4 Tips to Optimize Your Investment in AWS

InterVision

GUIDE

WHEN ORGANIZATIONS MIGRATE TO THE AMAZON WEB SERVICES (AWS) CLOUD,

many see benefits of scalability, flexibility and accessibility across their business. However, sometimes businesses may run into operational inefficiencies that lead to out-of-control spending, or as strategies within the business shift to meet evolving market demands, their cloud must evolve to meet those needs. Indeed, it's too common to see IT teams so focused on getting their workloads to the cloud that they lose sight of why they want to be there in the first place. Misalignment with long-term company vision is a primary driver for pain points in the AWS cloud, so a project as critical as operating in the AWS cloud must consistently connect with your business strategy to ensure ongoing success.

Cost optimization is a continual process of refinement and improvement over the entire IT systems' lifecycle. Ideally, from initial design of a proof-of-concept to the ongoing operation of production workloads, an organization should adopt practices to build and operate cost-aware systems that achieve their business outcomes while minimizing costs. Doing so will allow a business to maximize its return on investment, which is foundational to greater business agility and market competitiveness.

For those in AWS looking to optimize their IT stance, especially to reduce costs, this guide offers tips for investigating areas to improve your overall investment in AWS, in areas such as scaling possibilities, storage options, performance, compute, spending and automation—and of course, spending. Together, these aspects will allow you to gain the most of what AWS can offer, and to realize the business benefits that come along with a fully optimized cloud.

RIGHT SIZE THE ENVIRONMENT

Provisioning any IT solution is a Goldilocks situation. Achieving cost savings in the cloud is very much the same scenario: IT teams are striving to balance their needs with their budgets. Having too much versus too little of something leads to overspending and inefficient operations. You wouldn't buy a warehouse to store a single cardboard box. Similarly, your datasets and applications should have the proper space to expand as needed, but not too much space that your organization suffers.

In the days of CapEx capacity planning, when companies were buying vast quantities of hardware, it was vital to know how much hardware and software to purchase. But now capacity planning has been replaced by cost monitoring and optimization. In the days of OpEx, additional capacity can be quickly turned on in the cloud so old-style capacity planning is not necessary. Instead, cost monitoring and cost optimization are vital and must be performed on an ongoing basis to keep an organization's cloud spend under control.

Indeed, spending predictability can be one of the most painful challenges of cloud. The pay-as-you-go model of AWS is appetizing to IT teams that have been exhausted with decades of CapEx spending on IT equipment, but it can also become a bit expensive if not kept in check. The elasticity of cloud means that costs can easily run out of control as traffic surges, and what was intended to be a cost saving maneuver turns out to be one of the costliest expenditures of the IT department.

When it comes to AWS, one key area to rein in spending is making sure you're not overspending in running instances. For example, if you have a 4 vCPU & 16GB of RAM instance and not utilizing all those resources, you're overpaying. Additionally, if your workloads require 24/7 uptime, consider AWS Reserved Instances or Savings Plans.

SCALE HORIZONTALLY

IT departments should keep a keen eye on bandwidth, networking and load capacity when in AWS, since sudden bursts of traffic or usage could expand the environment beyond allotted capacity or hit capacity limits that create latency. One way to ensure you maintain the proper operating stance is allowing applications to scale horizontally rather than up. This approach saves on costs by utilizing any extra capacity in your environment before needing to provision additional compute and storage.

Once you've set up the environment to scale horizontally, another great solution is to set up rule-based performance and burst capabilities for elasticity, guardrails for policies across an entire organizational unit, and push notifications when spending nears a set limit. Many third-party vendors will offer their clients a SaaS-based platform that aggregates all usage trends into one interface. Leveraging the expertise of a third party in this area can make a big difference in the long run—it gives your team visibility as well as actionability

TIP 3

USE DIFFERENT TIERS OF STORAGE

Pricing tends to be extremely complex in the cloud—on the surface, it's designed to look very simple (usually based on simple metrics like $/GB/month or $/hour or, more recently, $/second), but as a company expands its cloud usage and goes into a multi-region infrastructure, which can involve mixing lots of products, it becomes hard to track the ever-growing cost of the cloud infrastructure.

Cloud has many different storage options, from object, block, and file-based storage, and one solution might not make sense for all applications. The answer in deciding the right storage option for your organization will depend upon your objectives and long-term company goals, down to the specificity of each dataset and application. Taking a tiered approach will not only optimize your budget in the long run, allowing you to devote more resources elsewhere, but it will also truly allow each application and dataset to live within an environment well suited for its unique needs and goals.

There are many types of object storage in AWS, including S3 and Glacier, but there's also less expensive alternatives like S3 Infrequent Access (good option for backups), S3 One Zone-Infrequent Access, and even S3 Intelligent-Tiering. Additionally, you can leverage lifecycle policies to move infrequently access files to a less expensive tier like Glacier (good option for arching data). With file-based access there are options like Elastic File System (EFS) for Linux workloads and FSx for Windows and highperformance systems like Lustre. Having a conversation with a trusted third party is a great way to get a second opinion in determining what should go where.

TIP 4

REDUCE TECHNICAL DEBT

Indeed, "getting out of the datacenter business" drives a substantial number of IT departments to AWS. Many companies have found maintaining an efficient, secure datacenter internally is getting harder and harder to do as technology needs evolve and innovations shift marketplace expectations. The COVID-19 pandemic is a prime example of this accelerated shift to a new way of doing things. In AWS, teams can gain performance efficiencies and native features IT staff would've otherwise dreamed of having in an on-prem environment. For this reason, cloud is quickly becoming the norm.

The best way to reduce technical debt is taking a "cloud first" approach to all ongoing IT investments—but this doesn't mean "cloud only." All IT decisions must rest within view of the company's long-term strategy, and there may be some applications that just won't be a good fit for cloud. And that's okay. In this scenario, having these synthesized with your AWS environment for speed, performance and security will be paramount.

As your company seeks to reduce technical debt, one good area for consolidation is reducing the number of third-party vendors that the business engages. As any cybersecurity expert will tell you, each third-party vendor with access to your sensitive information presents an additional attack vector for cyber exploitation. For this reason, a managed service provider (MSP) might be a good choice to engage with for a conversation, since this type of vendor not only can consolidate technology expertise under one roof to deliver the full IT lifecycle from a single entity, but they will also keep your long-term strategy in view first and foremost.

Many times, cost optimization in AWS starts with the migration strategy—or fixing what you overlooked in migration after the fact. Indeed, the problem with going to the cloud too quickly is that apparent initial benefits once you get there quickly lead to overspending. Many companies migrating to the cloud tend to embrace the "lift & shift" strategy, replicating what was once on premises. Once in AWS, an organization then needs to "cloudify" its infrastructure to achieve virtually infinite computing power and storage. However, this apparent freedom can lead to very serious drifts: overprovisioning, under-optimizing application code or forgetting to "turn off the lights" by letting servers run more than necessary and forgetting about storage usage. The problem here is compounded when a company's applications do not support elasticity yet and the company's team are inexperienced in the cloud environment. The combination of legacy applications and IT staff without broad and deep cloud knowledge leads to significant overspending, which leads to the need to "improve."

AWS has mechanisms such as RIs, Savings Plans, EDPs (Private Pricing) that are effective discounting tools to save money in the short term. However, these tools do not "improve" the architecture, which is required to gain the biggest cost savings. This is where a vendor like InterVision can help, bringing highly skilled staff in cloud architectures to gain additional and ongoing cost savings that ultimately help build out a cloud-conscious culture within your organization.

ONGOING SUCCESS IN THE CLOUD

The key to cloud optimization is taking a strategic approach to every aspect of your IT ecosystem. Doing so will allow issues to come to light. For example, provisioning an automation solution for a specific application may not make sense if compliance requirements dictate otherwise. Likewise, disaster recovery testing may emphasize the need for a failover solution in a different cloud environment for increased redundancy.

Not only does attention to company strategy ensure spending, connectivity and security remain within their controlled limits, but it also aligns your IT vision with that of the business for the future. Proper planning and investment up front are in direct correlation with the success of your execution.

Indeed, a consistently cost-optimized system will not only utilize all resources, but it will aslo achieve an outcome at the lowest possible price point to meet your functional requirements. With this goal in mind, InterVision is proud to offer a Cloud Cost Optimization Service, which is backed by a guarantee to identify a minimum of 30% savings for clients with $20,000 or more in monthly AWS spend.

InterVision's Cloud Cost Optimization Service goes further than what AWS and most other providers focus on. InterVision worksw alongside your business to discuss how to architect systems with the most effective use of services and resources to achieve business outcomes at a minimal cost. In addition to quickly minimizing current costs by at least 30%, our work will help analyze and attribute costs that will enable you to further reduce costs over time. InterVision's cost optimization approach is part of our broader cloud financial management framework, which is a set of cababilities that allows clients to successfully manage, optimize, and predict cloud costs.

By taking this approach, clients learn how to build a cost-conscious culture into their organizations without slowing down innovation or slowing down their business. We understand that managing AWS optimization efforts for performance, spending and security in-house can be difficult.

Interested in optimizing your investment in AWS with help from InterVision?

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