Abstract

Data deduplication is the technique of reduction in the data which keeps only one physical copy and generates pointers to that copy for referencing other redundant data. To secure the confidentiality of sensitive data throughout deduplication, the convergent cryptography technique is employed that encrypts the info before uploading it onto the general public cloud.

In our paper, we present the deduplication-aware resemblance detection and elimination (DARE) scheme which supports authorization in twin cloud environment. This scheme uses a duplicate-adjacency information for resemblance detection where we have to consider any two data blocks to be similar only if their respective adjacent data blocks are duplicate. Our proposed system achieves deduplication on encrypted data with minimum overhead and also enhances the security by managing convergent keys. In addition our system also increases the security level by providing OTP validation technique to avoid unauthorized access to the cloud data.
1. Wen Xia, Member, IEEE, Hong Jiang, Fellow, IEEE, Dan Feng, Member, IEEE, and Lei Tian, Senior Member, IEEE, DARE: A Deduplication-Aware Resemblance Detection and Elimination Scheme for Data Reduction with Low Overheads, IEEE TRANSACTIONS ON COMPUTERS, VOL. 65, NO. 6, JUNE 2016.


Index Terms

Computers Science

Distributed Computing

Keywords

Data deduplication, delta compression, hybrid cloud, tag generation, performance evaluation, storage system.
An Effective Data Reduction in a Twin Cloud Environment using an Authorized De-dup. Technique with DARE Scheme