

# A Review on Cloud Computing

Ashutosh Ojha\*

Student, Department of Computer Science and Engineering, PDM University, Bahadurgarh, India

\*Corresponding author: ojhaashutosh97@gmail.com

**Abstract:** This paper is basically made to tell about a Cloud storage working and even its merits and demerits as well as enterprise solution for business. This paper consists different phases of the Cloud Computing as follows, firstly it contains the concepts or called as the basic concepts of Cloud Computing. Second part contains the cloud computing architecture in layers with emphasis on IaaS (Infrastructure as a Service) including the Cloud Computing literature review. Third list consists of the concept of SaaS (Storage as a Service), which allows the users to store the data on cloud rather than buying a physical memory which is expensive as well as unsafe. Fourthly, advantages and disadvantages of cloud storage. At last this paper carries the enterprise solutions for business and Conclusion.

**Keywords:** Cloud, Storage.

## 1. Introduction

The research paper consists the cloud computing, its architecture and that is defined in layers. This paper also tells the Cloud Storage its uses as well as how customers can use cloud as a storage element rather than any kind of physical memory to avoid different scenarios faced by people in physical memory storage problems. It also shares how to access the data from a network connectivity and a client service. It's three layers that is the cloud infrastructure, cloud application platform, and cloud application software. The last part of the paper consists the summary and the enterprise solutions for business that are presently in the top positions in the present market. The business solution in this paper consists of, AWS Cloud Storage, Google Cloud Platform, IBM Cloud Storage, Microsoft Azure Storage, Oracle Cloud Infrastructure Storage, etc. these are the best business solution presently and provides large variety of things to the customers and easy ways to serve the data and use it.

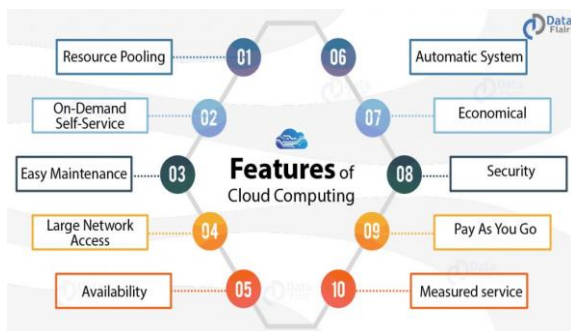


Fig. 1. Features of cloud computing

## 2. Literature Review

Cloud Computing is on-demand access to virtualized storage of data outside the organization. In cloud computing it is easy for customers as the data is accessible from any part of the world only for the customers who have subscription to their data and have taken the package, all this can be done on web.

It is helpful in many ways like it is cost effective, trustworthy, and limitless data storage can be taken in an amount. The customers can feel free by using cloud computing as it is hassle-free and they do not have to look where the data is kept and can work basically on their task without thinking of the storage problems.

The Cloud has some features that are: Only the service is provided to those who require it that means that if a person needs storage of some amount they can buy it if they require less amount then the cost will also be low.

The Cloud system is basically a self-served, a person has to ask for the storage with an exact amount of data to reduce extra cost of space.

The bill of the storage is totally on the amount of data; the companies or individuals only pay the amount of the usage of space.

It is also easy for a developer and a client, no physical meetings are required each time.

## 3. Cloud Storage

The Cloud Storage is used to store of a company or personal data which are in huge or small amount.

It is useful because that data can be accessed from anywhere that means it is not necessary to connect to the organization network the data can also be accessed remotely.

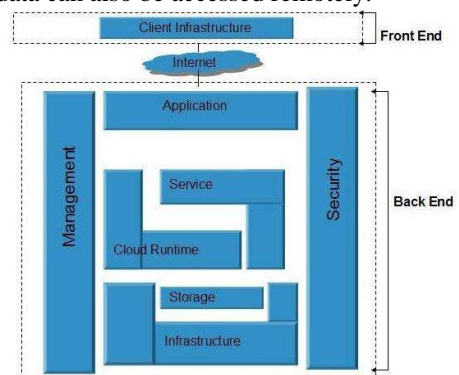


Fig. 2. Cloud storage

*Front End:* In the front end it refers to client part of Cloud Computing system. It basically is the interface which is seen by the client or the customer Example- Web Browser.

*Back End:* It refers to the things which happen in the background of a website or anything. Basically it has all the coding part and the storage part in it which a user cannot see, it is only accessed by a programmer. Example- Cloud.

#### 4. Physical storage Infrastructure

In the previous times or can be said even now while the use of physical memory the storage was attached to servers and mainframes so it was only accessed by the same computers.

When Storage Area Network (SAN) started the storage became separated but were connected through network connections. So the multiple servers could access the storage areas for even different locations, the customers as well as the administrators were able to surf the data.

The change from physical memory to virtual lead to cost reduction and flexibility.



Fig. 3. Type of data stored on Cloud

#### A. Advantages

- A Company only pays for the amount of space used by them which leads to small profits to the company.
- It is safe in any kind of problem like it can be natural disaster or any fire in the organization, if the data is in local backup so it can be caused harm due to this but if it is on cloud it is comparatively more safe.
- The data is more reliable and easy to access form any part of world without any difficulties.
- There is no bar to space if an organization's data increases day by day they can even increase the storage space however they want to.
- Workload balance. Cloud companies provide best ways to achieve the best performances.
- If the data is reduced the companies can reduce the cloud space which leads to less cost to be incurred.
- It is a hassle free process adapted by organizations to be more innovative and run the businesses safe.

#### B. Disadvantages

- *Security:* It can be sometimes unsecure if the data can be seen by an unauthorized person, the data can be stolen if an unauthorized person has the credentials to

access the data. So the client has to take the full security measures to avoid such issues. The data can be kept in encrypted format to avoid such kind of problems.

- *Bandwidth Problem:* In this if the bandwidth is low so it will be really very hard to move data from one place to another in a particular time, so it can cause problem to everyone.
- *Network Problems:* The storage of data totally depends on the network speed. It can become sometimes very hard if there is any kind of problem in the network and even can cause problem if the data admin and the client are at far places this can also lead to network problems.
- *Price:* As the increasing amount of data per day per second the storage of data is also becoming an issue as the data increases the cost of cloud also increases at same pace so it is sometimes hard for the organizations to sort this problem.

#### 5. Enterprise Solutions

##### A. AWS Cloud Storage

It is the vastest service provider with different range and i.e. Amazon S3, Amazon Glacier as the name suggests it for a long span backup and archive, and the last one is the Amazon EFS it is for the process of file storage.

The company is vast so it consists a large number of developers as well as vendors these all work to make it more reliable and brings out more new storage services. They develop many new tools which are innovative and useful in many ways. Just because of all these things they have a control over market and their business ideas suits clients and makes more famous in market.

Amazon is ruling the market because of its business ideas in all the fields like it provides support in cloud services, networking and many others.

It also deals with the Big data and Artificial Intelligence projects and even it is economical, because of all these things it is opted by many organizations.



Fig. 4. AWS cloud storage

##### B. Google Cloud Platform

Google is also one of the huge company but lags behind in the terms of Cloud Computing platform because Google does

not have a lot market shares unlike AWS and Azure, so it lags behind but in terms of cloud it does not lag and presently it is working hard to build cloud market share under the guidance of Diana Greene.

Google Cloud platform also provides different kinds of storage block storage for VMs and file storage for applications.

Google competes with every other of its kind at same level does not lag behind them in any way, it lags only in terms of the additional cloud services they offer so in way GCP lags behind them in which it is working day and night.



Fig. 5. Google cloud

### C. IBM Cloud Storage

IBM is one of the oldest and trustworthy company. It was on peak for a long time. It focuses on high performance for its customers rather than raw capacity.

It cannot be said that it is competing the AWS, Google and Azure but it has a history of struggling in the core of market for cloud storage that is in the public cloud market.

The IBM storage is used by those companies or clients which have trust on the IBM.

IBM is the leader in IT, it also supports variety of workloads and even IBM cloud Blocks Storage and IBM Cloud File Storage.

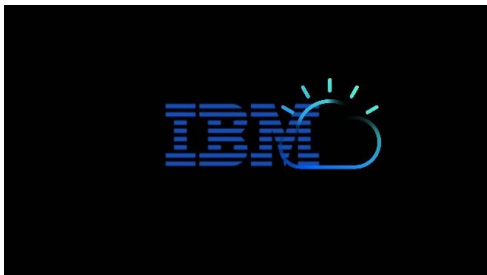


Fig. 6. IBM cloud storage

### D. Microsoft Azure Storage

Microsoft Azure calmly stands on the second place after

AWS on Cloud Storage. They have tight competition with each other on the basis of price and also on features given by them for people and organizations.

Microsoft Azure also provides large options to the customers that are Azure Hot and Cool Storage, Azure Archive Blob Storage. It even provides HDD or SSD based storage for the customers.

### E. Oracle Cloud Infrastructure Storage

Oracle does not compete with and of the companies like AWS, Azure, Google in any way, it can be in storage or cost, it does not compete with any.

Either it works with those organizations which use oracle database.



Fig. 7. Oracle Cloud Infrastructure Storage

## 6. Conclusion

In this review paper it is basically tells all the points of cloud computing its introduction, advantages and disadvantages, its uses, and the business solution of the cloud computing. In today's world the data is increasing at a very high rate as the things are online which is concluded that it is good as it reduces the pollution by the reduction of the paper.

By looking the amount of data increment cloud computing is the only source in present to tackle the data and it is even user friendly.

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