

## **ABSTRACT**

Big data security of organizations presents a challenge in the IoT-cloud architecture. To overcome security issues, we propose a cloud-enabled IoT environment supported by multifactor authentication and lightweight cryptography encryption schemes to protect big data system. The proposed hybrid cloud environment is aimed at protecting organizations data in a highly secure manner. The hybrid cloud environment is a combination of public and private cloud. Sensitive devices generate sensitive data's, such as healthcare data ; Whereas, nonsensitive devices generate nonsensitive data' s such as home appliance. Herein, sensitive data are split into two parts: One part of the data is encrypted using RC6, and the part of the data is encrypted using Fiestel encryption scheme. Nonsensitive data's are encrypted using Secured Hash Algorithm(SHA). Sensitive and Nonsensitive data are respectively stored in private and public cloud to ensure high security.