Controlling cloud costs in a research and education environment

Rightsizing your cloud spend to match resource usage

Most educational and research institutions understand how important it is to rightsize resources in the cloud to avoid cloud sprawl and optimize both performance and cost-efficiency. But they don't know how to go about implementing a well-organized and methodical rightsizing strategy.

A major source of waste in the cloud is oversized resources, for example. You can better manage your cloud spend by continuously matching your cloud instance sizes to workloads and performance demands. This is done by adjusting resources and finding an optimum balance between performance and cost.

Cloud cost management, however, should not be seen as simply an operational concern. It also requires close collaboration with other disciplines, including governance, architecture, product management, finance and application development, advises Gartner[1].

Keeping cloud costs under control

Although adopting cloud services makes deployment and service more effortless, the self-service model also means it is simple to spend more than you may be budgeted for. It is thus critical that educational and research institutions track cloud spend accurately.

Cloud is inherently dynamic in its nature, so there will always be some unpredictability associated with its use. However, effective cloud management is essential to provide the visibility you need to optimize your resources and plan your future cloud spend.

Estimating cloud costs is impossible

Due to the complex nature of the cloud, it is hopeless to think you can second guess your bills. Decision-making in large academic institutions is often decentralized, making visibility into spending difficult.

This is where cloud cost optimization, also known as cloud cost management, is vital – helping you keep track of your cloud spend by identifying mismanaged resources and eliminating waste. Through assessing data and reviewing management policies, services can be rightsized in accordance with your usage.

Five reasons cloud overspend is triggered

One of the most typical reasons for cloud overspend is wasted resources. In their eagerness to move to the cloud, organizations forget that it is scalable and takes up more capacity than they need.

Organizations get caught in the trap of complex cloud pricing strategies, and cloud bills can be hard to understand.

Lack of visibility on cloud usage, especially when it comes to unused assets. It is easy to spin up instances for a project, for example, and forget to shut them down, resulting in resource sprawl. These continue to generate costs.

Lack of governance and policies from the onset to keep control of cloud spend.

Poorly managed data storage where all data is treated with 'critical' status when it comes to instant accessibility.

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Strategy for efficient cloud cost optimization

Rapid scalability is one of the cloud's key benefits. But, it makes it easy for IT teams, staff, students, and researchers to spin up services without considering how much it will cost.

All too often, academic institutions venture into the cloud, drawn by the power of its virtually unlimited resources and innovation capabilities. Still, the journey turns sour when they find it impossible to rein in costs. Successful academic institutions are the ones that spend time establishing good practices for working in the cloud.

A robust cloud optimization strategy is essential to planning current and future cloud consumption. Here are five steps you can take to optimize your cloud spend and get rid of waste.

1 Architect your cloud from the beginning with cost in mind, picking the right services for the correct requirements. Rightsizing instances to your applications is one of the most widely used ways of doing this. Rightsizing is basically matching instances to workload performance and capacity needs at the lowest cost.

2 Gain complete visibility into your cloud environment. Understand what is there and what it is being used for. Changes in cloud usage and over-provisioning can easily escape attention and push up cloud costs. Utilizing a tagging schema, for example, can highlight which educational/research units own assets so you can easily track spend.

3 Carefully analyze your storage costs. Most cloud offerings have a structure of storage tiers that incrementally increase in price, with the top one being used for highly sensitive data, for example. Deleting data that is not being used can also help you drop to a lower pricing plan.

4 Build and maintain a solid governance process for your cloud estate. Financial management policies create a framework on which to make decisions about cloud resources and track budgets.

5 Constant monitoring of infrastructure usage ensures that resources are ramped up and down on demand and budgets are not wasted.

Managing cloud costs is not a tick-box exercise. It is a continuous ongoing process that is essential if your academic institution gets the most out of its cloud investment.

A flexible, cost-effective solution

The world of academia needs a robust, secure, and scalable cloud infrastructure that meets the needs of researchers, faculty, and students. Orange Flexible Engine is optimized for academic use. Alongside flexibility, you only pay for the cloud resources you use. All our prices are transparent and predictable.

You create or delete your pay-as-you-go virtual machines using the rich, user-friendly Flexible Engine console. A management console allows you to manage self-ordering and self-provision services and to monitor resources, consumption, and associated costs.

Flexible Engine is fully aligned to the OCRE Cloud Framework and the ideal choice for GÉANT cloud, now and into the future.

Sources:
1. Gartner how to manage and optimize costs of public cloud IaaS and PaaS 2020

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https://ocre-orangecloud.com

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