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#### INTRODUCTION

Businesses move their applications and data to the cloud for agility, cost savings, and streamlined performance. Spiceworks Ziff Davis recently reported that 50% of all business workloads will be in the cloud by 2023. Initially, the gains organizations make with cloud computing can have a major impact on both increasing performance and reducing costs. Yet over time, cloud performance can slow—and costs can rise—as maturing cloud ecosystems aren't maintained or optimized. Storage can be the key to powering up performance and managing costs.



# TAKE STOCK OF YOUR CLOUD LANDSCAPE WITH ASSESSMENTS

Moving to the cloud is a significant undertaking. Whether you're planning your first big move or moving a priority workload that's further down your roadmap, planning is crucial. A cloud assessment can help you evaluate a number of factors to determine what cloud storage solution is right for you. An assessment can also help you better understand how to structure your storage and which cloud provider—Microsoft Azure, Google Cloud, or Amazon Web Services—is likely to be the best fit for your immediate and long-term needs.

If your environment is more mature, an assessment can help you determine what resources you have, how they're being utilized, and what steps could be taken to speed up performance or reduce costs. A professional cloud assessment offers objective insights that can help inform your roadmap and prioritize decisions about how to manage your cloud portfolio.













# THE CHALLENGES OF CLOUD OPTIMIZATION

McKinsey & Company recently made waves with a study that reported 74% of companies failed to realize the full value of their cloud investments, including major cost savings. Gartner research supports that idea, highlighting that most companies fail to keep cloud spending in check. Common reasons include lack of visibility and the inability to predict usage, which in turn causes companies to be unwilling to commit to lower long-term pricing structures, wrong-sizing production, and more.

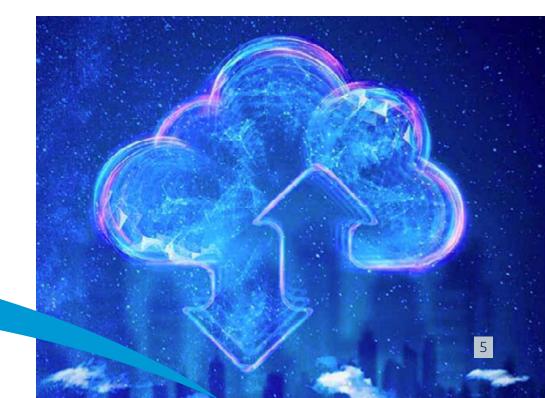
These statistics highlight a powerful dynamic at play in the cloud optimization landscape. While CEOs and CFOs are motivated to tightly control cloud costs, they often use the wrong benchmarks to set company targets. At the same time, IT leaders are under pressure from application owners and end users to deliver fast, reliable, secure performance that today's most important applications demand.

At first glance, it would be easy to conclude that these two goals are incompatible. However, experience has shown that cloud optimization is possible. It begins with understanding your unique business needs, exploring how you're already using cloud, and

then using that data to identify opportunities to reduce waste, right-size storage investments, and balance the demand for performance with cost efficiency.

Let's take a closer look at how today's innovative firms are utilizing new tools and approaches to better manage these variables through strategic cloud storage management.

There are several options available, from built-in reporting and monitoring at the world's major cloud companies, to third-party independent tools that help optimize costs and enhance application performance.





IMPLEMENT CONTINUOUS MONITORING TOOLS

Data is your most valuable currency in the cloud optimization process. Typically, theoretical attempts to manage crowd spending and performance without a clear understanding of the workloads and applications in play, which cloud solution they are on, and how they're utilized, tend to fail. Enter continuous monitoring cloud tools.

A new generation of automated monitoring tools provides IT leaders and business stakeholders with greater visibility into the operations of the current cloud ecosystem. It's easier than ever to see exactly how you are using cloud, which applications and user groups are driving spend, what resources you are paying for that are not being fully utilized, and how to understand cloud use over time for predictive planning. With continuous monitoring tools, you can understand what's happening in your cloud environment, including:

- How your cloud environment is currently configured—whether you have Microsoft Azure, Google Cloud, AWS, or a multi-cloud environment
- What resources are being used and which ones are not, highlighting opportunities for streamlining usage and eliminating waste
- Optimizing spend by adopting automation where appropriate





CONSIDER WHAT PERFORMANCE METRICS YOU'RE MEASURING

Continuous monitoring tools offer an important lens into how your cloud is performing—and highlight opportunities for improvement. However, it's critical to take a step back and ask the question: What cloud performance metrics should you be measuring?

There are differing schools of thought on this, and many come back to your primary goal of what you're trying to achieve through cloud optimization. However, your service level agreement (SLA) offers some smart starting points on what to measure. From there, it makes sense to develop a work plan that's focused on the questions you have. These may include which applications and user groups are driving spend, what resources are you paying for that aren't being utilized, what's being overprovisioned, and where can automation help you gain performance advantages while keeping costs low?



COULD RETHINKING STORAGE SPEED UP YOUR CLOUD PERFORMANCE AND REDUCE COSTS?

### TAKE ACTION ON YOUR DATA: EXPLORE NEW APPROACHES

Now, with a detailed set of insights about your cloud environment, it's time to right-size your deployments. Every cloud footprint is unique, and your final recommendations will depend on which cloud provider you're working with, the applications or data stored on the cloud, and how your employees are interacting with the data. Depending on what insights your analysis reveals, you will have a number of options to consider:

- Pay-as-you-go and / or dynamic cloud plans: Many cloud payment plans require pre-payment for set amounts of storage. However, once you have established a data-based model of your cloud utilization, it will be easier to predict future needs. These insights may open the possibility of solutions such as pay-as-you-go or dynamic cloud plans to lower costs while keeping critical cloud resources available to power your most important applications and workloads.
- Reducing excess storage: If your analysis reveals resources that aren't being utilized—or duplicate storage, which is another common problem—it's possible to eliminate unused storage for immediate cloud cost savings.

- Addressing overprovisioning: In DevOps environments, development servers are often overprovisioned. With a holdover from on-premises systems, monitoring often reveals that just 30% of resources are being utilized. As more and more development and programming happen in the cloud, it's important to develop realistic blueprints of the resources that specific applications or projects require. This can help ensure projects are properly resourced and costs are kept in check.
- Archives based on actual data usage: Deeper visibility into
  the cloud environment allows you to see which applications
  and data are routinely being accessed. Often, decisions are
  made to keep certain datasets live "just in case." However,
  upon reviewing the data, it may become immediately clear that
  certain data isn't being accessed—and according to that actual
  usage, it can be safely archived.





# TAKE ACTION ON YOUR DATA: EXPLORE NEW APPROACHES, continued

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#### A final note on monitoring:

Using a monitoring tool can help you take a deep dive into your cloud environment. Several immediate action steps may arise from that analysis and provide the opportunity to increase performance or reduce unnecessary cloud spending. Today's best cloud monitoring tools offer continuous monitoring.

Over time, these tools will continue to offer visibility into what's happening in your cloud environment. As new data, workloads, and applications are moved to the cloud, issues can occur, or new problems can arise. Continuous monitoring provides you with a communication channel to identify those issues and address them as part of a process of ongoing improvement.

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# EMBRACE AUTOMATION TO STREAMLINE MANAGEMENT

The day-to-day management of complex cloud ecosystems can require significant time from your IT team and take them away from their most important strategic and urgent priorities. Automated tools allow you the flexibility to streamline the way your cloud environment is managed and make it easier to support and optimize your cloud environment over time.

Automation tools come in two varieties—those that are built into the cloud provider systems and third-party tools. Across these categories, you'll find tools that can do things such as:

- Increase performance by detecting what has changed between two versions of a data block and just uploading those parts of the file for faster backups and smarter storage
- Automated backup, security, and disaster recovery to enhance performance through a smart data-resilience strategy
- Use predictive data to allocate resources to specific programs or workloads, and then use rules-based guidance to shift more resources to priority programs
- Shut down environments when they're not being used, so you don't pay for that time

And the list goes on. If you're overwhelmed by the data you're monitoring and what assessments have yielded, or you understand the core insights but are unsure of what step to take next, you are not alone. The good news is that experts like Connection can help you develop a cloud roadmap and implement key insights to change how you utilize storage for maximum impact.





#### **CONSIDER MANAGED SERVICES** As cloud ecosystems mature, they can evolve into large and sprawling technology environments that require expert-level insights to untangle. Finding the best path forward—whether your goal is to increase performance, reduce spend, or both isn't always linear. An outside partner can help. Managed services providers that offer specialized services in Microsoft Azure, Google Cloud, and Amazon Web Services can help you optimize deployments, take advantage of tools, and make the most of your cloud environments over time. Learn from what's worked for others and put those tools to use, while alleviating the burdens of cloud optimization from your team. Connection COULD RETHINKING STORAGE SPEED UP YOUR CLOUD PERFORMANCE AND REDUCE COSTS?





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