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LIBRARY: A CLOUD COMPUTING APPROACH

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Abstract

The newest advancement in information and communication technologies is cloud computing. It facilitates the establishment of cloud-based servers for libraries and information centers. Though a lot of work is being done on library clouds, many people are still unsure of what a cloud is. The suggested work provides a succinct overview of clouds and their types. Every new technology has both advantages and disadvantages. This essay discusses the pros and negatives of cloud computing as well as factors to take into account while moving to the cloud. Numerous firms are considering a cloud migration due to the long-term benefits of implementing cloud computing. On the other hand, because of the quickly developing market and the lingering security concerns

Introduction: In the modern world of information and communication technology, information and communication are crucial components of libraries and information hubs. In libraries, a variety of new technologies are emerging. The newest technology in the information and communication technology stage is cloud computing. It is an advancement in distributed databases, grid computing, and parallel computing, and distributed computing. This technology maintains data, software, and applications by using central distant servers and the web (Internet). Users can access their official and personal data on any computer with internet access by using software that don't need to be installed locally. Libraries have grown automated with the introduction of information technology, which is a fundamental requirement for advancement, followed by networks and increased work.

What is Cloud Computing? :

Cloud computing is a type of web-based computing where a group of computers and other devices may access shared resources, apps, and data whenever they need it through the use of web technology. The foundation of cloud computing is the internet, which is typically represented as a cloud. As a result, a collection of web-enabled programs that are loaded into the server with the appropriate access privileges are used to carry out the cloud computing process. "A style of computing in which massively scalable and elastic IT-enabled capabilities are delivered as a service to external customers using Internet technologies" is how The Christy & Carina of Gartner Group defined cloud computing. Simply said, cloud computing is the "sharing and utilization of applications and resources of a network environment to obtain

Types of Cloud Computing:-

Depending on the service, there are three main categories of cloud computing.
1) Software as a Service primarily relies on apps and software that is needed when needed. Customers can access applications or software from any online device as it is provided to them as a service.
2) Infrastructure as a Service: Resource clouds are another name for infrastructure. Third parties supply resources (infrastructure) so that users can use them anyway they see fit.
3) Software as a Platform:- Cloud vendors are businesses that provide goods and services related to cloud computing. PaaS is one of the services that they offer. This involves renting out a computer platform, such as an operating system, to a client or end user on a monthly basis.

Why Cloud:-

Cloud-based systems have a wide range of applications in libraries, including citation management, mobile apps, and discovery layers. The possibilities are only going to grow in the future. Library systems could

undergo a transformation thanks to cloud-based services like the HathiTrust digital repository, discovery layers, and library administration systems that are built on top of sizable, shared community bibliographic databases. Such cloud solutions will be applicable to libraries of any size. A significant amount of library work might be done online because to advancements in technology and accessibility, giving librarians more time for other activities. On the other hand, librarians may be able to give more people access to local and distinctive content if they outsource routine tasks to the cloud.

Cloud migration:

There are a few things to consider before moving your libraries to the cloud.Here are some of them.

1) Know your cloud provider: It is very important to check the credentials of your chosen cloud provider. many new to the industry to understand what you can and cannot do.

2)For example, does the service provider have a long history of reliable information security? If so, it makes sense for them to integrate their commitment to security into their cloud-based solutions if they have experience implementing security on their traditional servers. Getting security right takes work, and work requires professionals and quality technology, none of which are free..

3) Encrypt your bits and bytes: Bothe at rest as well as in transit, encrypt as much of yourcloud data and traffic as the library can get away with. It adds a layer of complexity anda little processing overhead, but not much and the peace of mind will be worth at the end.There is need to talk to the experts in the cloud for the development and also taking helpof the users of the library.

4) Manage your Cloud access: - Because putting your data or processing in the Cloudmeans it is step removed from your physical control and because cloud content can oftenadd up lot of valuable intellectual property and sensitive information, the library need tomake sure to control who can access it. The Cloud provider may promise to look afterthe data, but that does not relieve the responsibility for policing the access the libraryauthorize. It’s a good idea to limit access to specific individuals that need access, not justleave the connection open for everyone to use. It should consider two factorauthentication instead of merely relying on passwords.

5) Backup your Cloud data: - Depending on the use case, the library may be backing updata to the cloud or using it for any number of other processes. If you spend a fewminutes in the library and find that the data is duplicated, whether it is daily access to data stored in the cloud or cloud-based backups and actually bringing them back, the library is protected.

6) Check the fine. print in the cloud: The library should have permission to access the library's cloud account to store, use anddisclose the information and files contained in it. The cloud service provider should also provide technical support and deal with technical issues. The contract must protectthe service and its users (library) against fraud or security threats in accordance with the applicable law. Theyshould have antivirus protection, but beyond that, even the library needs strong endpointsecurity for devices authorized to use the library's cloud.Advantages and Disadvantages of the Cloud: Cloud service increases efficiency when servers aremaintained and available. multiple instances of the program simultaneously optimize resources.The main advantage of the cloud is flexibility, that is, when we add new data resources to the cloud, they can quickly increase computing resources as the services grow,\instead of new servers. Virtual servers can also run in the cloud and run\only as long as needed. Cloud computing is not always cheaper when you consider all the factors involved, such as network bandwidth, migration costs and backup storage costs. Another concern is security and privacy. This requires proper precautions to minimize the risk.

Conclusion :-

In conclusion, it can be said that cloud computing technology offers librariesthe opportunity to improve their services and relevance in today's information society. This can bring many benefits to libraries and give them a different future. It helps libraries provide their resources, services and expertise as needed within users' workflows and in a way that userswant and understand. This should free libraries from the control of technology so they can focus on collection building, better services and innovation. The cloud computing model\encourages libraries and their users to participate in the library network and community,\enabling information reuse and information interaction. It can also create an effective and unified presence for an online library and provide users with local, group and global access..

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