SECURE HETEROGENEOUS DATA STROGAGE MANAGEMENT WITH DEDUPLICATION IN CLOUD COMPUTING

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Abstract : Cloud storage is a simple and scalable way to store, access and share data with intended user over the internet. To preserving cloud data confidentiality and user privacy, cloud data are often stored in an encrypted form. This paper propose a secure heterogeneous data storage management to support data deduplication and access control according to the request of users. A basic requirement for cloud based data protection needs to be the ability to reduce the overall costs of providing same service that client could do themselves in their own data center. We propose one method to achieve this goal is data deduplication across multiple users using Triple Data Encryption Standard algorithm. We reduced the cost and time in uploading and downloading the storage space.

Index Terms – Cloud Computing, Storage Management, Data Deduplication, Access Control, Triple DES algorithm, AES algorithm

I. INTRODUCTION

The cloud is commonly used to refer to several servers connected to the internet that can be leased as part of a software or application services. Cloud Computing consisting of number of desirable properties[4] , such as self service provisioning, scalability, elasticity, pay-per-use and migration flexibility.

Cloud data storage is a management of ever increasing volume of data. The benefit of store data in cloud servers is it is is easier for the users to share their data with intended users.

To build data storage management scalable, deduplication[1][3] is a well known technique to reduce storage space and data uploading bandwidth in cloud storage. Instead of storing multiple data copies with the same content deduplication remove redundant data by storing only one physical copy and referring other redundant data to that copy.

In this paper ,we propose secure heterogeneous data storage management scheme and access control[5]with deduplication in cloud computing. Both data deduplication and access control is controlled by user and a trusted third party. The proposed scheme provide security for user details and data stored in the cloud and at the same time reserve storage space with deduplication in cloud server. This scheme is different from existing work. It introduce encrypted cloud data deduplication with access control to support multiple users. The main contribution of this contribution of this paper are :

- To provide user privacy encryption algorithm is used to encrypt the user details
- We propose secure heterogeneous data storage management scheme to support both deduplication and access control based on the demand of eligible users.

II. EXISTING SYSTEM

In the existing system[1], the data deduplication is checked using hashing technique with the use of Attribute Based Encryption algorithm.

figure 1

III. PROPOSED SYSTEM

The proposed scheme consisting of secure heterogeneous data storage management with deduplication[1][2]. User register in cloud and user details is encrypted using AES algorithm to provide security to user details. This scheme user can upload file into cloud server, the user can block the file from unauthorized users. If another user attempt to upload same file then the server will check duplication and not allow to upload file in cloud server. The deduplication is handled using Triple Data Encryption Algorithm[2]. The user can request for that file sending request for that data owner, then data owner accept the request based on authorized user. In this scheme the user can accept multiple request from users at the same time.

IV. METHODOLOGY

This paper propose secure heterogeneous data management with deduplication in cloud. In this scheme multiple users can upload the file into cloud server at a time and they can also request for same files at a time. For user privacy user details are encrypted by using AES algorithm. The user can upload the file into server and check deduplication. If the file is already in the server it will not allow to upload the

file into server. The user can send a request for the user who already have the file.the request is accepted based on eligibility of users. When the user request is accepted,user can download the file.

4.1 File Upload

The registered user in cloud can upload files into server. The file includes text file, pdf, images, videos and mp3 etc. The user can block the file from unauthorized users. If another user attempt to upload same file, the server will not allow to upload the file. The file is encrypted using Triple DES algorithm[2].

4.2 Deduplication

Deduplication technique is used to solve the repetition of data[3]. The user attempt to upload a file into server that is already in server ,the server not allow to upload to that file .Content based deduplication is used to check duplicate data file sin server using Triple DES algorithm[2].

4.3 File request

User need data file that is already in server so user will request for the required file from the user who already have that file. User can request more than one file at a time.

4.4 Accept Request

The indented user accept the request by checking the requested user is eligible user on cloud, then accept the request. User can accept request from more than one user at a time.

4.5 Download File

The user accept the request the requested user can download the file.

V. IMPLEMENTATION

figure 2. User 1 Home Page

figure 3.File Upload

figure 4. Block and download uploaded File

figure 5. User2 Upload same file with different file name

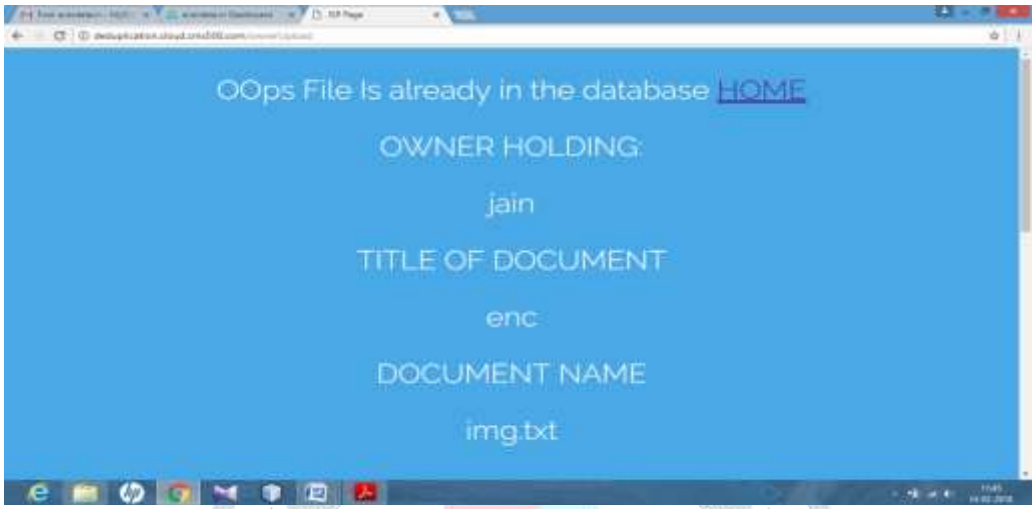

figure 6. Check deduplication and show message that file is already in the database and the data owner name,title of document and document name

figure 7. User 2 request for the file that already in cloud

figure 8. Accept the request based on checking user details

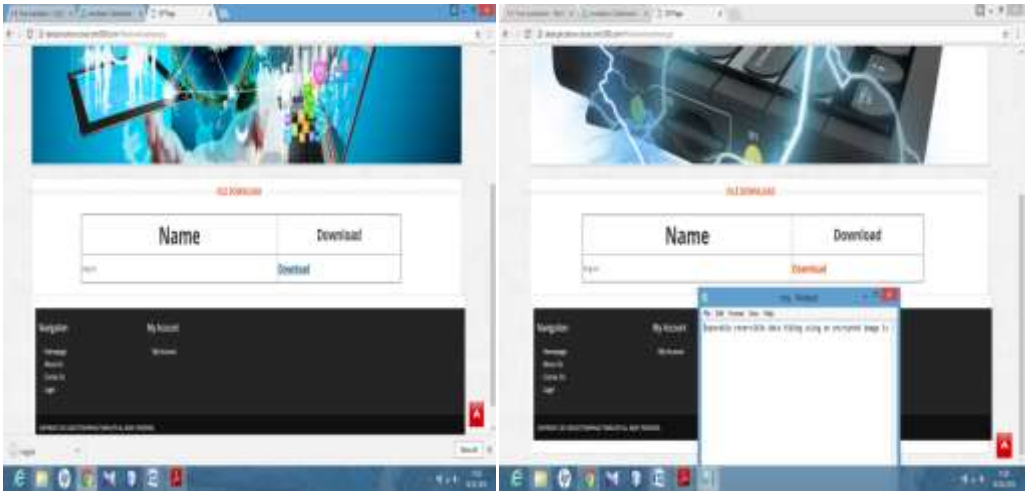

figure 9. User 2download the file

VI . CONCLUSION

This work proposes a novel scheme for data storage management with deduplication and access control in cloud. Data deduplication is one of the hottest technologies in storage right now because it enables companies to save a lot of money on storage costs to store the data. We propose a secure data storage management with, which offers flexible data deduplication and access. This paper adapts various applications and offer data storage management across multiple users. It can achieve data deduplication and access control with different type of security requirements. Our scheme provides security for user details.

This paper support data privacy of cloud users since the data stored at the cloud is in encrypted form.In our future work, we plan to remove the assumption of a trusted indexing service and explore different means of securing the indexes of unpopular files.

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