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Advantages and Disadvantages of Cloud Computing

By Nikita Duggal

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If you want to survive in the digital world or provide digital services of any kind, you will have to step up your game and start using cloud services. But first, you need to understand the advantages and disadvantages of cloud computing and how to overcome the disadvantages. While cloud computing is the latest IT buzzword across organizations, it's definitely not something that you should rush into without prepping for it. In this article, we will discuss the advantages and disadvantages of cloud computing along with some best practices.

Types of Cloud Computing

Before delving into the advantages and disadvantages of cloud computing, it is important to remember that cloud computing includes three distinct areas.

- IaaS – Infrastructure as a Service
- PaaS – Platform as a Service
- SaaS – Software as a Service

Advantages of Cloud Computing

1. Cost Savings

There are both advantages and disadvantages of cloud computing when it comes to cutting down expenses. The most obvious disadvantage is that the cost to implement cloud services the first time can be quite costly. If you estimate beyond that initial cost, cloud computing helps businesses and organizations cut several expenses. In the long run, A study by Gartner shows the worldwide spend on the cloud service market will grow up to $331.2 billion by 2022.

Another important benefit is that most cloud computing services are pay-as-you-go - you only have to pay for the features and data storage that you use.

2. Reliability

Most cloud service providers assure guaranteed assistance round the clock. When you opt for cloud computing, all the service-related technicalities are taken care of by the cloud service provider. In the case of a disaster, even if the local server fails, the data can easily be transitioned to other available servers. The cloud service providers abide by the signed Service Level Agreements (SLAs) to ensure timely assistance to your business needs.

3. Strategic Edge

With the rise in competition among businesses, you need to implement the latest technologies and applications out there to catch up with the rest of the crowd. Installing and maintaining new software can cost companies a huge deal of money. Through cloud computing, you will have access to all the latest applications and infrastructure without actually having to invest in software installations and maintenance.

4. Security

With the advancements in technology, every cloud service provider offers more advanced security features to their clients with full backup and recovery. A The key to this is the encryption of all data that is transmitted over networks and stored in databases. This is much more efficient and reliable than a conventional in-house system, where a high percentage of data thefts can occur. A study by Rapidflash shows that 93 percent of businesses saw major security improvements after switching to the cloud.

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Disadvantages of Cloud Computing

1. Downtime

Downtime can lead to lost customers, data failure, and lost revenue. So when it comes to the advantages and disadvantages of cloud computing, downtime is at the top of the list for most businesses.

Since cloud computing systems are all internet based, there is no way to avoid downtime. Moreover, if you are in a place with no connectivity, you will not be able to access the data, software, or applications on the cloud.

No organization is immune to downtime. On 25th August 2020, Google suffered a mass outage that lasted for over an hour. It became one of the most talked about topics last year and ultimately cost panic moves to several businesses around the world.

Here are some best practices you can follow to reduce downtime:

- Consider multi-region deployments to ensure business continuity
- Define a disaster recovery plan with the tolerable recovery time and recovery point objectives
- Design all your services with disaster recovery in mind

2. Vendor Lock-In

When we discuss the advantages and disadvantages of cloud computing, vendor lock-in is another thing that tops the list. Although most cloud service providers assure that it is a breeze to use the cloud and integrate your business needs with them, disengaging and moving to the next vendor is still a huge problem. The applications that work fine with one platform may not be compatible with another. The transition might pose a risk and the change could be inflexible due to synchronization and support issues.

Here are some best practices you can follow for reducing dependency on one vendor:

- Implement a multi-cloud strategy
- When designing applications, build in flexibility to ensure portability in the future
- Under exactly what the cloud service vendors are willing to avoid lock-in

3. Limited Control and Flexibility

Since the cloud service providers own, manage and monitor the entire cloud infrastructure, most companies have minimal control over their data. The end-user licensing agreement (EULA) and management policies might differ among the service providers. The most common case is that it hands over minimal control to the customer, and that access is limited to the applications, tools, and data that is loaded on the server. The customer may not have access to the key administrative services. The worst-case scenario is when they impose limits on what customers can do with their deployments.

Here are some best practices you can follow for maintaining control and flexibility:

- Understand the responsibilities of the cloud provider in the contract to reduce the chance of errors
- Understand the cloud service provider's basic and advanced levels of support
- Understand the SLA of the cloud infrastructure and how it impacts your agreements with your customers

4. Security

It is important to note that there are conflicting arguments when it comes to security in cloud services. There are both advantages and disadvantages of cloud computing security. The biggest disadvantage is that the cloud is a huge target for cyber attacks. The main advantage is that data is optimally tougher attacks when stored in the cloud. However, a study by Gartner shows that by 2025, 99 percent of data breaches and cyberattacks will be due to the customer's mistakes, and human error.

The Bottom Line

When you weigh out the advantages and disadvantages of cloud computing, it is important to look at the source of these cloud services as well. Compare different service providers and their range of services before picking one right off the bat. Even if the drawbacks of cloud computing are numerical and almost negligible, the advancements in technology will surely eliminate them in the years to come. If you want to learn more about cloud computing, check out Simplilearn's popular cloud computing courses created in partnership with global leaders and industry organizations to bring you the very best learning possible.

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About the Author

Nikita Duggal

Nikita Duggal is a passionate digital marketer with a major in English language and literature, a word enthusiast who loves writing about raging technologies, digital

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