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5 Strategies

for Simplifying and Reducing AWS Costs

We all know AWS is complex. But it's also exciting. The flexibility on offer, and the evolving array of tools AWS provides, means your organization can build anything, do anything, be anything. The great part is you're already bought in. You're in control. But what about your cloud costs? How are you managing those rising expenses as you drive innovation forward? Are they what you expected when you first started your AWS journey?

Our guess is no. Not even close.

What cost-related assumptions were made when you shifted to AWS? The kind of assumptions that are now causing headaches? And what did you miss completely? In this eBook we're about to debunk the biggest misconceptions and myths surrounding AWS cost optimization. Can you really afford not to?

If you haven't caught the first eBooks in this series, or you're in need of a quick refresher, check out Enjoy Wasting Money with AWS? and Stop Using AWS Consultants, Unless... Then share them both with your team, so everyone's on the same page.

Misconception #1	AWS is cheaper than on-premise data centers–no matter what.

When any organization makes the decision to shift from on-premise to the AWS cloud, the biggest reason is because it's more cost effective. Be honest. This is what you thought, right? And you're not entirely wrong. But the simple act of lifting and shifting your existing infrastructure is not enough to ensure cost savings. It never will be.

In reality, AWS is cheaper only when used in a cloud-native way. The right way to use AWS is to use it for services that are cloud native–this is where you leverage huge cost savings–as much as 90% in some cases. You need to lose those old-world, old-tech mindsets. The whole premise of AWS is the fact that you can use native services and you use them on demand. So how do you do that?

Here are a couple of ways AWS services can be leveraged for actual cost savings:

- Building disk-based storage for objects? You can't compete with S3 on AWS.

- Trying to run a simple API? There's no way to beat Lambda pricing.

Let's say you had a simple API server that was serving out a million requests per day, and you were hosting this API service on a cluster of four m5.4xlarge instances. The service would cost you around $30K per year. If you converted this to Lambdas, the same service would cost you $73 in compute costs and conservatively another $1000 in other overheads (Lambdas cost $0.2 per million requests). Can you afford not to make this change?

"If you are trying to run your on-premise business like an on-premise business in the cloud, you're going to end up spending more money than you currently are."

- **Rahul Subramaniam**, CEO of CloudFix and Head of Innovation at ESW Capital

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Misconception #2

The Enterprise Discount Program is a bargain.

The AWS Enterprise Discount Program (EDP) is a commitment-based discount that AWS offers to enterprises. So let's say you commit to a $20 million spend over the next three years with AWS, they might give you a 10% discount for that period. Discounts are good. We all love paying less. In fact, according to the Flexera State of the Cloud Report 2021, 44% of organizations using AWS are committed to the EDP. But this level of commitment is predicated on the idea that "I'm going to have more volume over a period of time so I want a discount for that." And it's not that simple.

What most people don't realize is that the EDP is probably the one anti-customer program that AWS has. It's literally contrary to what customers really need and want. It's designed for you to spend more every year, over a period of 3-5 years depending how long you sign up. So suppose today your spend is X. They expect you to spend X +Y in year one and X + Z in year two where Z is greater than Y, then an even higher amount in year three. As an AWS customer, you want the exact opposite. You want to leverage all of these higher order services that are 90% cheaper than your existing spend. You want to take all of these savings and re-architect your application to be 90% cheaper to run. This is why you moved to the cloud in the first place.

If you're considering it, here are our top recommendations before you sign up for the EDP:

- Utilize the Migration Acceleration Program (MAP), where AWS covers some of your costs.

- For services that you know you'll use a lot of calls for, speak to your solutions architect and the product team to get as many AWS credits as possible for those specific, hyper-expensive services. AWS product teams are very customer friendly. They want to work with you to ensure that their services are delivering tons of value.

- Don't sign the EDP. But if you absolutely must, negotiate a decreasing value EDP where you know you will be spending more overall, but keep it decreasing year over year. For example, where you are confident or you know precisely that you will spend $40 million over the next three years, negotiate a deal where you spend $20 million in year one, $15 million in year two, and $5 million in year three. This way, any unspent amounts in year one and two can carry over to years two and three respectively.

"If you believe your API requests are going to double, your data center mindset would double your costs, while a cloud-native mindset would cut costs by 99% using Lambdas."

- **Rahul Subramaniam**, CEO of CloudFix and Head of Innovation at ESW Capital

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Misconception #3

AWS service pricing is one-dimensional.

Scalability and elasticity are key benefits of the AWS cloud environment. They allow you to adapt rapidly and evolve your applications in real time. But with this great power comes great cost optimization responsibility. With an on-premise data center your costs are easier to track, to understand, and to budget for. AWS is an entirely different paradigm. You can't just launch a new server in EC2 and say "okay, this is a dollar." What most people don't realize is that there are numerous other peripheral services that also need to be priced in for that one server to run.

- What are the costs associated with your network?

- Are you going to require a load balancer?

- Are you going to have egress traffic?

- Do you have a NAT gateway?

- Will you have a transit gateway that has multiple VPCs that need to talk to each other?

- Are you going over the internet, in which case you'll get charged a crazy amount of egress, or are you going through a VPC endpoint?

When you are planning and budgeting for how much you are likely to spend on AWS, it's not just about that one resource you launch. You must also understand these peripheral charges and variables. As you start leveraging more and more of the services you'll realize that pricing on most services are multi-dimensional.

For example, to set up a load balancer or a NAT gateway, there'll be a charge per instance per hour depending how large of an instance you've set up and created. Then there'll be a separate data transmission charge. So you must account for all of these dimensions when you're forecasting what it's actually going to cost to run the service. AWS provides a lot of the cost calculators, but even finding the variables that drive those cost calculators is really, really hard. Estimating your AWS costs is reaching the same level of complexity as charting a rocket trajectory.

Moving forward with your cost estimates and budgeting, we recommend starting in the ballpark. Understand that there is more than one variable with any given AWS instance. Don't deep dive too much on these variables, because it is a rabbit hole. Be realistic about how you estimate, don't discount your assumptions, and expect changes and variances by the time you receive your bill. Set up billing/cost alerts to stay current with actual costs as they are being spent.

AWS cost optimization myths

Now that we've covered the misconceptions, it's time to cover some myths. Unlike Journey, we want you to stop believin' these. And you'll want to as well.

Myth #1 — Outsourcing AWS cost management makes it easier.

Thinking someone can magically come in and manage your AWS setup for you, optimizing not only performance but cost, is false. It has to be your problem. Yes, there are those that can help you optimize your AWS setup to better manage your spend. But they cannot do it for you. Before you even think about outsourcing, you need to build consensus within your organization. You need to have a clear understanding of exactly what you're trying to achieve in AWS, every step of the way. In doing so, you can prevent wasted spend before you even start. Once you have this clear internal direction, you can leverage consultants to achieve truly great results.

Myth #2 — A multi-cloud approach will save you more money than AWS alone.

We get it. You want redundancy. You don't want to be locked into a single service. That is a frightening prospect, especially from a financial team's perspective. But here's the thing. Would you rather commit to one cloud provider like AWS and save 90% of your costs by aligning your organization to leverage all current and future higher order cloud native services with them? Or would you prefer to utilize three different services, where you pay three times more in base costs because you now have to stick to the lowest common denominator in terms of services?

Let's think about it from a risk perspective. Approximately 16% of the entire world's internet goes through AWS servers. So if by some miraculous disaster AWS goes down, we have far bigger problems than just losing your organization's data. And even then, they would have to wipe out nine separate global data centers for you to lose your data. AWS has more redundancies than anyone, and they are engineering for zero failure, so your organization is safer with them than anyone else.

From a cost optimization and innovation perspective, this is a no brainer. No other cloud service provider is remotely close to the level of innovation AWS is delivering. And because all of their services are under one roof, the ability to leverage them in the most efficient and cost effective ways is far greater than trying to sync services across multiple cloud systems.

Yes, AWS can be complicated, which is why you need to take a well-educated, well-informed approach to how you use it. The potential rewards, both in terms of innovation and cost savings, are limitless. As long as you keep an eye out for common problem areas, you can avoid them as you navigate the move to AWS.

If you're serious about cost optimization, it's time to forget what you know. Forget what you think you know. And take these final points on board:

- AWS can be cheaper than on-premise data centers, but only if you leverage it correctly, and get on board with the cloud native mentality.

- Avoid the Enterprise Discount Program. But if you can't, negotiate a decreasing value contract.

- With AWS, price does not equal cost. Every instance has peripheral expenses attached. So start your cost estimates in the ballpark of what you need, be realistic, and expect change.

- You can't outsource your cloud cost management. Own it.

- Forget the multi-cloud approach. Make a clear decision on which cloud service provider is best for your organization, and get 100% bought in.