloud security work similarly

It's much harder to track and secure data in multicloud environments, especially when third-party vendors are involved.

## Driving off course to add an unplanned cloud feature

Even if you went down the multicloud path with your eyes wide open, it's easy to lose sight of the forest for the trees. One of the main reasons to invest in a multicloud environment is to take advantage of specific cloud-native features or services. But if you're not careful, you'll drive into overly complex environments.

A good rule of thumb for all multicloud environments: If you're invoking it, you better need it. Multicloud environments are expensive, and any additional complexity can lead to performance and security issues. If you're going to risk the trade-off, make sure it's worth it.

For organizations more advanced in their multicloud journeys, the next step is to create a layer above your cloud platforms to manage workloads. For everyone else, finding a language that works among them is hard enough.

But it's not only the infrastructural complexities you have to worry about. Adding another cloud platform means you've multiplied the maintenance efforts needed for your cloud environment. **You also just added to the number of skills your team needs to adequately manage and secure the environment.**

“What's the best way to make an informed multicloud decision? Don't rely on others — get yourself educated on the offerings from AWS, Azure, and GCP so you can do what is best for your business.”

**Drew Firment**  
Chief Cloud Strategist, Pluralsight



# Are we there yet?

For more than a decade, technology set the pace for multicloud adoption. Leaders implemented the latest technology or strategy as soon as it became available, regardless of the talent or processes in place to make it successful. **Most leaders now realize that while they can navigate the best route for their teams, they won't go anywhere fast without the right people in the driver's seat.**

Things will only get worse as more organizations default to multicloud environments. More than 60% of technologists are new to the cloud and don't know how to navigate, develop, implement, or secure a single cloud platform. By adding another, you've doubled the training your team needs to manage and maintain your cloud infrastructure.

The solution? Invest in training your technologists across multiple cloud platforms at the same rate you invest in new technology. **Technology doesn't grow your business. People do.** Prioritize their growth to fuel innovation and deliver outcomes faster now and in the future.

## About Pluralsight

Build better teams and better products at the same time with Pluralsight. Our cloud transformation solutions deliver expert-authored courses in the latest cloud technologies paired with unlimited access to hands-on labs, sandboxes, and certification prep. Equip your teams to execute on strategic cloud investments that drive innovation, automation, and efficiency.

**Talk to sales about how to create a future-ready tech workforce and prep for the next leg of your multicloud journey.**

[Get started](#)

