Cloud Computing Models for Libraries: A Study

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Abstract— **Now a day the cloud computing model has become an integral and an emerging trend in the mainstream of the library and library service. Cloud computing model has got various benefits over traditional models. The present paper is discussed about different basic models of cloud computing, advantages and disadvantages, and it can be used an application without having to worry about the supporting technology in the libraries. It will provide libraries with powerful new application and services when and where required for present generation.**

Index Terms— **Cloud computing, Library Services and Basic Models.**

I. INTRODUCTION

Cloud computing is becoming an adoptable technology and attractive option for organizations like libraries, that would prefer to concentrate more on library patrons accessing information through smart phone, tablets and laptops. It allows us to accessing of compute storage, application resources, data and programs over the internet rather than using computers and hard drive. Libraries have made most important investments in computer resources and infrastructure. Libraries are exists in the cloud, It includes web based email, data storage, and virtualized servers in growth and popularity of users storing their data, running their apps, and even creating their information technology are remotely situated. This will express the basics of cloud computing.

II. DEFINITION OF CLOUD COMPUTING

Cloud computing is a type of Internet-based computing that provides shared computer processing resources and data to computers and other devices on demand. It is a model for enabling ubiquitous, on-demand access to a shared pool of configurable computing resources (e.g., computer networks, servers, storage, applications and services) which can be rapidly provisioned and released with minimal management effort.

III. CLOUD COMPUTING SERVICE MODELS

Cloud services are provided on demand to users over the Internet, these Service are divided into three, and they are: IaaS, PaaS, SaaS.

A. Infrastructure as a Service (IaaS)

It Provide the hardware facility (Such as storage, network, compute) to install an entire IT offering. It is model for those who want to avoid sustaining hardware and knowledge of configuring software. IaaS offers

libraries necessary infrastructure (electronic storage) that compliments open source software(DSpace, Eprints, Fedora) for running digital Library repository and Archives.

B. Platform as a a Service (PaaS)

It provides entire computing platforms (Operating systems, tools and applications) in the cloud. It allows users to develop, to test, to deploy, update and host in the cloud. The require tools and applications are already made available in the cloud. Some library systems are integrated such as Koha and Greenstone and other normally used application such as GoogleDocs and WorldCat are examples of platforms that uses in cloud.

C. Software as a Service (SaaS)

It provides users capability to utilize software which is running on cloud infrastructure. The user accesses this software from web browsers. Social networking service, web based conferencing and web analytics are all examples of SaaS. Some of them generally used SaaS products in libraries are EBSCO discovery service and Citation management.

IV. CHARACTERISTICS OF CLOUD COMPUTING

A. On demand self service

User can organize and their computing resources without human help on the provider and those services required by the individual.

B. Rapid elasticity

In the cloud computing it is most important for the feature. Users make to think, that they have unlimited resources available at any time in any quality.

C. Broad network access

Resources are normally available via the internet as it act as backbone of cloud concept. Using number of different devices or protocols for service over network.

D. Shared resources

Multiple users will be running on the same hardware, and resources may be extending across multiple data by sharing common infrastructure.

E. Measured service

In this terms of quality services or cloud services are controlled and monitored by the cloud provider and charged based on volume of some (Storage, processing, bandwidth).

V. ADVANTAGES AND DISADVANTAGES

A. Advantages

There are many advantages in the cloud computing

Cost Saving: Cloud computing is extremely cost efficient techniques as compared to traditional system, but cloud computing make available valid price by offering different flexible method pay as you use or one time payment.

Flexibility: Cloud computing allows organizations to start a project quickly without worrying about up-front costs.

Easy Access: Which information contained in the cloud, that is easily accessible within the limits, means registered users can access data at any time.

Bring new Services: Cloud gives vast and scalable services required by the different users.

Backup and recovery: Stored Data/information backup and recovery is very easy in the cloud as compare to physical storage.

Endless Storage: Cloud will offer to store unlimited sensitive and important data in the cloud with the large storage.

B. Disadvantages

Security Issue: Institute should think twice before to choose cloud service technology handling by third party, trustworthy and reliable cloud service will keep data safe and secure.
Constant monitoring: In some cases it requires a constant check ongoing work, which becomes an overhead.

Technical issues: sometimes with high maintenance technical issues can result in great loss to both cloud service provider and users.

Inflexibility: Cloud computing become frozen at some point because organizations get bound to a particular format. Application in one format can't be written in another format.

VI. CONCLUSION

Cloud computing is the essential gift of modern computing and information technology. Apart from the hardware and software with the help of cloud computing it is possible to store, retrieve information and similar content. Cloud computing is actually is flexible in nature, so there is not at all trouble for storage, flexible of data and other resource is higher than android technology and platform as far as utilization of cloud computing is concerned. It involve reduced information technology overhead for the end user, great flexibility, reduced total cost, on demand services and many other things. The impact of cloud computing will continue to be felt and almost certainly grow, in several areas of concern to libraries, particularly in educating users and preserving and providing access to information.

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