

A Survey on Blockchain in IoT-Enabled Smart Home Network Security

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Abstract

In 1950s people started realizing that the value of data is much more than they knew due to which the concept of providing network security came into existence. The term Network security defines that providing confidentiality, integrity, and accessibility of data to the network. Internet of things (IoT) is a technology that is growing rapidly and can be found in most of the domains which includes smart home systems (SHS). A conventional SHS is a centralized architecture where devices like sensors, LED's, voice assistants and many more are connected to a single gateway for monitoring and controlling of their activities. Due to the presence of issues like single point of failure (SPOF), rise of data loss and many other security risks in centralized architecture affects the secure data storage and transmission. Adopting blockchain-based home automation technology reduces numerous security problems which exist in the centralized architecture. So in this survey paper we walkthrough different methods of adopting blockchain in different SHS, and also we analyzed the advantages and disadvantages of blockchain-based SHS.

Keywords

IoT, Blockchain, Consensus, Consortium, Smart Contracts, Ethereum.

CONFLICT OF INTEREST

On behalf of all authors, the corresponding author states that there is no conflict of interest.