



Blockchain IoT Module

Technology and Application

摩联科技 aitos.io



The Rationale for Trusted IoT Data based on Blockchain

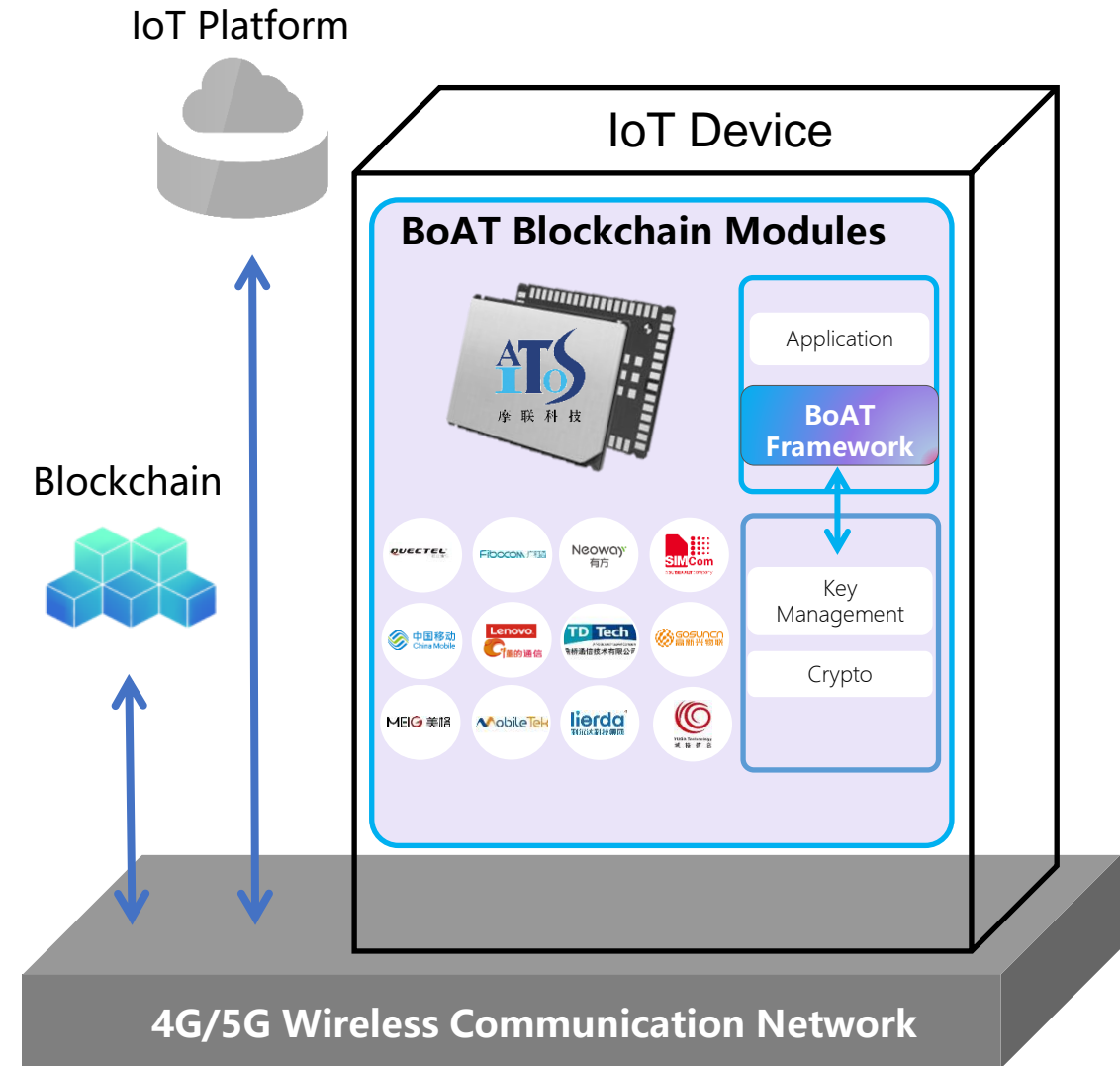
Why does the combination of Blockchain and IoT help improve IoT data value?

The value that could be extracted from the data depends on many factors and among them the data genuineness is the most essential one. Fake data have no value at all.

The blockchain ensures the tamper-resistance for the on-chain data, but it cannot tell if the data are true or not before they are uploaded to the blockchain.

What does aitos.io BoAT differ from the others?

Unlike other Blockchain + IoT combinations that upload data from a centralized IoT platform to the blockchain, the BoAT-inside blockchain wireless module allows IoT data to be uploaded to the blockchain from the IoT device, which is closest to the data origin. This eliminates the risk that the IoT platform may forge or tamper the data.



Two Ways for IoT Data to be Notarized by Blockchain

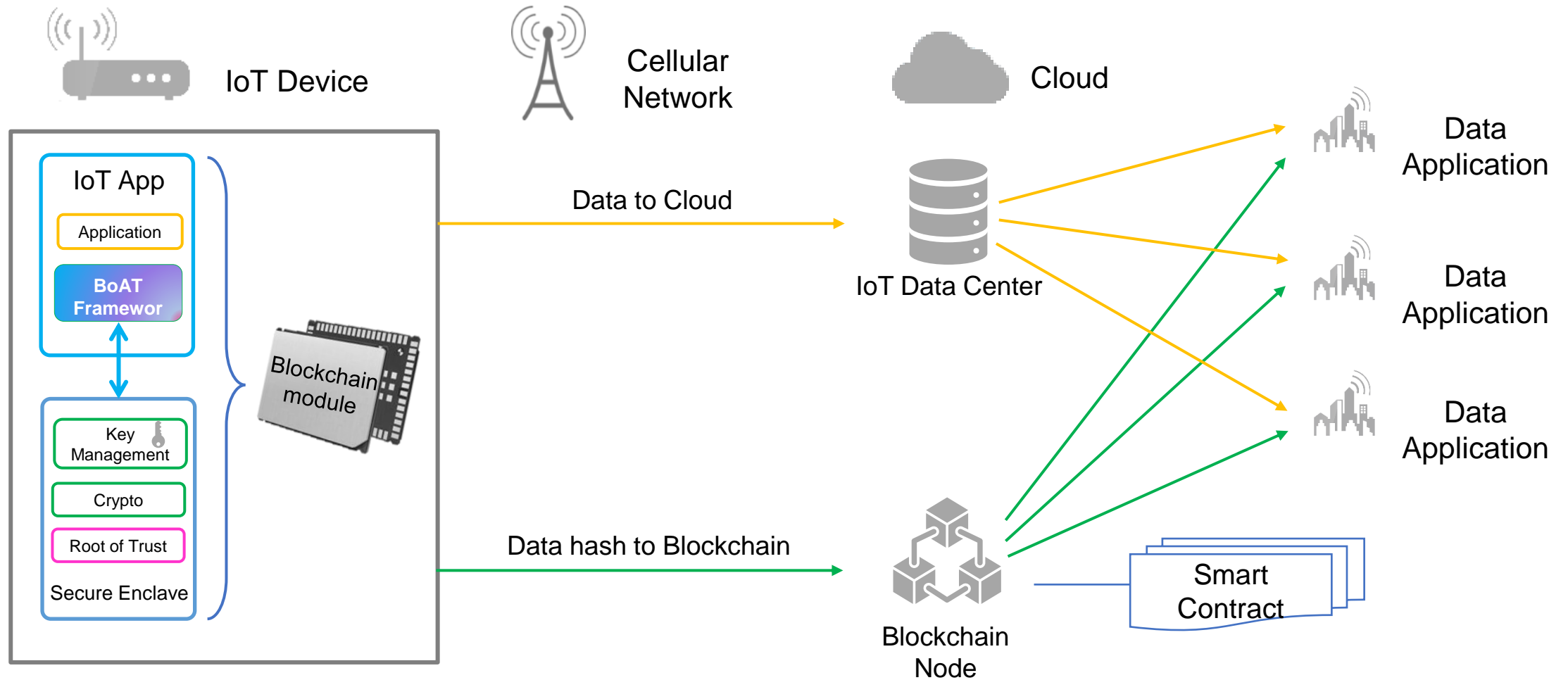
The Direct Way

- Good for IoT devices that could directly access the blockchain node.
- The IoT device sends data to the IoT data center and the hash of the data to the blockchain.
- The verifier later compares the on-chain hash and the hash of the data stored in the data center to determine the data genuineness

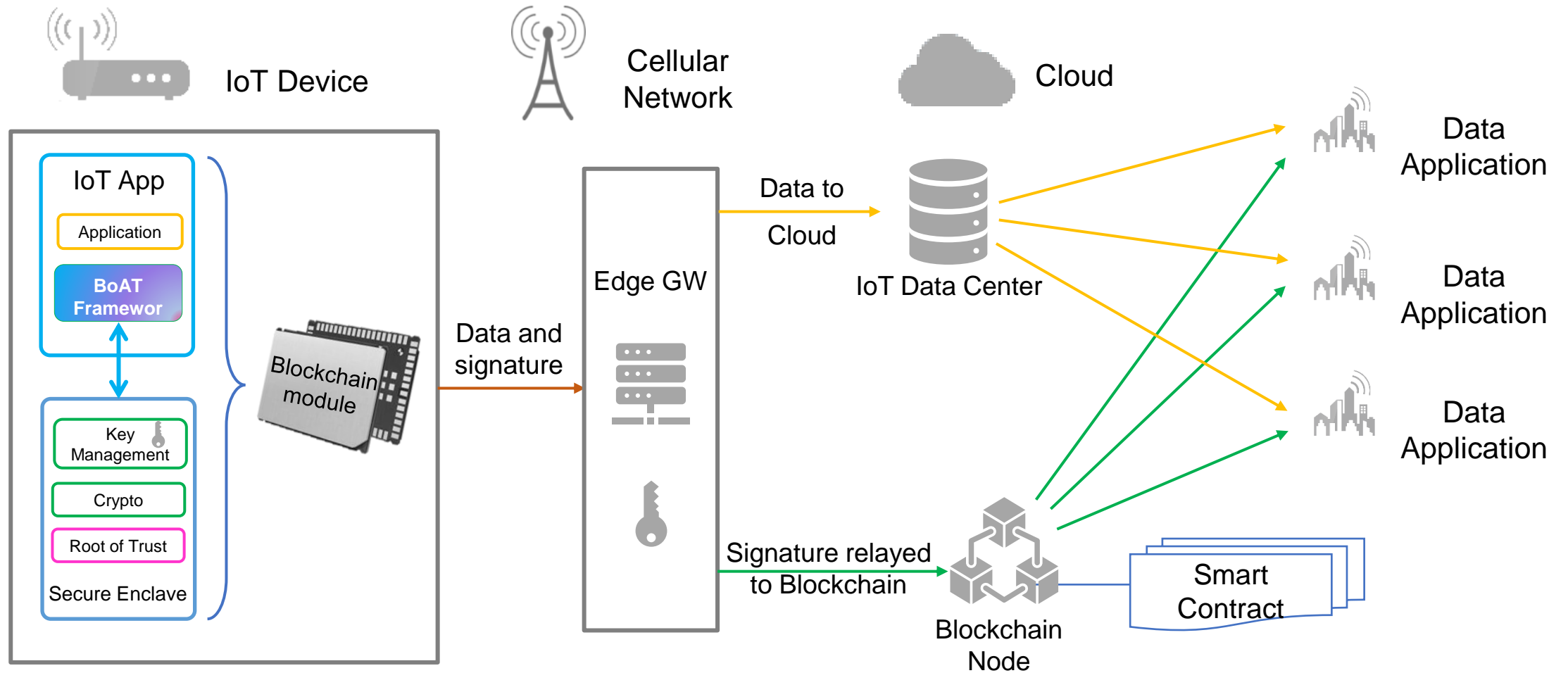
The Indirect Way

- A workaround for IoT devices that could not directly access the blockchain node
- The IoT device signs the data with device key, packs the signature and the data in a datagram and sends the datagram to an intermediate edge gateway
- The gateway splits the datagram, sends the data to the IoT data center and the signature to the blockchain
- The verifier later verifies the data stored in data center against the on-chain signature

Direct Blockchain + IoT Application



Indirect Blockchain + IoT Application





Thank You



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