Network Protection using Blockchain Technology

Abstract :

In recent years, the rise of cyber-attacks has created a growing need for stronger network security measures. Blockchain technology has emerged as a potential solution due to its decentralized and secure nature. By implementing blockchain in network protection, organizations can enhance security and reduce the risk of data breaches. With blockchain, network data can be stored on a decentralized ledger, ensuring that it is tamper-proof and transparent. This makes it more difficult for hackers to gain access to sensitive data or disrupt network operations.

The proposed approach aims to enhance network security by utilizing blockchain technology to securely store and manage data, including IP addresses and other related network information. This approach can provide a more secure method for managing network IP addresses, by registering all IP addresses in a smart contract deployed on the Ethereum blockchain. The smart contract is designed to allow users to register their IP addresses, which can be accessed by authorized parties. To implement this approach, we developed a Solidity smart contract using Truffle Project for IP address registration and deployed it on Ganache Ethereum blockchain.

Overall, protecting networks using blockchain has the potential to address some of the key security issues associated with traditional networks. By registering network information on the blockchain, organizations and individuals can have greater control over who has access to their network and can improve the overall security of their data.