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IMPACT OF CLOUD COMPUTING ON LIBRARIES

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ABSTRACT

Cloud computing is the new information technology model which is adopted by many organisations around the globe. Cloud computing transforms the way by which the libraries are acquiring, processing, storing and disseminating the information to the end user irrespective of time and place. The paper shows that what actually cloud computing is and its applications in libraries. The study may be useful in identifying the areas in libraries where cloud computing can be use full.

KEYWORDS: *Cloud computing, IaaS, PaaS, SaaS, Deployment Models, Cloud computing applications to libraries.*

INTRODUCTION

The advancement in Information and Communication technology have changed the way by which the information is generated, acquired, processed and disseminated to the end user. Every one of us who is connected to the internet and using applications of web 2.0 is using some type of cloud computing regularly. It is more than decade that libraries are using cloud computing services such as online data bases and union catalogues.

CLOUD COMPUTING DEFINITION

According to Vangie Beal "Cloud computing is defined as a type of computing that relies on sharing computing resources rather than having local servers or personal devices to handle applications. Cloud computing is comparable to grid computing, a type of computing where unused processing cycles of all computers in a network are harnesses to solve problems too intensive for any stand alone machine."[1]

Investopedia defines the cloud computing as "A model for delivering information technology services in which resources are retrieved from the internet through web based tools and applications, rather than a direct connection to a server. Data and software packages are stored in a server. However cloud computing structure allows access to information as long as an electronic device has access to the web. This type of system allows employees to work remotely"[2]

WHAT IS CLOUD COMPUTING

Cloud computing is not a new technology but it is a new form of computing that appears on the web.Cloud computing is the phrase used to describe different scenarios in which computing resource is delivered as a service over the network connection or internet. Cloud computing is therefore a type of computing that depends upon sharing a pool of physical and virtual resources rather than deploying local or personal hardware and software[3]

Cloud computing is the outcome of the existing technologies and paradigms. The main objective of the cloud computing is to allow users to take benefit from all the technologies without having deep knowledge about or expertise with each one of them. The cloud aims to cut cost and help the user to focus on their core objective instead of being impeded by technology obstacles [4] Cloud computing is pay per use or subscription based service where the storage space and computer resources are subscribed by you, the most appropriate example of cloud computing is your e-mail client such as g mail and so on which can be accessed from any place at any time which is managed by the cloud rather than you on your personal computer.

CHARACTRISTICS OF CLOUD COMPUTING

1. ON DEMAND CAPABILITIES
The customer has access to the services through a cloud and you have power to change the cloud services through an online control panel or directly with the provider. You can add or delete the services as per requirement

2. BROAD NETWORK ACCESS
Services are available over the network and accessed through various devices such as smart phones, tablets, laptops and office computer irrespective of the location with a simple online access point.

3. RESOURCE POOLING
The cloud enables the multiple users to enter and use the data in the software hosted on the cloud from any location at any time.

4. RAPID ELASTICITY
The cloud is flexible and scalable to suit your needs. You can add or remove users, software features and other resources with minimum possible time.

5. MEASURED SERVICES
You only pay for what you use. The amount of resources that you may use can be monitored from both your side and your cloud provider which provides transparency.

DEPLOYMENT MODELS
There are basically four deployment models of cloud computing which are as under:

1. PUBLIC CLOUD
Public cloud is a cloud which can be accessed by any person having internet connection and subscription to the cloud.
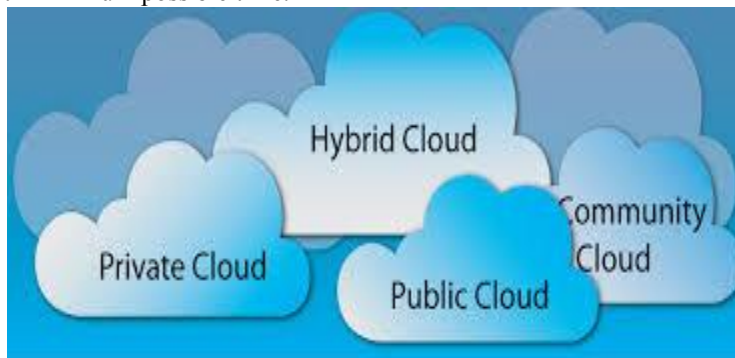
2. PRIVATE CLOUD
Access of the private cloud is limited to the specific group or the organisation.

3. COMMUNITY CLOUD
A community cloud is a cloud that is shared among several organisations from a specific group with common computing concerns.

4. HYBRID CLOUD
Hybrid cloud is the mixture of Public cloud, Private cloud, community cloud or at least two clouds.

SERVICE MODELS
There are various service models are available on the web but three mostly used service models used for prviding cloud based services are as under:

1. SOFTWARE AS SERVICE (SaaS)
In this model applications or software are hosted by the vendor on the cloud server and made available to the customer over the network, in this service model the user need not to

manage the cloud infrastructure and platform on which the software is running, here user need not to worry about the installation and management of the software.

2. **PLATFORM AS A SERVICE (PaaS)**

   In this service model customer has to manage applications and data and the cloud vendor manages everything else. The hardware, software and other IT infrastructure is the responsibility of the cloud vendor. One example of the PaaS is Gogle app. Engine.

3. **INFRASTRUCTURE AS THE SERVICE (IaaS)**

   In this service model the consumer is provided with the provision of processing, storage, network and other fundamental computing resources where the consumer is able to deploy and run software which can include operating system and applications. The consumer does not manage the cloud physical infrastructure but has control over operating system, storage, deployed applications and limited control over networking components example Rackspace, HP, IBM, Google base.

APPLICATIONS OF CLOUD COMPUTING IN LIBRARIES

Information and communication technology has great impact on our libraries, one can access the library services from anywhere and at any time with the help of networking and cloud computing. Cloud computing can be applied in following areas in libraries:

1. **LIBRARY ONLINE CATALOGUES**

   One of the popular services to search the bibliographic data essential for the libraries and its users which is using the cloud technology is OCLC World Cat. OCLC is offering various cloud based services such as circulation, cataloguing and acquisition through the web share management system.

2. **WEB SITE HOSTING**: Now a day there is hardly any library which is not having the web site. Most of the libraries are using the third party server for hosting their websites. Web Hosts are the companies that allow the organisations to use their web space owned or leased by the client.

3. **DATA SHARING**: One of the most important application of cloud computing is data sharing. The Professionals in the libraries can share the library data with their colleagues and can work simultaneously irrespective of location and time. Google Drive,Sky Drive are the best examples.

4. **BUILDING SOCIAL AND PROFESSIONAL NETWORKS**: Cloud computing opened the various platforms for sharing the intellectual output and ideas among the likeminded peoples using the social networking tools such as face book, you tube etc. Library and information professionals are also using the same technology in sharing information and marketing of information products and services.

5. **BUILDING DIGITAL REPOSITORIES**:

   Now a day's most of the libraries are building their digital repositories using cloud based software's Dspace is the best example provided by Dura Cloud which is providing the complete solution for building the digital repository for library.

CONCLUSION

It is concluded from the above study that the cloud computing is playing the vital role in the present era of information and communication technology. Various service models of cloud computing made it possible even for the libraries with small budget to build the digital repositories and digital libraries. Applications of cloud computing such as social networking tools make it very easy for the libraries to share and promote the information products and services among the user community. All though we are talking about the application of cloud computing in libraries yet the application is not up to the mark due to lack of awareness among the library professionals and the authorities. IT Skill development programme for the library professionals may take the application of cloud computing in library services to higher label.

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