A Cloud Secure Storage Mechanism Based on Data Dispersion and Encryption

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Objective- The main objective of this project is to protect confidential data leakage due to management negligence and malicious attacks.

Abstract- Cloud storage service has shown its great power and wide popularity which provides fundamental support for rapid development of cloud computing. However, due to management negligence and malicious attack, there still lie enormous security incidents that lead to quantities of sensitive data leakage at cloud storage layer. From the perspective of protecting cloud data confidentiality, this paper proposed a Cloud Secure Storage Mechanism named CSSM. To avoid data breach at the storage layer, CSSM integrated data dispersion and distributed storage to realize encrypted, chucked and distributed storage. In addition, CSSM adopted a hierarchical management approach and combined user password with secret sharing to prevent cryptographic materials leakage. The experimental results indicate that proposed mechanism is not only suitable for ensuring the data security at storage layer from leakage, but also can store huge amount of cloud data effectively without imposing too much time overhead. For example, when users upload/download 5G sized file with CSSM, it only takes 646seconds/269seconds, which is acceptable for users

Keywords: Cloud computing, data dispersion, data encryption, key management, storage security.

EXISTING SYSTEM

Compared to existing Cloud storage service has shown its great power and wide popularity which provides fundamental support for rapid development of cloud computing. However, due to management negligence and malicious attack, there still lie enormous security incidents that lead to quantities of sensitive data leakage at cloud storage layer.

DISADVANTAGES

- Low Computation.
- High complexity.
- Requires skilled persons

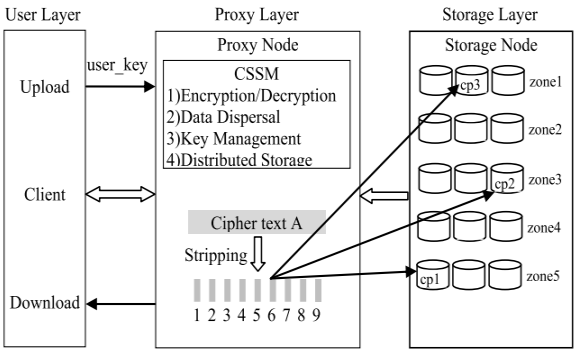
PROPOSED SYSTEM

This paper proposed a Cloud Secure Storage Mechanism named CSSM. To avoid data breach at the storage layer, CSSM integrated data dispersion and distributed storage to realize encrypted, chucked and distributed storage. In addition, CSSM adopted a hierarchical management approach and combined user password with secret sharing to prevent cryptographic materials leakage

ADVANTAGES

- Accuracy is good.
- Low complexity.
- Highly efficient.
- No need of skilled persons

FLOW



MODULES:

PROXY:

Proxy can login with valid credentials; proxy is responsible to add Sender/Receivers Information and send login information to the sender/receiver through email. Proxy also view requests from the receiver

SENDER:

Sender will login with the credentials which are sent by the proxy sender is responsible to upload files, encrypt files and to generate trapdoor view Files and Delete those files.

RECEIVER:
Receiver also login as Sender but performs different operations like view all files which are uploaded by the sender and send's request to the proxy to view the file data and view files which are accepted by the proxy. And finally logout from the site.

CLOUD SERVICE PROVIDER:
Cloud service provider login with valid credentials and view all the servers data and verifies files are attacked by the attacker and provide some security to the files and logout from the system.

ATTACKER
Attacker login with malicious content and attacks the files to destroy or to theft files. Logout from the site.

SYSTEM SPECIFICATIONS

SOFTWARE REQUIREMENS
- Operating System :Windows 7+
- Server side Script :HTML, CSS & JS
- IDE :PyCharm
- Libraries Used :Pandas, numpy, OS.

HARDWARE REQUIREMENTS
- Processor - I3/Intel Processor
- RAM - 4GB (min)
- Hard Disk - 128 GB
- Key Board - Standard Windows Keyboard
- Mouse - Two or Three Button Mouse

LEARNING OUTCOMES

- Scope of Real Time Application Scenarios.
- What is a search engine and how browser can work.
- What type of technology versions are used.
- Use of HTML, and CSS on UI Designs.
- Data Parsing Front-End to Back-End.
- Working Procedure.
- Introduction to basic technologies used for.
- How project works.
- Input and Output modules.
- Practical exposure to
  - Hardware and software tools.
  - Solution providing for real time problems.
  - Working with team/ individual.
  - Work on Creative ideas.
- Frame work use.
- About python.