Ensuring Security And Privacy Preservation For Cloud-Based Library Management System

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Abstract- *Cloud computing is a web 2.0 technology spin-off, demonstrating to be most useful for the library management system. Cloud-based library management system 24x7 available system making library resources online as well as anywhere anytime access possible with least backup issues. The cloud-based library management system will be the recent trend in library management with ensuring data security and privacy protection.*

Keywords- Internet, Cloud, Cloud-based library management system, LMS, privacy preservation

I. INTRODUCTION

In the era of internet-based technologies and IoT platforms, it is highly demandable to use virtual services for data storage, retrieval and backups. Behind this main concept of cloud computing based anywhere, anytime data access lies. Thus the application of cloud to library management system could revolutionize the concept of library management from offline/intranet based to online/offline anywhere, anytime BYOD concept, to include the automation of library services in 24x7 mode. Thus cloud computing applications to the library could give birth to a model of cloud library i.e. cloud-based library management system **[1]**.

As the usage of the cloud may vary with the nature of libraries, library services and data stored in the library, the development of cloud library would require cataloging, acquisition, storage and sharing of resources on the internet. Cloud computing makes the data storage and data availability easy and simple, meeting the demand of present users for state of art technologies for library management thereby increasing productivity and efficiency of processes [2]. In this paper, we are going to discuss a few applications and advantages/ disadvantages of a cloud-based library management system.

II. CLOUD COMPUTING

Cloud Computing is involved in innovatively 24x7 available system which makes utility computing possible with pay peruse and is infinite scalable through the technology and it is built to be evolving. NIST definition of cloud computing recognizes five essential characteristics that are as follows: measurement services, resource pooling, rapid elasticity, on-demand self-service, network access. According to NIST, there are two distinct sets of cloud models accepted. They are Deployment Models-[private, public, community and hybrid Models] and Service models-[SAAS, PAAS, IAAS] **[3,4]**. These models consist of a particular type of service that can be accessed on a cloud computing platform.

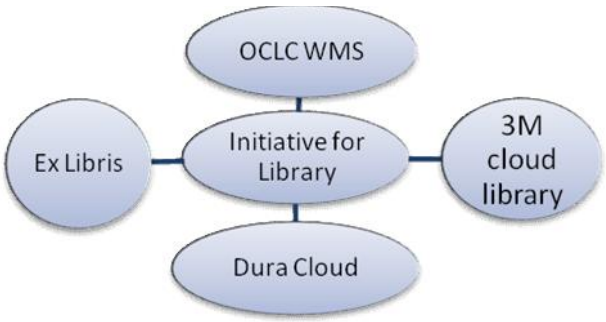

Figure1. Cloud Computing initiative for the Library.

Some cloud computing initiatives for the library are as below points and it has been shown in figure 1.

1. OCLC world share management services (WMS)
2. Ex Libris
3. Dura Cloud
4. The 3M cloud library Application.

The cloud-based library management system will have a high level of privacy preservation. It shall ensure sensitive data protection that does not reply to the sole source data storage site. It shall encrypt the data before storage on a cloud-based platform.

III. ADVANTAGES OF USING CLOUD-BASED LIBRARY MANAGEMENT SYSTEM

A few advantages of cloud-based library Management are listed as following:

1. User friendly: It is easy to use.
2. 24x7 accesses: It is always available to use.

3. Easy Maintenance: It is easy to maintain.
4. Mobile Access: It is available to use from anywhere.
5. Cost-effective: It is a cost-effective solution.

IV. DISADVANTAGES OF USING CLOUD-BASED LIBRARY MANAGEMENT SYSTEM

A few advantages of a cloud-based library management system are listed as follows:

1. Internet connectivity: A constant 24x7 uninterrupted internet access is required for a cloud-based Library Management system.
2. Secure network: A secure network is a must for cloud-based LMS.
3. Privacy: Privacy is a big concern as accidental leakage/mismatch of data may occur. Privacy is most important in the IoT era.

V. CONCLUSION

The Cloud-based library management system completely fulfills the demand of present web 2.0 generation users and introduces next-generation LMS. There are some issues of privacy of data in this LMS. However, cloud-based LMS is a 24x7 Model of anywhere anytime availability is a productive user-friendly feature of cloud computing-based LMS. Moreover, cloud-based LMS has brought the user closer to data and data is a basic entity of LMS. Hence cloud-based LMS is the future of Library Management System that ensures data integrity and privacy preservation.

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