



BLOCKCHAIN IN TECHNOLOGY SECTOR

A Quick Summary

TECHNOLOGY

The technological solutions that involve data keeping and maintenance suffer from security and privacy challenges. Centralised databases embedded into these solutions have been prone to malicious attacks and the precautions taken have not been a part of the solution by design.

With the advancements in Blockchain Technology, the transactions or any type of data can be recorded permanently in an open, distributed ledger and verified on demand by the authorised parties.

Specific areas of interest in Technology Sector and how Blockchain Technology will address these areas are summarised below:

- **Privacy Protection:** Our private data is at risk of being exposed to malwares and social network providers are also collecting our sensitive data. Usually, this collected data are stored on central servers of service providers, which are susceptible to malicious attacks. Blockchain technologies offer to securely keep sensitive data in a decentralised manner and take care of issues such as data ownership, data transparency and auditability as well as access control (Zheng, Xie, Dai, Chen, & Wang, 2018).



- **Transparent, multi-functional Databases:** In Blockchain solutions, authorised users can view or add data, yet cannot edit or delete any record. These solutions offer such robust databases where integrity of information is kept untouched and transparency is maintained without the risk of being tampered.
- **Internet Of Things (IOT):** Blockchain technologies can potentially improve the IoT sector. Safety and privacy are two challenging concerns for IoT industry as more and more devices are connected and expected to communicate among each other and potentially with a central authority. There are blockchain solutions that offer privacy-preserving methods for commissioning IoT devices into a cloud ecosystem and help the device prove its production provenance without the authentication of the third party and it is allowed to register anonymously (Hardjono & Smith, 2016). There are other solutions such as systems using blockchain technologies to build a distributed network of devices where appliances connected would be able to identify operational problems and retrieve software updates on their own. (ADEPT: An IOT Practitioner Perspective, 2015)
- **Storage Protocols:** There are Blockchain solutions offering storage mechanisms which tracks and allocates transactions between blocks of spare storage around data centers and the Internet. There are other offerings which builds on traditional storage mechanisms and adds a Blockchain layer to it. Users of these solutions can then bid for the space offered and track usage. (Filecoin, 2017)
- **Empowerment of Developers:** The peer-to-peer network of blockchain allows self-executing contracts, which enable payments between customers and developers. This leads to encouragement of small teams and individual developers to sell their products directly to the market without the help of a middleman.

- **Smart Contracts:** Smart Contracts, fragments of code on a Blockchain, define the negotiation and exchange rules, analogous to legal contracts, and automatically realise the transfer of digital currency or other digital assets when negotiated terms are met. The research studies and technological progress are mainly observed in two areas: smart contract development and smart contract platform development which includes code analysis, performance evaluation and even formal verification of smart contract code in some cases. These advancements have the potential to change the contract-making and compliance processes not only for software industry, but also for any industry where contract-compliance can be proved digitally.

Subsectors

Security, Storage, Smart Contracts, IOT

Stakeholders

Platform Providers, Developers, Users, Technology Firms.

Asset Type

The type of tokens in this sector vary greatly depending on the solution offered. Payment, Security and Utility tokens can all be observed.

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