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Security Cloud using Text File Splitting and OTP

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Abstract:
The cloud computing is very promising data storage system. Recently advancement in cloud computing resulted in loss of security control over the cloud base asset. This may be due to accessing data by unauthorized user. The system introduces new cloud security management framework. The splitting of text data file and randomly store it at different position will not be easily accessible. The objective of this paper is to provide data security of cloud and their authentication techniques. The cloud data security method uses the symmetric encryption and asymmetric encryption algorithms with their strong authentication techniques. The use of relevant algorithm deals with the level of data safety in cloud because data security in cloud computing is a serious issue as the data centers are located worldwide. Authentication is the most essential procedure to ensure the cloud data in a secured manner. However, strong user authentication is the main requirement for cloud computing that reduces the unauthorized user access of data on cloud. Data security is a more important issue of cloud computing. The survey is completely based upon the estimation for the cloud data security and authentication resolution. Almost, the inventors use the symmetric and asymmetric encryption algorithms with other authentication methods.

Keywords: File split, File merge, File download, OTP.

I. INTRODUCTION

It is introduces new cloud security management framework. The system uses the hashing function & key management to provide the security and authentication to target data. Cloud computing supports distributed service oriented architecture, multi-users and multi-domain administrative infrastructure, it is more prone to security threats and vulnerabilities.

At present, a major concern in cloud adoption is its security and Privacy. Cloud computing nowadays is the precondition and essential part of the computing globe using whole day developing in its usages and popularity. Huge estimate of users is currently depending on cloud computing application for their everyday work of authority and produce services over the computer internet. Cloud represent as data centre. A client makes use of cloud resources, applications, storage and different services and is charged accordingly.

This system will provide the following benefits:

- Provide authentication.
- Data Security
- Restrict direct access of files.
- The detection of masquerade activity.
- Data confidentiality.
- Efficiency.

It introduces new cloud security management framework. The system uses the hashing function & key management to provide the security and authentication to target data. Cloud computing supports distributed service oriented architecture, multi-users and multi-domain administrative infrastructure, it is more prone to security threats and vulnerabilities. At present, a major concern in cloud adoption is its security and Privacy. Cloud computing nowadays is the precondition and essential part of the computing globe using whole day developing in its usages and popularity.

II. EXISTING SYSTEM

There are many systems related the dynamic groups for data sharing in cloud is very efficient. This system supports dynamic users and dynamic groups efficiently. User invocation and revocation is updated by the group manager so that any change in the system is reflected to all the users thus the system works more efficiently.

For additional security this project used two level security systems. This system provides the more security. A new type authentication system was highly secure and efficient. This system is also more users friendly. The experimental results show the proposed system is secure and time consuming. This system provides the better results.

III. PROPOSED SYSTEM

The user is to provide data for storage over the cloud. In this the user has the option to encrypt the Data if he wishes to before uploading the same. This adds another layer of security to the user’s data. After this point the user can upload the Encrypted data to the Cloud. While doing the same, the user provides the value of Confidentiality, Integrity and Availability. When user sends request along with username to access the data to cloud provider, the cloud provider first checks the user mobile number, it then generates the OTP and sends it to the Users Mobile. Now the user needs to enter the OTP received for authentication, and after authentication access to the data will be provided.

IV.ARCHITECTURAL DESIGN

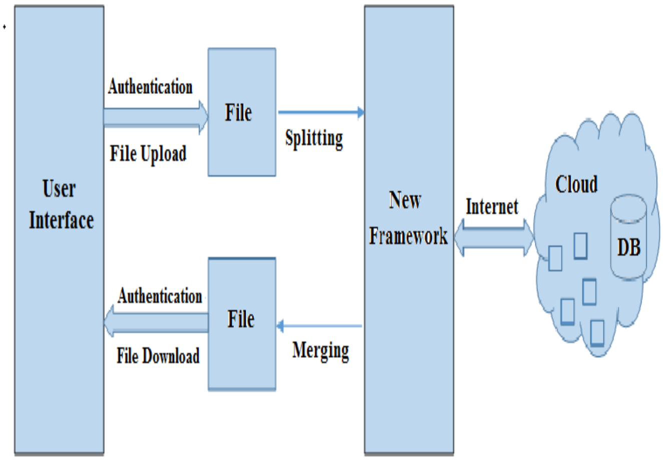

Figure.1. Architecture Diagram.

File content splitting: - This module used for splitting the content of file. It takes the file as it's input. By using the user defined function it split the content of file in several parts is the output of this module. File split uses the open function is to open the file and file is divide into several parts using floor function. It also needs number of parts to be dividing as specified in program.

File storing:-This module used for store the split content of file randomly in different places. It takes the input from the 'File content splitting module' the content are split in several parts module store it randomly in different places in the cloud storage.

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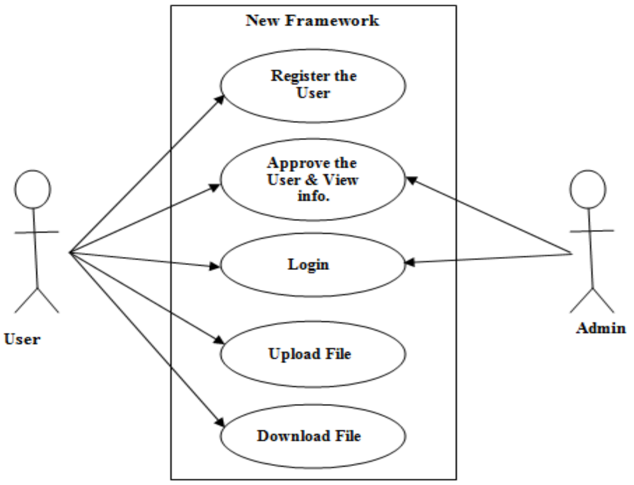
File security:-This module generates the accessing key for the user and sends to user. The generated key is used in the login of the user. Key confirms the user authentication.

File merge & download:-This module merges all spitted data of specific file. And it provide authentication when retrieve file. It using hash function and key for it. Only authenticate user download the merged files.

The objective is to provide data security of cloud and their authentication techniques. The cloud data security method uses the symmetric encryption and asymmetric encryption algorithms with their strong authentication techniques. The use of relevant algorithm deals with the level of data safety in cloud because data security in cloud computing is a serious issue as the data centres are located worldwide. Authentication is the most essential procedure to ensure the cloud data in a secured manner. However, strong user authentication is the main requirement for cloud computing that reduces the unauthorized user access of data on cloud. Data security is a more important issue of cloud computing. The survey is completely based upon the estimation for the cloud data security and authentication resolution. Almost, the inventors use the symmetric and asymmetric encryption algorithms with other authentication methods. Symmetric algorithms are AES and asymmetric algorithm are Daffier-Hellman and ELGamal. The Authentication techniques are one time password. So a hybrid technique which is a combination of these encryption techniques and authentication method gives a more excellent and strong security on cloud data.

V. USE CASE REALIZATIONS



Figur.2. Use case Diagram

- ➢ Use case diagrams are used to visualize, specify, construct, and document the behaviour
- ➢ Of the system, during requirement capture and analysis.
- ➢ A use case is a contract of an interaction between the system and an actor.
- ➢ Provide a way of developers, domain experts and end-users to communication.
- ➢ Serve as basis for testing.
- ➢ Use case diagrams contain use cases, actors, and their relationships use case.

- Use cases specify desired behaviour.
- A use cases is a description of a set of sequences of Actions, including variants a system performs to yield an observable result of value to an actor.
- Each sequence represents an interaction of actors With the system.

This use case realization contains three parts User, Framework and Admin. In the first part user can register his information in framework page. After registering admin can verify the user profile. After verification user can login into the system. Then system shows successful registration notification. If user can enter successfully then he can upload his document or download the document.

Advantages:

- Provide authentication.
- Data Security.
- Restrict direct access of files.
- The detection of masquerade activity.
- Data confidentiality.
- Efficiency.

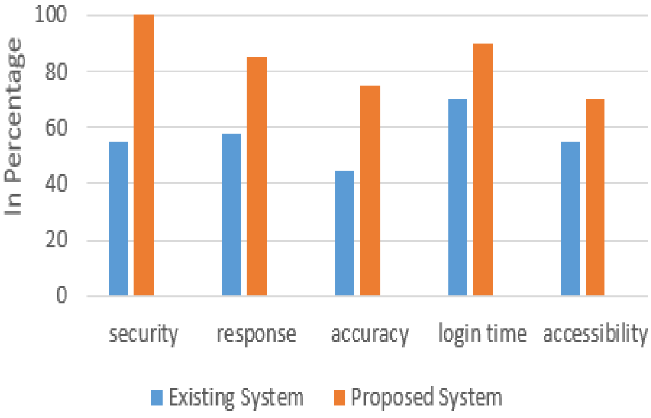
Scope:

It introduces new cloud security management framework. The system uses the hashing function & key management to provide the security and authentication to target data. Cloud computing supports distributed service oriented architecture, multi-users and multi-domain administrative infrastructure, it is more prone to security threats and vulnerabilities. At present, a major concern in cloud adoption is its security and Privacy. Cloud computing nowadays is the precondition and essential part of the computing globe using whole day developing in its usages and popularity.

VI. RESULT ANALYSIS

Comparing to existing computerized system, our system is gives more security and also System gives better user friendly environment for the users.

- Accurate information is available.
- It provides chances of such types of errors are much low and Provides security to the system & user data. User can easily work in project.
- Admin can decide and verify the registered user is Authorized or not authorized to access system.
- The most important is our system will provide more security to text files, i.e. the original file can split into different parts and store it's into different location, when user may wish to download files user can enter the generated OTP and download the original file hence it will provide the more security to the user data.



Existing System	Proposed System
➤ In existing system data Access by unauthorized user.[2]	➤ In proposed system data access by only authorized user.
➤ Cloud computing resulted in loss of security control over the cloud base asset.[1]	➤ In proposed system cloud computing gives a more security by using generated OTP.
➤ Existing system cannot used secret key to protect the data from unauthorized user.[4]	➤ Proposed system can used secret key to protect the data from unauthorized user.
➤ Unauthorized person is allowed to access the corresponding data.[3]	➤ Only authorized person is allowed to access the corresponding data if user is verified by admin.
➤ It gives low accuracy and less security has been provided. [2]	➤ Proposed system gives high accuracy and more security by using OTP and file split.

VII. CONCLUSION

All the sharing files are secured stored in Cloud Servers and the entire session key are protected. Cloud Servers' aid based OTP to dynamically updating group key pair when there're group members leaving or joining the group, the scheme can still do well which can delegate most of computing overhead to Cloud Servers without disclosing any security information. From the security and performance analysis, the scheme can achieve the design goal, and keep a lower computational complexity and communication overhead in each group members' side.

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