

Towards a Secure Storage in Cloud Computing

Authors : Mohamed Elkholy, Ahmed Elfatraty

Abstract : Cloud computing has emerged as a flexible computing paradigm that reshaped the Information Technology map. However, cloud computing brought about a number of security challenges as a result of the physical distribution of computational resources and the limited control that users have over the physical storage. This situation raises many security challenges for data integrity and confidentiality as well as authentication and access control. This work proposes a security mechanism for data integrity that allows a data owner to be aware of any modification that takes place to his data. The data integrity mechanism is integrated with an extended Kerberos authentication that ensures authorized access control. The proposed mechanism protects data confidentiality even if data are stored on an untrusted storage. The proposed mechanism has been evaluated against different types of attacks and proved its efficiency to protect cloud data storage from different malicious attacks.

Keywords : access control, data integrity, data confidentiality, Kerberos authentication, cloud security

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