

Enhanced Bring your Own Device (BYOD) environment security based on blockchain technology

ABSTRACT

BYOD is a practice by many organizations where employees can use their personal devices for work purpose. BYOD may bring a lot of advantages, but it also leads to security issues such as data leakages. Data can be leaked because of the weak authentication technique used to verify the user and the device. A secure authentication technique is what the organization needs that equip with high security features. Blockchain is the answer to this because blockchain used cryptographic technology that's not easy for hacker to break. This research proposes a user trust model that includes multifactor authentication combining with public and private key generated by blockchain and an agentless device trust model that can scan for malware and detect the device location. In order to secure the record and sensitive data, the record keeping model is built using blockchain technology where every activity related to the record is recorded in the digital ledger. This ledger can be used as evidence collection for further investigation. It is hoped the proposed BYOD trust model solution can help organizations to minimize the number of cases in data leakage while allowing BYOD concept.

Keyword: Authentication; Blockchain; BYOD; Data leakage