

## **A CLOUD SECURE STORAGE MECHANISM BASED ON DATA DISPERSION AND ENCRYPTION**

### **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 project 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, chunked and distributed storage. In addition, CSSM adopted a hierarchical management approach and combined user password with secret sharing to prevent cryptographic materials leakage. The 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.