Abstract

Cloud computing is an information technology (IT) domain that enables efficient access to shared and private collection of configurable system resources. It provides higher-level services that can be very quickly provisioned at a greater rate with minimum amount of effort for management, mostly over the Internet. Due to the high complexity and huge volume, outsourcing ciphertexts to a cloud is deemed to be one of the most effective approaches for big data storage and access. Verifying the access legitimacy of a user and securely updating a ciphertext in the cloud based on a new access policy designated by the data owner are two critical challenges. The access policy update is important for enhancing security and dealing with the dynamism caused by user join and leave activities. In this paper, the two different approaches developed recently to provide the secure, verifiable and flexible access control of Big data storage in cloud are discussed to solve the above challenges. The working and drawbacks of different schemes developed in the past for the access control are also discussed.
References


Index Terms

Computer Science
Control Systems

Keywords

NTRU cryptosystem, RSA cryptosystem, Attribute-Based Encryption (ABE), Proxy Re-Encryption (PRE), Access Control List, Role Based Access Control (RBAC)