

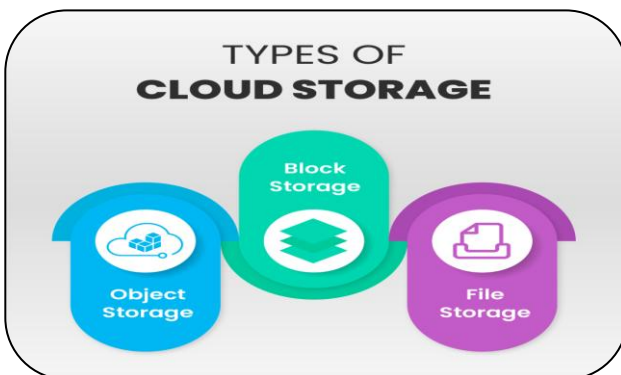
**ISSN: 2231-5063****IMPACT FACTOR : 4.6052 (UIF)****VOLUME - 6 | ISSUE - 9 | MARCH - 2017**

A STUDY ON CLOUD STORAGES AND ITS TYPES**Sidagouda Patil****Principal****VSM BBA and BCA College, Nipani, Karnataka.**

ABSTRACT :

The emerging technology of cloud computing is currently gaining popularity. Cloud computing makes it simple to access data and performs well. Cloud storage is a novel idea that came into existence concurrently with cloud computing. There are three categories for it: storage in a hybrid cloud, a public cloud, and a private cloud. This article provides a brief introduction to cloud storage, its advantages and disadvantages, and the various types of cloud computing services.

KEY WORDS-*hybrid cloud storage, laas, Paas, and cloud storage are all examples of private cloud storage.*

**INTRODUCTION**

Cloud storage is a hot topic in research and application circles. Cloud storage is storage that is made available to customers as a network service. The process of storing data on remote cloud servers is referred to as cloud storage. Time, space, or a combination of the two can be used to pay for storage. A service known as cloud storage keeps data safe, manages and backs it up insecurely, and makes it accessible to customers via the internet. The majority of businesses offer free storage up to a certain number of gigabytes. DropBox, for instance, provides free storage of up to 2 GB, in addition to Google Drive, Box, Amazon, and Apple Cloud. Customers are required to pay the plan-defined fee if they use more free space than allowed. The maximum file size, auto backup, bandwidth, and upgrading options for limited storage vary from cloud storage provider to provider. DropBox, for instance, has a maximum file size of 300 MB, whereas Google Drive has a maximum file size of 1 TB. Customers who use cloud storage services do not need to purchase storage equipment and do not require technical support for disaster recovery, backup, or maintenance. The idea is not so bad when a customer can use cloud storage to store and manage data at a low cost.

HISTORY OF CLOUD STORAGE

Cloud storage is said to have been invented by Joseph Carl Robnett Licklider in the 1960s when he used ARPANET to connect people and data from all over the world at different times. In 1983, CompuServe began providing a limited amount of disc space for customers to keep any files they submitted. AT&T launched Personal Link Services in 1994, an online platform for business and personal entrepreneurship and

communication. In their advertisements, they added, "Think of our electronic gathering place as the cloud," referring to the primary storage as being entirely web-based. Since its launch in 2006, the cloud storage service known as AWS S3 has gained popularity.

CLOUD STORAGE

Cloud storage is a method of cloud computing in which data is stored online and managed by a cloud computing service provider. Cloud storage enables us to store data and files offline that the user can access via the public internet or a dedicated private network connection. The responsibility of a cloud computing supplier grows when a user stores data offline. There are numerous cloud storage providers from which to choose. The majority of cloud storage providers provide free storage for a predetermined number of gigabytes. The data can also be backed up and retrieved from a faraway location using cloud storage. When a client is able to store and manage data at a low cost, the concept of cloud storage comes into play.



Fig.1. Cloud Storage

ADVANTAGES OF CLOUD STORAGE

The data stored in cloud rather than local storage has many advantages.

- **Easily accessible:** Cloud storage ensures consistency and rapid availability of data. Instead of being stored locally, the data are stored online across multiple storage methods. The application can be accessed at any time and from any location as long as there is an adequate internet connection. Any individual can access the cloud from any device, making the process for users simple and competent. It does more than just aggregate efficacy; it also creates services for customers. The anticipated documents and files are readily available to the customer with a single touch.
- **Prevent Data corruption:** To prevent corruption, most businesspeople and others store their data online. When compared to data stored in cloud storage, there is a greater risk of corruption when data is stored on hard drives. In the event that your system becomes corrupted, it can also be used as an online backup.
- **Scalability:** One of the most severe limitations of on-premise storage is expanding constraints. Scaling up storage capacity in the cloud is possible. The ability is almost limitless.

- **Saves local space:** Due to the fact that the system's storage space is limited to a few gigabytes, it is unable to store the necessary data; however, the cloud storage system offers additional space, saving the system's local space.
- **Syncing:** It is a cloud-based presentation that keeps files in different locations up to date. As long as there is a strong internet connection, when a user modernizes a file, the changes are automatically parallelized with the same folders on other user devices. For instance, when we are able to save Google photos to our gallery of a particular person, the picture is saved automatically to the appropriate folder in Google Photos.
- **Download/Upload:** One can send a file from local storage to cloud storage (upload), and one can download a specific file from cloud storage to our local space as needed.
- **Thin client applications:** End users can store and backup their local data on their remote cloud storage using thin client applications.

DISADVANTAGES OF CLOUD STORAGE

Although the advantages of cloud storage are untold, these disadvantages were abundant.

Privacy: The person must be aware that the data is no longer on their local storage if they use cloud storage to store it. Our system's security could be breached by hackers, allowing them to gain access and stealing data.

Pay: The user may occasionally receive bandwidth (a specific time period) offers from the cloud storage service provider. The user is responsible for paying the additional costs if they use more bandwidth than is provided.

Interrupt: The inherent latency (delay) in their WAN connectivity is a problem for all cloud applications. Although cloud applications excel at large-scale distribution tasks, cloud computing might not be the best option for your request if it requires a lot of data transfer.

Hard Drives: Isn't it true that our reliance on hard drives will be reduced by cloud storage? On the other hand, certain business cloud storage services necessitate physical hard drives.

PUBLIC CLOUD STORAGE

Public cloud storage is a type of cloud storage that lets organizations and individuals edit, store, and work with data. This kind of storage takes place on a distant cloud server and is accessible over the internet whenever the user has paid for the storage capacity. Additionally, these services provide accessibility and security. This safety works best with data that doesn't have any form, like files in folders. A storage service provider that hosts, achieves, and establishes the storage arrangement for a large number of distinct users is known as public cloud storage. Public distributed storage administration is likewise recognized as putting away as a help, effectiveness storing also online capacity. Companies and end users can use public cloud storage to allow a third party to store their digital data in a relaxed manner.

Public cloud storage capability is made conceivable over two different obtaining models:

Web services APIs: API-enabled public cloud storage is designed to be useless for web applications that require runtime access to accessible storage.

Thin client applications: Users of thin client applications can backup and transfer their local data to remote cloud storage.

Advantages of the usagePublic Cloud Storage

Public cloud storage deals IT users a numeral of assistances.

- Through a web portal created by the cloud provider, public cloud storage is simple to manage. A storage container can be set up with minimal technical knowledge because the cloud provider handles environmental monitoring and preservation.
- As requirements shift, storage capacity can be dramatically increased or decreased. Also, the limitations on capacity are high sufficient for furthestmost responsibilities.
- Because the boundary to the storage environment is done via a web browser above the internet, cloud storage can be accessed from virtually any location. Cloud storage provides its services in a variety of locations around the world, allowing users to select a location close to their business or to discuss any geographical requirements.

As with furthestmost things in life, a power can also be a flaw.

- The cost of storing data in the cloud may be higher than anticipated. Due to the moderately high outlet charges for dragging data out of the cloud, this is especially true if the data is being retrieved repeatedly externally.
- Implementing public cloud storage typically serves most applications well. Even though the storage is in a group setting, the way things usually work isn't as good as what's possible on the principles.

PRIVATE CLOUD STORAGE

In a private cloud, a cloud service provider provides possessions like requests and storage that are exclusive to a single company and not shared with other organizations. Security concerns have prompted other businesses to move to private clouds. Compared to public clouds, these are more secure and exclusive. Due to the private environment of the data they develop and store, retail businesses and banks are examples of organizations that influence private cloud storage.

Advantages of using Private Cloud Storage

Here are some advantages of why we should use private cloud.

- Because a private cloud is only used by one company and is not accessible to the general public, it ensures high levels of privacy and security.
- A firewall causes a private cloud to stop working inside the company's network. It provides access to the same resources as the public cloud, but it does so at a lower risk to Internet security threats.
- Because they are custom-built, private dispositions enable increased storage and computing scalability. Companies are able to modify and construct their own arrangement to accommodate their requests, and an internal IT team keeps the configuration.

Disadvantages of using Private Cloud Storage

On other hand, there are certain disadvantages of using Private cloud storage.

- Since private clouds require both hardware and maintenance, they are more exclusive than public clouds. Hardware is not the only thing you need for custom software applications; you also need the operating system and licenses.

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- Increased security in Private cloud revenues that remote access is insufficient. This is especially true for people who use mobile devices. Mobile users will not be able to connect to the desired business applications in Private cloud storing if they needness.

HYBRID CLOUD STORAGE

A hybrid model is a combination of private and public cloud storage in which businesses can choose which cloud data they want to store. Typically, highly structured data like that with strict archiving and repetition requirements is stored in a private cloud environment; however, less sensitive data like email that does not contain business secrets can be stored in a public cloud environment. Hybrid cloud is a type of cloud computing for people who want to find a balance between convenience and security. The ability to store delicate data on a private cloud and keep the majority of it on a public server is one of the main improvements.

Advantages of using hybrid cloud

Auspiciously, for numerous societies, there are other advantages over the disadvantages once by hybrid cloud, and such hybrid cloud profits comprise

- The reimbursement ratio that exists between public and private cloud storage can only be afforded by hybrid cloud storage. For instance, with a hybrid cloud, you can enjoy the adaptability of a public cloud environment without losing control to a third party.
- The advantages of mutually private and public cloud storages are combined in the hybrid cloud: security, scalability, cost savings, and adaptability.
- A hybrid cloud may be enhanced through rapidity in observance because it is intended for establishment needs. For instance, even though this plan is not entirely open to the public, IT management will be able to reduce latency, allowing data transfers to proceed quickly and easily.

Disadvantages of using hybrid cloud

Though hybrid cloud storage might be an inevitability for convinced all-encompassing administrations, there are quiet particular probable concerns to be conscious of when endowing in a hybrid cloud storage which contains specific of the subsequent.

- The hybrid cloud infrastructure is difficult to construct and difficult to maintain. For instance, setting up a hybrid cloud infrastructure requires a significant demand for servers, storage, and network capabilities. The implementation of all of these takes a long time and requires accuracy.
- Although operating a hybrid cloud is cost-effective, creating an enterprise cloud necessitates a significant investment. The public cloud isn't the only option for hybrid cloud; Private cloud services are also required. By default, private clouds need to be managed by cloud architects and IT professionals who are qualified. This does not appear to be an easy task for businesses that do not have a lot of IT capital.

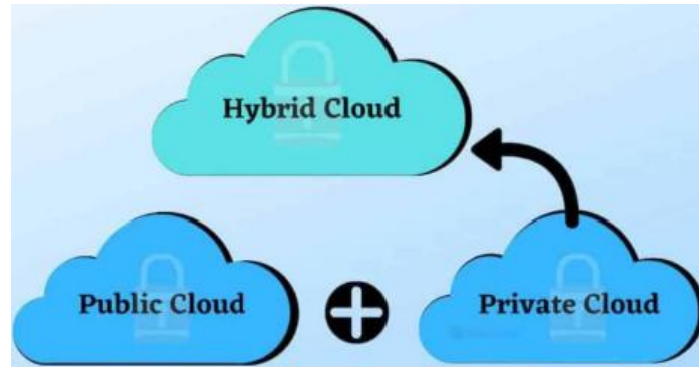





Fig.2. Hybrid cloud storage

COMPARISON AMONGST PUBLIC, PRIVATE AND HYBRID CLOUD

TYPES OF CLOUD	PUBLIC CLOUD	PRIVATE CLOUD	HYBRID CLOUD
DEFINITION	The cloud computing infrastructure is positioned on the principles of the enterprise that suggestions the services.	This cloud means by a cloud infrastructure simply by one consumer or business and it is not communal with others.	This cloud uses mutually public and private cloud based on the perseverance and necessities.
CLOUD SERVICE PROVIDERS	The cloud service provider manages the services whereas the business uses them.	The business need to have their administrators to manages private cloud services.	The businessactivates the private cloud although cloud service providers accomplish the public cloud.
DATA CENTRE LOCATION	It is located on the same premises where the cloud provider is located at.	Located inside the organization network	Classified the association for private cloud services and wherever on the internet for public cloud services.
EXPENSES	The cloud services provider provides the hardware set-up the application and provides the network. Hence it is cheaper option.	Hardware and network must be provided by the organization and hence it becomes expensive.	The businessnecessity provides hardware and the set-up for private cloud, and the cloud service provider ensures all the connection for the cloud, so the price is abstemiously fair.

<p>COMPANIES USING CLOUDS</p>			
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TYPES OF CLOUD SERVICES:

Platform as a service (IaaS), Infrastructure as a service (PaaS), and Software as a service (SaaS) are the three main service categories that cloud computing providers offer in accordance with distinct models.

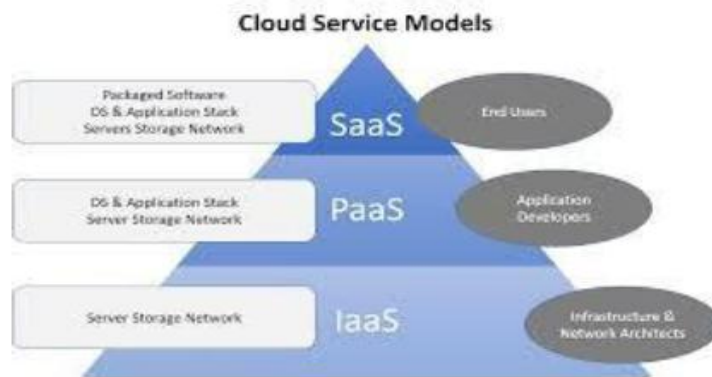


Fig.3. Types of cloud services

INFRASTRUCTURE AS A SERVICE (IAAS)

A well-known explanation of how retailers distribute cloud-based virtualized possessions across the Internet is Infrastructure as a Service (IaaS). A type of cloud computing known as infrastructure as a service gives users internet access.

The infrastructure, or services provided by the service provider, consists of the network, operating system, and storage resources. Their own internet must be managed. Administrators use it most. Users have the option of purchasing applications, servers, and network equipment as a completely subcontracted service that is typically billed according to the amount of resources used. In essence, a third party grants you permission to install a virtual server on top of their IT system in exchange for a rental fee. In comparison to SaaS users, PaaS and IaaS users must manage more: files, programs, middleware, the operating system, and the runtime Vendors still have control over networking, hard drives, storage, servers, and virtualization. IaaS provides infrastructure on which users can install any necessary platforms, which is advantageous to users. Users are responsible for updating when new versions are released. Amazon EC2, Rack space, Windows Azure, Amazon Web Services (AWS), and Google Compute Engine are examples of IaaS.

PLATFORM AS A SERVICE (PAAS)

Even though they are mostly used for applications, cloud platform services, also known as Platform as a Service (PaaS), provide cloud components to guaranteed software. Computing resources are transmitted over a policy using Platform as a Service (PaaS).

The cloud comprises a development platform for users in this kind of cloud computing service. The primary purpose of PaaS is to provide developers with a platform for developing web applications online. Which creator's PaaS improvement is a foundation upon which they can expand or modify applications? Without the need to purchase the primary layers of hardware and software, PaaS sorts the development, testing, and placement of submissions quickly, affordably, and profitably. One comparison between SaaS and PaaS is based on the requirements that users, not suppliers, must meet: Users are responsible for solicitations and data, but retailers are still responsible for middleware, runtime, virtualization, O/S, storage, servers, and networking with PaaS.

Windows Azure, AWS Elastic Beanstalk, Google App Engine, Heroku, and Force.com were examples of PaaS.

SOFTWARE AS A SERVICE (SAAS)

Software as a service, or SaaS for short, is also known as "On-Demand Software." A cloud service provider typically provides services in the software distribution model.

This means that even though the software has been installed on the user's device, they can only use it online. Because it is easy to use, Software as a Service (SaaS) is the most common type of cloud computing. The design, such as servers, operating systems, networks, and storage, are all succeeded by cloud service providers, as are application development and preservation. The majority of SaaS requests don't require installations or downloads and can be accessed directly from a web browser. The need for individual hardware to install and run applications is eliminated by SaaS. With SaaS, originals can relax and reorganize their preservation and sustenance, which can be done by retailers: runtime, middleware, applications, data, virtualization, operating system/software, storage, servers, and networking. In this, the most important thing for users to have is a good internet connection. End-users don't need to install any software on their devices to use these services because they are available over the internet.

Yahoo, Microsoft Office 365, Google Apps, Google+, Gmail, and Facebook are all examples of SaaS.

CONCLUSION

This paper explains the primary characteristics and types of cloud storage. In addition to saving your device's local storage, cloud storage offers more benefits than local storage. The data that is stored in the cloud may be kept secret and have high levels of security. We have discussed the advantages and disadvantages of the three main cloud computing services and cloud storage types in this paper. When data is stored in the cloud, the user can access it from any device, including iPad, mobile phone, laptop, and so on, by downloading it offline.

In conclusion, cloud storage is extremely cost-effective, convenient, and secure. The cloud is quickly becoming one of the most comprehensive data storage platforms currently available to businesses, despite some privacy and data security concerns in the event of a business failure.

REFERENCES

1. A Survey on Cloud Storage, Jiehui JU, Jiyi WU, Jianqing FU, Zhijie LIN, and Jianlin ZHANG, Journal of Computing, Vol. 6, NO. August 8, 2011
2. Supriya PanditaProf., Vivek Pau International Research Journal of Engineering and Technology (IRJET), Meera Randiva, "CLOUD COMPUTING REVIEW," ISSN: 2395-0056, ISSN: Volume: 2395-0072 05. Issue: 03, Mar-2018.
3. "A Survey on Cloud Computing and Hybrid Cloud," by M.P.Vaishnnave, K. Suganya Devi, and P. Srinivasan, International Journal of Applied Engineering Research ISSN 0973-4562, Volume 14, Number 2 (2019).
4. "Research on Cloud Data Storage Technology and Its Architecture Implementation," presented at the 2012 International Workshop on Information and Electronics Engineering (IWIEE), by Kun Liu and Long-jiang Dong.
5. <http://aws.amazon.com/types/cloud-computing-types>
6. can be disabled at <https://azure.microsoft.com/en-in/overview/types-of-cloud-computing/?cdn=disable>
7. can be found at https://en.wikipedia.org/wiki/Cloud_storage.
8. This article can be found at <https://blog.gigamon.com/2019/12/05/what-is-hybrid-cloud-advantages-and-disadvantages/>. History
9. https://en.wikipedia.org/wiki/Cloud_storage "Cloud Storage:" Santiago Lucas Obrutsky Advantages, Drawbacks, and Enterprise Solutions for Businesses," a conference held in July 2016, New Zealand EIT.
10. "A STUDY ON CLOUD STORAGE," by M. Lakshmi Neelima and M. Padma, International Journal of Computer Science and Mobile Computing, Vol. 3, Issue. 5, May 2014.
11. "A Survey on Data Storage and Security in Cloud Computing," V. Spoorthy, M. Mamatha, and B. Santhosh Kumar, International Journal of Computer Science and Mobile Computing, Vol. 3, Issue. 6th June 2014, pages 306-313