10 IMPORTANT CLOUD OPTIMIZATION QUESTIONS & ANSWERS

BY

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1. *What is...*

CLOUD COST OPTIMIZATION

With the right safeguards in place for cloud spend and utilization, organizations can experience increased IT flexibility with reduced capital expenditure. Understanding cloud cost optimization strategies will help an organization stay on budget.

An effective cloud cost optimization strategy involves an efficiency analysis that identifies savings opportunities and ways to prevent unnecessary costs from skyrocketing.

There are a number of ways to approach cloud cost optimization strategies -- here are three methods that can be helpful:

- **Volume discounts**: The assortment of options allow organizations to optimize costs by purchasing reserved capacity or to utilize discounts.

- **Resource monitoring**: Identifying and getting rid of inefficiencies such as inactive or unused resources.

- **Scaling**: Monitoring scaling needs -- adjusting compute services either horizontally or vertically.

2 WHAT IS THE EASIEST WAY TO SAVE ON CLOUD COSTS

When it comes to reducing cloud spend, there is not one tactic or cost saving measure that can be used to solve all your cloud budgeting challenges.

However, there are some best practices that will help optimize your cloud bill. Implementing these practices will eliminate unnecessary costs and take advantage of discounts in the process.

Using a tool like Cloud Management Solution (CMS) helps an organization discover hidden costs while allowing them to access more information on how they're using their service -- all in one dashboard. When you want to analyze your data storage needs, CMS has already scouted out optimization areas for you to focus on.

Using a tool like CMS will significantly reduce the extra work that arises when there are too many options and you are tasked with trying to figure out what to fix.

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3. *What discounts...*

ARE AVAILABLE IN THE CLOUD

Planning ahead can save you money!

One way is to take advantage of the discounts cloud providers offer when you purchase resources in advance.

Many public cloud providers offer the ability to budget and purchase resources in advance and IT pros utilize this option as it is often significantly cheaper than paying per hour, or even minute.

These options are available due to cloud computing's exponential growth in recent years. Growth that is a result of increased demand from IT pros who are tasked to meet scaling requirements but have to stay within budget constraints.

The costlier, on-demand usage rates with higher upfront costs end up being a lot more expensive than what monthly reservations would typically provide.

The two most common ways to save by planning ahead are: Reserved Instances and Savings Plans.

RESERVED INSTANCES

Many public cloud providers offer reserved capacity for computing. They are called different names, depending on the vendor:

Amazon Web Services (AWS) - Reserved Instances

Microsoft Azure - Reserved Virtual Machine Instances

Google Cloud - Committed Use Discount

Under these plans, all three vendors require you to commit to a defined level of usage, per hour, for one to three years.

These plans can help you save over 70% on your cloud bill.

SAVING PLANS

An AWS feature, Savings Plans offers a discount for committing to spending a fixed dollar amount, per hour.

The terms for Savings Plans include:
- One to three year payment term
- Discount up to 66%
- Dollar commitment, for every hour, every day, for one to three years

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4. *How can you know...*

WHICH CLOUD DISCOUNT IS RIGHT

When it comes to procurement, the cloud can be a veritable smorgasbord.

To help you get the most out of your cloud spend, it is important to not only know what your options are with the public cloud providers, but also what you can manage -- given your budgeting constraints.

Your current and forecasted budgets can help you determine if you should purchase an on-demand plan or take advantage of the discounts offered in the one to three year contracts.

On-demand options allow you to pay as your bill increases throughout the month or year, while committing only to the cheaper, up front payments. However, the reduced cost comes with restrictions on usage.

The fixed, one to three year contracts provide stability in exchange for locked pricing schedules -- which can help with budgeting plans.

AWS, an excellent cloud computing platform, offers volume discounts that help you better forecast future costs.

Their flexible payment options allows you to pay up front or on a per usage basis; depending on your needs.

With AWS flexible payment options, you can:
- Pay everything up front
- Some costs up front
- Nothing up front

Based on which payment option you choose, you can formulate a financial plan that will help you articulate future cloud computing costs.

These plans can also be used as guidelines for how much money you will need in order to maintain the service throughout its lifetime - it all depends on what your organization needs.

To determine which payment option to choose, it can be helpful to use third-party tools that develop predictions about future usage needs, based on historical cloud spend. This insight can help you determine which plans would be the right fit for your organization's budget.

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5. *Are there any...*

"HIDDEN" COSTS OF OPERATING IN THE CLOUD?

Users love the cloud's ability to provision computing resources on-demand. However, there is a downside. There are two common types of "hidden" costs with on-demand plans:

- Unused or idle instances
- Orphan snaphots

Unused or Idle Instances

If you are not careful, and you leave something in use longer than you need -- your cloud bill will go up for instances that you aren't using but are still provisioning. You have to be on top of what instances are being utilized or you will have an unnecessarily high cloud bill.

It may appear that you are paying for what you use with computing resources in this "pay as you go" business model, but that may not be the case. Instead, you might be paying for what you ordered, and not what you actually use. This happens when you're paying for something you've provisioned but not used.

How does this happen? It is most likely due to unused or idle instances. These are instances that have been previously spun up but are sitting unused or underutilized at a far lower capacity than what you've been charged.

It is important to review and flag unused, underutilized, and idle instances. After reviewing if the instances are needed or sized appropriately, they might need to be turned off, to save money.

Orphan Snapshots

Another hidden cost of increased cloud costs are orphan snapshots. With volume snapshots, you store a compressed version of your entire disk in order to serve as point-in time backups. The volume snapshots remain even if after you terminate an instance. However, if you are not leveraging incremental snapshots and editing out old versions, you may be storing too many snapshots.

Software like cloud cost management tools with built in alert systems can help you review and remove orphan snapshots and avoid this hidden cost.

6. *Does scalability have anything...*

TO DO WITH CLOUD COST OPTIMIZATION?

When looking for opportunities to reduce costs, it is important to pay attention to scale.

Scaling in the cloud can be done horizontally and vertically:
- Horizontally - adding or subtracting cloud resources (number of instances)
- Vertically -- scaling up or down the size of the individual instances

The flexibility of each method is a factor to consider when looking for ways to optimize cloud costs. Examples of your approach might be:
- Scaling back ("scale in") - reducing number of idle or unused resources
- Scaling down - reducing the size of instances

Right sizing, the process of reducing the size of instances (scaling down), is an effective way to manage costs. This will help you ensure your environment has the appropriately sized instances for the associated workload. Additionally, it will prevent you from purchasing additional instances that will not be used.

With the help of Auto-Scaling, you can scale up and down depending on demand by simply adjusting your load balancer. It will make sure that instances are sized correctly for their associated workloads so there's no need to purchase additional capacity or under-provisioning; this is important because it ensures optimal resiliency in case something goes wrong with one instance (e.g., hardware failure).

In order to manage costs effectively, you need a clear understanding of how much each method will cost. When determining this number and whether or not it makes sense for your business' needs- always take into account elasticity before scaling back!

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7. *How can we justify increasing...*
CLOUD SPEND WHEN LEADERS WANT TO SEE SAVINGS

With cloud financial management, sometimes less isn't more. There will be times when you have to spend money to make money!

A well thought out cloud spending plan can:

- Increase revenue
- Accelerate delivery of services

When convincing leadership about the financial benefits gained from investing in the cloud, it would be helpful to include the potential for increasing revenue, in addition to the opportunities that the cloud investment opens up for an organization.

If an organization is struggling to keep up with the pace of the their competitors, the potential to bring products faster to market will be a desirable accomplishment -- from a competitive standpoint.

Therefore, it would be helpful to highlight that the cloud investment to increase the capacity of a dev environment could help DevOps teams with facilitating faster delivery of an organization's products and services.

Points to consider including when creating a plan to justify an increase in cloud investment to increase capacity:

- It will help developers accelerate production
- Has the potential to products and features to market more quickly
- Although it may cost more upfront, it will be ROI positive

Gathering all the benefits from investing in cloud -- you can present how it ties into overall business strategy.

The viability of your cloud investment will be reflected in the ROI. Evaluate the reasons for using the cloud, the benefits, and how it will be helpful for growing your organization. From this analysis, you can present how it ties into the organization's overall business strategy. This will help formulate a convincing argument for leadership to approve increased cloud spend.

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8. *How can my organization...*

HAVE CONVERSATIONS AROUND CLOUD COSTS ACROSS DEPARTMENTS OR FUNCTIONS

When facilitating conversations across departments about cloud optimization costs, it is important to communicate clear and compelling reasons why implementing your cloud investment strategy will benefit them.

Across departments, there might be competing priorities -- IT leaders want to spend more to innovate, meanwhile CFOs want to reduce expenditures to stay on budget.

Having a clear answer about what it means to have a cost optimized cloud will help achieve your goal to educate other departments on its value.

Opening dialogue with leaders across departments in your organization will help develop an understanding of the mutual benefits that come from a cost optimized cloud strategy.

There are a variety ways organizations can establish communication across departments and help manage cloud costs:
- Cloud Financial Operations (FinOps)
- Cloud Center of Excellence (CCoE) Cloud

FinOps
FinOps is shorthand for "Cloud Financial Operations" or "Cloud Financial Management". It is put in place to bridge the gap between your finance leaders, IT, product and operations teams.

FinOps is a cultural practice that:
- Enables an organization's ability to understand cloud costs and make business tradeoffs
- Everyone takes ownership of their cloud usage
- Support is provided by a central best-practices group
- Increases the business value of the cloud by bringing together technology, business and finance professionals with a new set of processes

CCoE
CCoE is a cross-functional team that address the complex challenges of cloud adoption, migration, and operations throughout an organization.

This team helps define best practices and ensures cloud costs are optimized for the organization's needs.

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9. *What are some other ways...*
WE CAN MEASURE THE SUCCESS OF OUR CLOUD INVESTMENT

Aside from establishing the aforementioned CCoE, you can measure the success of your cloud investment by analyzing the key performance indicators (KPIs) of your cloud investment.

KPIs will help you communicate to company leadership the value of the cloud investment and provide convincing arguments for initiating change in cloud adoption.

Depending on your cloud journey and whether it is a new migration or one that's in place for awhile -- KPIs can be grouped into two general categories: financial KPIs and business-value KPIs.

Financial KPIs are direct monetary values associated with your cloud.

Business-value KPIs measure efficiency, productivity and other benefits attributable to the cloud investment.

Examples of specific KPIs under the two different groups are:

Financial KPIs
- On-Premises Costs
- Migration Costs
- Cloud Operational Costs
- Profitability and Cash Flow

Business-Value Cloud KPIs
- Governance
- Agility and Performance
- Automation
- Customer Satisfaction
- Stakeholder Buy-in

Presenting these KPIs can help you provide a convincing argument for the overall effectiveness of your technology investment and help support your cloud initiatives.

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10. *What tools can I use...*
TO OPTIMIZE CLOUD COSTS

Platforms like AWS, Azure, and Google Cloud offer native cloud tools that help you monitor and manage your costs.

These tools help you keep track of how much you are spending on resources while also providing insights into the performance metrics from these platforms.

Using the native cloud tools typically does not allow administrators an opportunity to have a holistic view of all of their cloud costs -- as they are viewing by type of resource.

To have a more complete picture of cloud costs, administrators may choose to adopt third-party solutions in addition to the native tools offered in the platforms.

Third party solutions
If using native cloud tools is not providing sufficient management of costs, it would be helpful to use a third party cloud management platform.

A cloud management platform can provide the holistic view of your cloud costs by providing insights in a single view.

In addition, by integrating an independent multi-cloud management solution with your cloud, you can identify cost saving opportunities that native tools might have not have exposed.

If you are ready to take your cloud to the stratosphere contact us at info@ptp.cloud