Cloud Shield: Model to Secure User Data While Using Content Delivery Network Services

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Abstract : Cloud computing is the key powerhouse in numerous organizations due to shifting of their data to the cloud environment. In recent years it has been observed that cloud-based-services are being used on large scale for content storage, distribution and processing. Various issues have been observed in cloud computing environment that need to be addressed. Security and privacy are found topmost concern area. In this paper, a novel security model is proposed to secure data by utilizing CDN services like image to icon conversion. CDN Service is a content delivery service which converts an image to icon, word to pdf & Latex to pdf etc. Presented model is used to convert an image into icon by keeping image secret. Here security of image is imparted so that image should be encrypted and decrypted by data owners only. It is also discussed in the paper that how server performs multiplication and selection on encrypted data without decryption. The data can be image file, word file, audio or video file. Moreover, the proposed model is capable enough to multiply images, encrypt them and send to a server application for conversion. Eventually, the prime objective is to encrypt an image and convert the encrypted image to image Icon by utilizing homomorphic encryption.

Keywords : cloud computing, user data security, homomorphic encryption, image multiplication, CDN service
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