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A Survey of Local Data Storage over Cloud Storage

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ABSTRACT: Storage Infrastructure is typically subdivided into Local and Cloud Storage Systems. On-Premise generally deals with local storage which deploys its servers taking all the risks which include maintenance and thereby makes the system be least cost-efficient. Cloud utilizes other's deployed servers on the internet and we have to pay for what we use rather than spending much on installing and maintaining servers on-premise. This paper focuses on surveys about efficient storage systems.

KEYWORDS: LocalStorage,Cloud Storage,EFS,Amazon S3

I. INTRODUCTION

Data Storage has become a task over the years due to a large amount of data being produced globally.Earlier we used to store data locally but now we see companies and firms all around us storing their data over the cloud.

[1]Local Storage as we know is storing data in physical devices like CDs, Floppy Disks, Hard Disks, USBs, etc. Here, you don't need the internet for accessing the stored data, and uploading data to local storage is fast. It kind stores data to about 2TB.Also, here you get to decide who accesses the data and how it is stored but still, it's vulnerable to attacks or the device may get lost. Data can easily be attacked or obtained by an unwanted user by hacking, spoofing, etc. It is comparatively expensive due to the hardware used. Also, if local backups get destroyed in unexpected events they can't be retrieved and data is lost. Nevertheless, the way of storing data has changed and evolved to the cloud.

[2]Cloud storage is just storing data over the internet servers unlike data stored locally on a computer's hard disk. Cloud makes accessing data and sharing it with anyone at any time and at any place viable unlike local storage where accessing and sharing the data is difficult. Though local storage provides more space, the cloud works out cheaper per GB. It is much more secure and provides inbuilt mechanisms like firewalls, intrusion detection systems, event logs which make finding threats easier and keeping the files secure. It is much less vulnerable to attacks and threats. Cloud is much more scalable and cheaper in storing the large amount of data generated in companies. Also, automatic backups occur as and when you do any changes to your files in this way data isn't lost.

[3]Even Though the cloud is so efficient it has some minor drawbacks. If the provider faces a power or server issue, it is going to reflect on your cloud performance. Good internet plays a vital role in easy accessing, sharing, or uploading files. Also, the performance may sometimes be affected as the same servers are providing resources to many organizations.Yet, it is used extensively in the current world due to its high security, flexibility, very low maintenance, easy access, and backup.

II. METHOD OF STUDY

This paper surveys the journals of recent years. The main objective is to contemplate knowledge regarding efficient storage systems. The surveyed paper focuses on several works contributed to storage systems. We looked at several databases like IEEE, ResearchGate, IEEE Xplore, and other journals.We have also considered each article's references to get relevant papers.

III. CLOUD STORAGE SERVICES FOR COST-EFFICIENT FILE HOSTING

Typically today's cloud storage system deals with two distinct types of services offered, one is object storage like Amazon S3 and the other is filesystem storage like Amazon EFS. Amazon s3 is used for simple flat object storage with low unit storage price whereas EFS goes with hierarchical

complex filesystem operations with high unit storage price. A Cloud Storage user might look for both the services to be deployed at a low cost. So here is an intuitive approach to achieve this goal by combining both services. The technique is to host large files on s3 and small ones on EFS.

IV. DATA SECURITY FOR CLOUD STORAGE

The application of cloud storage is everywhere and it is now playing an indispensable role in all areas. Cloud is also vulnerable to risks, data tampering, unauthorized access, etc. So it is indeed a concern about security since it has got its wide range of deployment. Security can be enhanced with the help of encryption techniques. The Encryption Techniques comprises IBE(Identity-Based Encryption), ABE(Attribute-Based Encryption), Homomorphic Encryption, etc.

V. DETECTING INJECTIONS, ATTACK IN MYSQL

SQL queries are pretty much vulnerable to attacks. Here is a SEPTIC mechanism that is resistant to DBMS possible attacks. This SEPTIC technique is used to identify possible vulnerabilities in the applications. This technique is being implemented using MySQL and it has experimented with several test applications. These techniques lead to neither false positive nor false-negative results.

VI. BENEFITS OF AWS

The benefits mainly comply with Data Security, Regulatory Compliance, Cost-Effective, Flexible. On-premise storage requires us to set up servers of our own cost and also need to assist technicians in maintaining those servers. This may not lead to a cost-efficient system, therefore here comes the idea of cloud storage. In the cloud, the user can pay for what they use, Maintenance Free and it can be deployed anytime as needed.

VII. OPEN CHALLENGES FOR FUTURE RESEARCH

When it comes to security, whether on-premise or cloud is more secure then the answer will be the cloud is no more or less secure than the on-premise because people on both sides can commit mistakes. So security can be compromised irrespective of the storage system that we use.

VIII. CONCLUSIONS

Cloud is better than on-premise due to its reliability, security, and flexibility. Cloud removes the hassle of server maintenance thereby letting you invest time, money, and resources into core business strategies. Real-time public access to systems and data from different devices irrespective of the location has guaranteed an up-time of 99%, cloud is now becoming the number one choice for UK businesses, with adoption rates reaching 88% in 2018.

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