

A Review Paper on Advantage and Disadvantages of Cloud Computing

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Abstract

We are all familiar with the term “Cloud”. Cloud Computing is like a normal cloud which is available everywhere. Before Cloud Computing existed, every organization had to purchase the entire storage, servers, database etc. It was a very expensive method. To maintain the servers, organizations need space and staff also. Sometimes they need fewer servers, so some servers remain idle. But after introducing cloud computing, these problems were solved. Cloud computing is the fast delivery of IT resources over the internet. Now, organizations have no need to purchase the servers, storage etc. they can take these resources on rent and they have to pay only for what they use. This makes it very easy to do work on servers without purchasing them. It helps in lowering the operating cost of an organization. With the help of cloud computing, you can increase or decrease your demand of resources anytime. We have different kinds of clouds. We have private cloud, public cloud, hybrid cloud, community cloud. All these clouds are different in nature. We will discuss cloud computing services i.e. IaaS (Infrastructure-as-a-Service), PaaS (Platform-as-a-Service), and SaaS (Software-as-a-Service).

Keywords: IAAS, PAAS, SAAS, Cloud, Databases

Introduction

Cloud computing is providing different services on the Internet. The resources include applications and tools like servers, data storage, databases, networking, and software. Instead of keeping files on a hard drive or other storage device, cloud-based storage makes it possible to save them to a remote database. As an electronic device has access to the web, it can access the data and the software to run it. Cloud computing is a useful option for people and

businesses for many reasons like cost savings, speed, increased productivity, and efficiency, performance, and security.

Cloud storage has increasingly popular among individuals who need big storage space and for businesses which need an efficient off-site data backup solution.

If you daily use a Mobile or Computer, you must have used some form of cloud computing, whether it's a cloud application like Google Drive or, streaming media like Amazon Prime, or cloud file storage like Drop box. Most of the companies use cloud today and most of them plan to use it.

Types of clouds: There are mainly four types of clouds. The brief discussion of these clouds is as follows:

- Public cloud
- Private cloud
- Hybrid cloud
- Community cloud

Public cloud

They are controlled by third parties who provide cloud services over the internet to the public; these services are available as pay-as-you-go billing models. They provide us solutions for minimizing the IT infrastructure costs and become a good option for handling the peak loads on the local infrastructure. Public clouds are useful option for small companies, which have ability to start their businesses without large investments by solely relying on public infrastructure for their IT needs. Public cloud is meant to provide service to multiple users, not a

single customer. A user requires a virtual computing system that is isolated and most likely separated, from other users.

Private Cloud

Private clouds are distributed systems that focus to work on private infrastructure and provide the users with lively provisioning of computing resources. Instead of a pay-as-you-go model in private clouds, there could be added schemes that manage the usage of the cloud and simultaneously billing of the different departments or parts of an enterprise.

Hybrid Cloud

A hybrid cloud is a heterogeneous distributed system by combining facilities of private cloud and public cloud. That is why they are also called heterogeneous clouds.

A major problem of private cloud deployments is the lack of ability to scale on-demand and efficiently address peak loads. Here we need public clouds. Hence, a hybrid cloud takes advantage of both private and public clouds.

Community Cloud

Community clouds are distributed systems by integrating the services of several clouds to address the particular needs of a community, an industry, or a business sector. In community cloud, the infrastructure is combined between organizations that have shared tasks or concerns. The cloud may be managed by an organization or may be a third party.

Main Advantages of Cloud Computing

1) Ease of accessibility

We can easily access the stored information in cloud anytime anywhere in the whole world by using an internet connection. It increases the productivity and efficiency of the organization by ensuring our data is easily and always accessible.

2) Better collaboration

Cloud computing provide better collaboration by allowing different group of persons to easily and quickly share the information in the cloud by shared storage.

3) Back-up and restoring data

We can store the data in cloud and then it is easier for us to get back-up and restore the data by using the cloud where we have stored the data.

4) Low maintenance of cost

By the help of the cloud computing, software and hardware costs for maintenance reduced by big margin.

5) Increased Mobility

When we use Cloud computing it allows us to easily access all cloud data via mobile.

6) Unlimited storage capacity

Cloud offers us a big amount of storing capacity so that we can store our important data such as documents, audio, images, video, etc. in one place.

7) IServices in the pay-per-use model

Cloud computing offers Application Programming Interfaces (APIs) for the users. User can access services on cloud and pays the charges as per the use of service.

8) Data security

Data security is one of the very important advantage of cloud computing. Cloud computing offers many features that are related to security and ensure us that data is secure and handled safely.

Disadvantages of Cloud Computing

1) Internet Connectivity

When we use cloud computing, every audio, image, video, etc is stored on the cloud, and we can access the data through the cloud by using the internet connection. So if you do not have good internet then you cannot access the data. Moreover we have no other way to access data from the cloud.

2) Security

Cloud service providers execute the best security standards to hold vital information. But, before using cloud technology, you should be alert that you will be sending all your organization's important information to a third party, which is a cloud computing service provider. While you send the data on the cloud, there may be likelihood that your organization's information is hacked by Hackers.

3) Limited Control

Cloud infrastructure is totally managed, and monitored by the service provider, so the cloud users have very less control over the execution and function of services within a cloud infrastructure.

4) Vendor lock-in

The biggest disadvantage of cloud computing is Vendor lock-in. Most of the organizations face difficulties when they want to transfer their services from one vendor to other. As different vendors provide different platforms, that can cause difficulty moving from one cloud to another.

Conclusion

Cloud computing is today's need for almost everyone. We see many benefits and also many problems that we face during the use of cloud computing. Cloud computing is available everywhere. We don't have to take our laptops or pen drives to carry our data. We upload our data on the cloud and we can download anywhere on any system but for this we need internet connection. But we

should aware of its disadvantages too. If we don't have internet connection then we can't do anything.

Sometimes we upload our confidential data on the cloud and there is possibility that hackers hacks our data. So we have to consider this side also of cloud computing and we should use proper security mechanism. After that we should upload our sensitive information on the cloud.

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