



Global Data Centers Americas

# How to avoid falling through the cloud

## Three myths about cloud-run businesses

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**Undoubtedly, cloud computing is on the rise. Enterprises are adopting hybrid multi-cloud strategies to find a balance between what to keep on-premises (or in a data center) versus moving to the public cloud.**

Approximately 70% of enterprise applications have moved to the cloud. We are entering an era where centralized processing will be decentralized. Enterprises are adopting a hybrid model where some functions will run on edge nodes. Infrastructure is becoming highly distributed and dynamic in nature. Cloud infrastructure is consumed 'as a Service'. You can take a third-party API along with compute, storage and networking resources from on-prem to any of the public clouds, stitch them together to make them appear seamless, and deploy it in the market.

Despite all these developments, several myths remain about enterprises running the business in the cloud. Here is a look at three such myths.

'It may be worth an increase in cost to run workloads in the cloud if it **enables the realization of a business goal.**'

## Myth 1: Cloud is more affordable than data centers

It is true that due to its elastic nature, the cloud can be more cost-efficient. However, in order to fully benefit from those savings, a business may need to upgrade applications and its base computer infrastructure – all of which can be costly. Legacy applications do not seamlessly migrate over to the cloud. Applications need to be architected to be consumed ‘as-a-Service’ and deployed for global consumption.

To gauge your total cost output, you need to consider your entire IT deployment in public, private and hybrid clouds. Some workloads and processes are more easily shifted to public cloud than others. And regulatory or business requirements may further complicate the financial aspects of cloud migration. Those factors can lead to the conclusion that sometimes leaving applications on-premises is the right decision. For many companies, colo is the new on-prem, as that option enables companies to keep their data on their own servers.

### Don't fall through the cloud

Then there are those poor companies that get sticker shock when they see the costs of cloud compute after a few months. To avoid falling through the cloud and plummeting into a land of unplanned expenses, companies must do the arithmetic required to analyze compute cycles, volume of data to be processed, data sizing, network bandwidth assessment, data egress and ingress locally and globally, as well as the geographic deployment of the applications and data at the edge. Using storage in the cloud may generate a huge bill – if not monitored properly.

Consider licensing, for example. If you're migrating an application from the data center to the cloud, your operating system licenses probably won't transfer with it. It's great to be able to spin up a Linux server on AWS at the push of a button, but few take the time in advance to find out whether that action includes the hidden cost of having to pay for a license for the operating system on top of the cloud service fees. Even though you've already paid for that Linux license once, you may well find yourself paying for the same software again.

Understand the fine print. Cloud service fees are rarely all-inclusive, as hidden fees lurk under almost every action you can take. If you spin up virtual servers for compute cycles and increase network bandwidth capacity for a given task, you must remember to tear down the services to avoid unwanted accrued bills. As far as software licensing goes, you might be able to save money by installing software you've already paid for on a cloud platform, rather than using the service's (admittedly more convenient) one-button install.

### When is cloud worth the cost?

It may be worth an increase in cost to run workloads in the cloud if it enables the realization of a business goal. If business growth depends on the ability to scale up very rapidly, then even if cloud is more expensive than on-prem, it could be a business growth enabler and could be justified as an investment. We believe that the companies that do not exist today and will be created in next five years will be created on the cloud. It would be prudent for the new businesses to have a cloud presence along with their own footprint in the data centers.

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## Myth 2: Cloud is more secure than data centers

In the past, cloud computing was perceived as less secure than on-premises capabilities. However, security breaches in the public cloud are rare, and most breaches involve misconfiguration of the cloud service. Today, major cloud service providers invest significantly in security. But this doesn't mean that security is guaranteed in the cloud.

Data privacy and data protection policies remain a top concern on the public clouds. Due to the COVID-19 pandemic, videoconferencing applications have experienced a sudden surge. For example, a lot of people have been working from home, students have been using distance learning tools, and people have been using the same tools for group chats.

You've probably heard that the Zoom videoconferencing service experienced a security breach where intruders hacked in and disrupted calls. Such incidents have been dubbed as 'zoombombing'. Various similar incidents have been reported, including from classroom sessions and business calls, where intruders disrupted what was supposed to be a closed group call.

	Pros	Cons
<b>Public cloud</b>	<ol style="list-style-type: none"> <li><b>Access:</b> Access to the world-class innovative solutions; enterprise apps, databases, AI/ML stacks.</li> <li><b>Scalability:</b> Ability to scale up compute, storage and network</li> <li><b>Flexibility:</b> Virtual machines can be scaled up and down on demand</li> <li><b>DR:</b> public clouds provide robust disaster recovery infrastructure</li> </ol>	<ol style="list-style-type: none"> <li><b>Data gravity:</b> Moving large amounts of data incurs unexpected cost.</li> <li><b>Cost control:</b> self-service model lack cost monitoring system.</li> <li><b>Security:</b> Privacy and protection of data remain a top concern on the public clouds.</li> <li><b>Support:</b> You pay extra for the tier-1 customer support.</li> </ol>
<b>Private cloud</b>	<ol style="list-style-type: none"> <li><b>Security:</b> Private clouds effectively enforce measures against DDoS and implement firewall and remote access policies.</li> <li><b>Flexibility:</b> Virtual machines can be scaled up and down on demand</li> <li><b>Performance:</b> Hardware and software stacks are fine-tunes to meet the company's own needs. No resource conflict with other apps.</li> </ol>	<ol style="list-style-type: none"> <li><b>Cost:</b> Infrastructure setup, upgrade, maintenance and software licensing costs</li> <li><b>Utilization:</b> Unlike hyperscale consumer-facing, often public clouds are under-utilized.</li> <li><b>Support:</b> You pay extra for tier-1 customer support.</li> </ol>
<b>On-premise</b> (colo at the data center)	<ol style="list-style-type: none"> <li><b>Elastic presense:</b> Data center is the new on-prem allowing to grow the enterprise IT footprint globally.</li> <li><b>Economies of storage:</b> To be prepared for the data gravity, store your data on-prem.</li> <li><b>Full control:</b> Enterprises have full control over their IT assets including the physical access and security.</li> </ol>	<ol style="list-style-type: none"> <li><b>Capital allocation:</b> Capital investment for the data center presence and IT infrastructure procurement.</li> <li><b>Infrastructure monitoring:</b> Ensure that the infrastructure is always up and running including hardware upgrades and software licensing.</li> <li><b>DR:</b> Design-in the necessary steps and redundancy for the disaster recovery.</li> </ol>

## Myth 3: Moving to the cloud means I don't need a data center

While cloud is highly suitable for some use cases, such as variable or unpredictable workloads or when self-service provisioning is key, not all applications and workloads are a good fit for cloud. For example, unless clear cost savings can be realized, moving a legacy application to a public cloud is generally not a good use case. There are many different paths to the cloud, ranging from simple rehosting, typically via Infrastructure as a Service (IaaS) or Platform as a Service (PaaS), to a complete changeover, to an application implemented by a Software as a Service (SaaS) provider.

To take advantage of cloud capabilities, it is essential to understand the model and have realistic expectations. Once a workload has been moved, the work is, in many ways, just beginning. Further refactoring or re-architecting is necessary to take advantage of the cloud. Ongoing cost and performance management will also be key for success. CIOs and IT leaders must be sure to include post-migration activities as part of the cloud implementation plan.

