

# Block chain in IoT

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## **ABSTRACT:**

Blockchain is a cutting-edge technology that functions as a decentralised, distributed, public, and real-time ledger to hold transactions among Internet of Things (IoT) nodes. Every block in a blockchain is connected to the blocks before it. Every block contains its data, the previous block's hash, and the cryptographic hash code. The fundamental units utilised to transport data between Internet of Things nodes are transactions in the blockchain. The Internet of Things nodes are various forms of physical, intelligent devices with built-in sensors, actuators, and software that can communicate with other IoT nodes. The function of blockchain in the Internet of Things is to offer a method for processing safe data records through IoT nodes. Blockchain is a safe technology that is accessible to everyone. This type of technology is necessary for IoT to enable secure communication among IoT nodes in heterogeneous environments. Blockchain is being utilised within IoT to handle device settings, store sensor data, and enable micropayments due to its distributed and decentralised organisational structure. Anyone who is authorised to communicate within the IoT could track and investigate the transactions in the blockchain. IoT blockchain technology could enhance communication security. In this study, the concept of blockchain as a service for IoT is presented, and the effectiveness of a cloud- and edge-hosted blockchain implementation is assessed.

**Keywords:** Blockchain, decentralised, distributed, cryptographic hash code, micropayments, authorised, security, cloud- and edge-hosted blockchain.