

## LIBRARY SERVICES BY USING CLOUDS TECHNOLOGY

Jitender Singh \*

\* **Library Division,**  
Ch. Bansilal University,  
Bhiwani, Haryana, India

QR Code



**Abstract:** - *The cloud services companies of all sizes; the cloud is for everyone. We never imagine the services of the library without ICT in the information-globalization and technological era. As we know library is fully self-sufficient and self-reliable to meet the ever changing needs of the users’ for ever growing knowledge so that there is a strong need of integration of sources and services among the libraries. Cloud computing has the capability of integrating to the services and sources the libraries. This technology is now adopting by every library to enhancement their services.*

**Keywords:** - **Cloud Computing Technology, Library, Digital Library.**

### Introduction

Digitization is the present slogan of India. Cloud computing is the biggest solution for the libraries lacking with fund and budget. The whole of universe is available on single click on internet with assurance of longer lifespan of information. Internet and its services is not only a miracle for this generation but also it has become the demand or necessity of life. Cloud computing is too effective technology of the time. It serves as the perfect tool for maximum output with the minimum expenditure.



Source: <https://www.salesforce.com/what-is-cloud-computing/>

### Library using clouds

In library now we are using Google’s Gmail, organizing photos on Flickr or searching the web with search engine i.e. Google, Bing, Yahoo, actually they are accessing it through clouds. Recently cloud computing is modified as ‘client server Model’. Cloud computing is looked as a ‘computing model’ and not as a technology in reality. In this model customers plug into the cloud to access the IT resources in form of Data,

Information, Infrastructures, and platform, server, space, and software. Libraries are not left apart from the impact of internet and web services. Modern and Hybrid libraries of this digital era are attempting and achieving user's satisfaction to use of their application and technological tools. Libraries have been using some of cloud services from a decade.

### Meaning by definition

**NIST-** National institute of Standards and technology, defines cloud computing as a model for enabling convenient, on demand network access to a shared pool of configurable computing resources i.e. networks, servers, storage, applications, and services can be rapidly provisioned and released with minimal management effort or service provider interaction.

### Characteristics of cloud

- On demand service
- Broad network access
- Resource pooling
- Scalable and elastic services
- Metered services.

### Popular companies providing cloud services:

1. Google
2. Joynet
3. Areti Internet
4. Fortress ITX
5. Microsoft
6. Amazon cloud
7. Salesforce.com

### 8. IBM Smart Cloud

#### A] Software as a Service (SaaS):

Cloud-based applications or software as a service (SaaS) - run on cloud that are owned and operated by others and that connect to users' computers via the Internet and, usually, a web browser. This means pretty much any program that you use on the internet.

**Producers:** Any online provider, Salesforce.com Google Docs, whatsapp, Facebook, skype.

**Consumers:** Pretty much everyone who uses the internet.

#### B] Platform as a service (PaaS):

It provides a cloud-based environment with everything required to support the complete life cycle of building and delivering web-based (cloud) applications - without the cost and complexity of buying and managing the underlying hardware, software, provisioning and hosting. This describes services that developers use to build custom cloud applications.

**Producers:** Force.com, Google App Engine, Google Maps

**Consumers:** App and web developers

#### C] Infrastructure as a Service (IaaS):

IaaS provides companies with computing resources including servers, networking, storage, and data center space on a pay-per-use basis. In this service, companies access either physical or virtual servers on a pay-as-you-go basis. This allows them to pay for only the server space they use. It often overlaps with PaaS, and the

distinction between the two is often very difficult to make.

**Producers:** Amazons Elastic Compute Cloud

**Consumers:** Development and IT providers

### **Cloud Computing Architecture**

To provide the effective and satisfactory services there is need of perfectly organized models which would put all the components of cloud interlinked to generate the services as SaaS, PaaS, IaaS.

### **Cloud deployment and its application in libraries:**

**Public cloud-** PC can be accessed by any subscriber with an internet connection and access to the cloud space. Any size of library can use it by having only internet connection.

**Private cloud-s** Pvt. Cloud is established for a specific group and limits access to just that group. In this similar kinds of libraries can come together and have separate cloud space for storing their data and services.

**Community cloud-** this kind of cloud is shared among two or more organisations that have similar cloud needs. Example: if similar type or group of libraries are interested to establish institutional repository for the sake of they can be use common cloud space for that.

**Hybrid cloud-** HBC is a combination of at least two or more cloud where clouds included are a mixture of public private community. It is more flexible cloud.

### **Various kind of service through cloud computing**

Particularly in developing and under developing country undergo from common problem like lower levels of technical efficiency among the professionals, cost of managing to the IT infrastructures, untrained and without proper support in open source software applications. We think about solution of this kind of problem, cloud computing stands ahead in the form of alternatives. Sharing services and data among the libraries can be decrease the overall cost and increase the efficiency and effectiveness.

### **Libraries integration by cloud computing**

As we know library is fully self-sufficient and self-reliable to meet the ever changing needs of the users' for ever growing knowledge so that there is a strong need of integration of sources and services among the libraries. Cloud computing has the capability of integrating to the services and sources the libraries. The above diagram depicted to the libraries and cloud computing space. The following areas are most important to use cloud computing facility.

- a. E-resources

In this digital Era most of the libraries have self e-collection like books, thesis, journals, articles etc. If all the libraries with mutual understanding put their data on cloud space which will be a huge electronic collection which cannot be possible to manage by a single library. Electronic resources

which are placed together on cloud can be accessed by this space at minimum investment.

b. Processing

Processing is an important to manage and easy access the resources in systematic way. Classification and cataloguing are the most important and common task for every library. Integration of the library saves the time and money both.

c. Union catalogue

In this knowledge growing Era every user and library face the problems for identifying the resources or a documents if there is no any systematic way adopted by the knowledge centre or library. To overcome this kind of problem librarian come came out with the concept of union catalogue. It can be possible with the aid of cloud computing union catalogue can be utilize. All the libraries placed their data on cloud space so every library can have access to huge collection of resource to identify.

d. Value added services

Many value added services like CAS, SDI, alerting service, DDS, Referral services are remained on in the text and implemented by the less numbers of libraries. Due to financial and technological barrier all the library cannot be able to offer all these services. But now it's possible due to cloud computing so every library can add value to their service by these services.

e. Repository

It may be institutional repository that is a platform for collecting, preserving, disseminating intellectual output of an organisation. There are many research centres and academic institutions which are having intellectual output are not able arrange and organised and not utilize it only due to many obstacles. Through the cloud computing space each and every institution share their intellectual and mutual agreement anyone can access it very easily.

f. Digital library

Digital library is a collection of information that is stored and accessed electronically through the web or intranet. No single library has a digital library with adequate infrastructure and other support due to various limitations. If all the libraries together placing their digital collection on a single cloud it would be huge digital resource cloud. This huge digital library on a single cloud space can be accessed by all the libraries.

**Conclusion**

Digitization is an Indian trend now a day. Today we are connecting with the globalized and technological Era we need to meet the global standard and challenges in academic and research. Cloud computing is life for existence of library in the competitive era with their limited resources. It is the time to every library professional to adopt, apply and utilize the cloud computing space to empower their services that is offered by the knowledge centre and library or institutional repository. It serves as the prefect tool for

maximum output with less expenditure. As Dr. S.R. Ranganathan 5th law 'library is a growing organism always with new challenges and opportunities. Most of the libraries willing to provide early services but due to lack of technological infrastructure they are not able to implement their plan. To overcome these problems and financial hurdles libraries were eagerly looking for a technology which can meet their needs with very minimum efforts with cost effectiveness.

#### References:

- Arati Kothari (2013), Cloud Computing Applications and Security Issues: An Analytical Survey. In International Journal of Computer Science and Informatics. Vol. 3(1).
- Baun C, Kunze M, Nimis J & Tai S (2011). Cloud Computing: Web- Based Dynamic IT Services. New York: Springer.
- Jayaswal K, Kallakurchi J, Houde D J & Shah D (2014). Cloud Computing: Black Book. Dreamtec Press.
- Khan, M. A. (2016). A survey of security issues for cloud computing. Journal of Network and Computer Applications, 71, 11-29.
- Mayank Yuvaraj (2013). Cloud Computing Applications in Indian Central University libraries: A study of librarians` use In Library Philosophy and Practice.

- Velte A T, Velte T J & Elsenpeter R (2010). Cloud Computing: A Practical Approach. New York: McGraw Hill.