

# 6 Cloud Strategy Pitfalls and How to Avoid Them

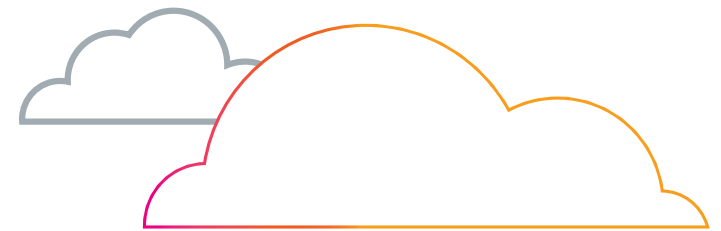
The cloud's greatest benefits can quickly become drawbacks without a strong cloud data strategy

Organizations in virtually every industry are abandoning their legacy, on-premises data centers and moving workloads and data to the cloud. They are seeking to optimize costs and deliver new solutions to meet the rapidly evolving needs and expectations of employees and customers. To do so, organizations are building cloud strategies focused on modernizing their tech stacks through multi-cloud environments and cloud-native application adoption.

The benefits of the cloud can be far-reaching and significant. The cloud saves organizations money, improves and accelerates innovation, and makes them more agile in reacting to market trends and competitive pressures. Even well established organizations are becoming “digital first” — requiring them to make significant technology investments to meet customer expectations. It’s a necessity for survival in the hypercompetitive market of digital upstarts and economic volatility.

As with all technology, the cloud comes with its share of challenges and risks that can jeopardize not only the expected gains of a cloud strategy, but also the whole customer experience. The key to getting maximum value from the cloud largely comes down to how effectively an organization is able to manage their increasingly complex application portfolio and related infrastructure. Only after the massive amount of data produced by cloud-based systems is appropriately managed and analyzed can a cloud strategy deliver the promised value to the organization.

To reach this level of success, every organization must learn to avoid the pitfalls associated with cloud adoption. We’ve identified six of the biggest risks, and with this guide we hope to help you navigate your cloud journey successfully.



# Cloud Benefits and Pitfalls

## Pitfall #1: Runaway Costs

One of the most commonly-cited benefits of the cloud is its ability to drive cost savings, while shifting budget from CapEx to OpEx. But if you don't implement proper controls, spending on cloud services can quickly get out of hand.

### Benefit

A key benefit of cloud technology is its ability to shift how organizations spend money to support their applications, from fixed capital expenses to operating expenses that are directly tied to usage. Given the long procurement lead times and high fixed costs of many IT departments, IaaS and PaaS offerings are a compelling alternative. Cloud gives organizations the ability to efficiently scale operations in tune with demand while accurately aligning costs with need.

### Pitfall

While as-you-use-it, consumption-based pricing has the potential to be more cost-effective than on-premises infrastructure strategies, organizations that plan poorly and fail to properly monitor their cloud environments can quickly see costs spiraling out of control. The primary issue often relates to poor visibility into how cloud instances and services are used: Many organizations allow decentralized groups to procure and manage their own cloud environments. While this strategy gives these individuals or teams the autonomy needed to experiment and tailor the environment to their needs, it also leads to significant gaps in oversight. Services may be overprovisioned, licenses may go unused, and cloud servers may be unnecessarily duplicated,

all of which drives up cost. In fact, [one-third of cloud spending is wasted](#) on idle or overprovisioned cloud resources in 2019. Even worse, organizations often find themselves spread across multiple cloud providers — either deliberately or accidentally — with little ability to compare costs on a workload basis. It is often difficult to determine not only where expenditures are going, but also what value the organization is getting from them.

### Data Strategy

It is important to develop a data strategy for your cloud strategy. Your organization must accurately forecast and monitor cloud spending to maximize return on investment and ensure cloud costs align with intended budgets. By centralizing the overall cost management of your cloud services, you can identify inefficient jobs, duplicated workloads and other unnecessary expenses before they spiral out of control. Observability capabilities are key here to understand the where and why of points of failure in increasingly complex systems. The right observability platform can normalize and consolidate usage reporting, regardless of where the cloud services are being used. Ultimately, if you treat every implementation of a cloud application like an independent business decision, you can continue to support group autonomy and still avoid nasty surprises on your cloud bills.

# Pitfall #2: Trading Accelerated Innovation for Stability

Introducing cloud-native DevOps practices promotes rapid innovation and fuels transformation, but also introduces new potential points of failure.

## Benefit

In a traditional, on-prem datacenter environment, infrastructure is largely determined by periodic budget cycles. New ideas that require additional hardware or software resources but are generated outside of standard budgeting operations must be delayed until the infrastructure is made available — stifling innovation and reducing competitiveness. Cloud infrastructure and services can be spun up quickly to support the rapid pace of innovation.

## Pitfall

When an organization adopts agile development and DevOps principles, they move from infrequent releases of monolithic applications to much more frequent releases of distributed, cloud-native applications. The additional complexity can be difficult to manage because cloud-native applications, with their complicated interdependencies and distributed design have more points of failure. Further, many of these new cloud apps extend and depend on existing backend systems, creating a complicated service delivery pipeline. Troubleshooting in this environment can quickly become overwhelming. In fact, a recent [report](#) found that “620 million developer hours a year [are]

wasted on debugging software failures.” In other words, failing tests cost the enterprise software market \$61 billion annually. Further, moving faster without maintaining visibility can result in reduced stability and hindered cloud adoption.

## Data Strategy

Implementing new service and application architectures also means capturing the new data streams that emerge. These new streams of data from sources such as serverless functions and microservices offer potential answers to issues that could arise in your cloud environments. The key is to make all of your data observable across all cloud platforms and legacy dependencies. Again, the key is observability. If you can’t see and understand what’s happening in real time from all of your data, you won’t be able to take the right action for your operations. The goal is to be able to identify and monitor not just the “known knowns,” but the “unknown unknowns.” Done properly, it will allow you to quickly locate the root cause of problems while supporting the desired rate of deployment, improving scalability and expanding the overall effectiveness of your business processes — providing you both speed and stability.

**“Our previous lack of visibility prevented us from moving at a fast pace,” Kinwar says. “But Splunk supports the team velocity to develop products and features faster while giving us the confidence to release sooner.”**

—Jishnu Kinwar, VP of Cloud Platform Engineering, Arlo

[Read the Arlo Story](#)

# Pitfall #3: Creating a Cloud Strategy Without an Associated Security Strategy

While the vendors themselves have world-class security postures, cloud-native solutions and DevOps facilitates “going fast and breaking things” — which can deprioritize security.

## Benefit

Pre-approved cloud vendors have made it past security checks and allow for security teams to approve development and infrastructure needs quickly and with confidence. Cloud vendors unilaterally meet stringent compliance requirements and leverage their scale to fund security teams that often exceed the capabilities of even sophisticated enterprises. They also offer tools that provide visibility into how your data is stored and processed. Because organizations can spend less time and money worrying about infrastructure security, a shift to the cloud also translates to lower costs and faster realization of value.

## Pitfall

A secure platform means nothing if it's not managed correctly. [Gartner](#) says that “the challenge exists not in the security of the cloud itself, but in the [policies](#) and technologies for security and control of the technology. In nearly all cases, it is the user, not the cloud provider, who fails to manage the controls used to protect an organization's data.” As such, “CIOs must change their line of questioning from ‘Is the cloud secure?’ to ‘Am I using the cloud securely?’”

While the cloud indeed offers solid security and some visibility into how data is stored and processed, it also comes with a certain opacity. Coupled with an expanding attack surface, this makes for a potentially weak overall security posture. Additionally, as an organization's data becomes dispersed across multiple clouds as well as their own datacenters, security becomes even more difficult to understand and control. Finally, as teams sprint ahead with digital initiatives, they sometimes overlook general security requirements as they are focused on meeting their own. All of this leads to an overall increase in risk — particularly if the organization is not up to speed on network controls, access management systems or configuration options. Who is responsible for managing this risk? What happens if no one is?

## Data Strategy

A strong cloud security strategy is the bedrock of a solid cloud data strategy, letting you retain control over your data while empowering the right people to contribute to managing security risk. This does not only apply to the normal operational data classically associated with security, but to sensitive customer and business data. Cloud and security strategies must go hand in hand because it allows for a concerted effort that delivers on business needs while accounting for security controls across different teams working on different digital initiatives. Teams should have the ability to identify and remediate issues that are generated from multiple locations through a single, centralized platform regardless of the type of application. The best practice is to source and leverage a data platform, which provides you with a security posture defined by unified cloud security and provides visibility into all of your data controls across a multi-cloud environment.



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**“The largest gain was through securing at the edge,” Bell says. “This removed the need for individual dev teams to come up with edge protection models for public-facing endpoints.”**

—David Bell, Manager, Infrastructure and Cloud Services, REI

[Read the REI Story](#)

# Pitfall #4: New Tools Without a Cohesive Approach

Cloud solutions come with their own, purpose-built management tools, optimized for their service experience without consideration of other providers or existing IT management tools.

## Benefit

The cloud is designed to save money in part because it frees you from the need to rely on legacy, on-prem tools and applications. Less overall management with the tools that are included with your chosen cloud platforms means IT and security teams can focus their energy on other parts of the business, saving time and reducing expenses.

## Pitfall

Vendor-centric cloud-based management tools are rarely designed with compatibility for multi-cloud environments in mind. As such, the typical business earnestly adopting cloud will often find itself relying on some level of legacy technology to attempt to fill the gaps. When this happens, an organization can find itself spending more time manipulating their existing toolset than actually leveraging the capabilities of the cloud for transformation. What's more, since these legacy tools weren't designed to support the modern application architectures that have been made possible by the cloud, they lead to fractured and inaccurate awareness. In the end, an organization has less visibility into its operations and poorer response times that result in increased downtime, more frequent performance issues and an overall increase in risk.

## Data Strategy

Organizations need tools that will keep them competitive, but that can't happen without a holistic approach that accounts for existing infrastructure. The right cloud data strategy should be centered around the idea of bringing the old and new world together via a single data platform that captures the whole picture. It must offer resilient capabilities on the back of AI and machine learning to continuously analyze all of an organization's various cloud services in context, particularly where existing legacy tools may still be used. Only then can an organization truly automate the identification, classification, prediction and self-healing of a variety of technical and business issues before they become major problems. Only after an organization moves away from simply responding to issues and manipulating older technology in attempts to solve modern problems can it work toward truly modernizing itself.

# Pitfall #5: Spreading Yourself Too Thin

There is no shortage of cloud-based point solutions, and if left unchecked, you may end up subscribing to all of them.

## Benefit

Once you begin investing in cloud technology in earnest, it's easy to adopt an enterprise mindset that shifts from "cloud-first" to "cloud-always." Whatever problem your business encounters, there's probably a cloud-based solution for it, and you can always change them as the need arises. Armed with a myriad of cloud-based apps and services, organizations find themselves prepared to tackle anything — improving IT operations, security posture development and ultimately the business model itself.

## Pitfall

There may indeed be a cloud solution for anything, but not a single solution for everything. Not adopting a comprehensive monitoring and observability strategy will leave your organization scrambling to maintain clarity into the health and availability of your cloud services. The freedom of individual teams to acquire their ideal point solution can quickly lead to silos and data overload as analysts are forced to contend with an exponentially increasing number of data feeds and alerts, with no comprehensive plan for managing them.

Ultimately, an enterprise can find that cloud technology culminates in a more complex and costly environment, that is actually more challenging to monitor. Your business and teams might feel spread thin and unable to manage the sprawl effectively.

## Data Strategy

Letting individuals and teams define their own needs is key in how organizations manage their operations, provided they have a data platform that provides a single, centralized way in which to view them. This platform should not just connect to multiple external platforms, it should also provide a single surface in which IT, security, DevOps and various business functions can all maintain visibility in order to respond accordingly. Through a centralized management platform, stakeholders can observe and manage the increased volume and velocity of data and better decide what cloud solutions work, and which are unnecessary. The goal is to have a lean infrastructure both on-prem and in the cloud — avoiding bloated tech stacks with several solutions that compete to do the same thing while adding to overall complexity.

**“Before Splunk, logging was done in a disjointed manner. The lack of cohesiveness made it difficult to have an overarching perspective. As we mature with it, it's become apparent that Splunk is the solution for our broader issues.”**

—Antonio Guedes, Security Analytics Senior Lead, Mars, Inc.

[Read the Mars Story](#)



# Pitfall #6: Leaving Value in Your Data

Your organization misses the opportunities that come from generating a lot more data when you can't effectively leverage it to take action.

## Benefit

Cloud technology allows organizations to digitize more interactions, build apps in new ways and capture more data than ever before. If harnessed correctly, this data can be transformative, offering a bounty of insights previously unavailable to the business, and enabling enhanced customer engagement, better employee productivity, greater uptime and streamlined operations. Organizations that emphasize data use add an average of 5.32% to their annual revenue, due directly to better data use, according to [Splunk and ESG research](#).

## Pitfall

Having data does not mean it comes with value built in. It has to be processed, analyzed and understood to realize its value. A huge amount of the data produced in an organization remains **dark** — data that is untapped, unused or undiscovered. Many organizations are simply unable to effectively and efficiently harness the vast amounts of data generated by cloud-driven

systems. The result in these cases isn't a glorious digital transformation, but rather a data ecosystem that is more complex than ever, with costs that are not adding value. Having information scattered and siloed across multiple systems without a strategy for extracting value from the data is a huge opportunity cost.

## Data Strategy

You can't undertake digital initiatives without a clear understanding of your organization's data. So-called "dark data" — generated both from technical and business systems — must be organized and made centrally accessible for the organization to use as needed. Harnessed effectively, this data can generate business improvements ranging from faster response to service interruptions to improved service offerings for customers. Where is this dark data coming from? Mobile apps and microservices, newly connected systems like mobile POS, cloud monitoring tools, new system integrations and more. By leveraging a platform that can make use of real-time data feeds such as these, organizations can position themselves for a successful cloud journey.

**“We're at the level of granularity now where we can go to any position on the security lane and completely understand its performance. We can ask questions of the data: 'How can we improve on yesterday's ontime performance?' 'What were the reasons for the shortfalls?'”**

—Alex Webber and Paul Bannister, IT Development Specialists, Gatwick Airport

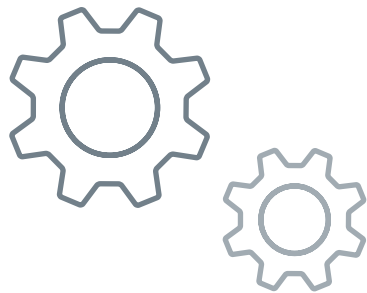
[Read the Gatwick Story](#)

# A Smart Cloud Strategy Requires a Data-to-Everything Platform

Becoming a cloud-native organization isn't always a guaranteed fast track to success. It comes with significant challenges that you need to plan for if you want to avoid runaway expenses, management complexity and data overload. One of the central success factors in promoting long-term success during a cloud journey is ensuring that all of your disparate data sources — from multicloud to sensor data to customer interactions — are immediately accessible and observable to the organization's critical stakeholders.

This isn't a trivial task, and it can only be done successfully with the right platform. Splunk, the Data-to-Everything Platform, is designed to meet you at every stage of your cloud journey. Splunk is agnostic to whether information is located in your on-prem data center, in a public or private cloud platform, or in the business-driving applications you develop and manage. It enables expansive, real-time data access, powerful analytics and automated

collection, allowing you to instantaneously index your critical business data, while providing configurable alerts that bring potential trouble spots to your attention. As organizations modernize and embrace cloud native architectures, platforms like Splunk can become a centerpiece of your operation's resilience, and the key to helping you get real benefits from your infrastructure, assets and data. Only the right data platform can help you avoid pitfalls during your journey in the cloud, creating a robust data backbone upon which you can truly innovate.





**So what's the fastest way to overcome these six pitfalls? Investigate, monitor, analyze and act with Splunk Cloud.**

[Learn More](#)

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20-13979-SPLK-6-Cloud-Strategy-Pitfalls-How-to-Avoid-Them-103-LS

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