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Block chain types and technology

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ABSTRACT

Nowadays blockchain technology is one of the fast growing technologies. Blockchain technology is the growing list of records called blocks which are linked using cryptography. The blockchain is a way for one internet user to transfer a unique piece of digital property to another internet user, such kind of transfer is said to be secure and safe. In blockchain technology, each node is connected to another node for data transaction.

Keywords— Cryptography, Digital property, Nodes, Cryptocurrency

1. INTRODUCTION

A blockchain is a digitized, decentralized, and public ledger of all cryptocurrency transactions. A blockchain is a distributed ledger or database of records or public ledger of the transaction of the digital event which is maintained by a network node. Blockchain which is readable by humans is widely used by cryptocurrencies. In a blockchain technology, each node is a block where each block contains a cryptographic hash of previous block timestamp and transaction data. The blocks are inserted by cryptography, ensuring that they remain the same. The data can be distributed to another node but not copied by the user. Every time a new transaction is initiated a block is created with the transaction details and broadcast to all the nodes. Once the verification process is done the transaction is established that the block is linked to a previous block to create a blockchain. Data that are stored through the blockchain cannot be modified, only it can be viewed. Blockchain technology was originally developed to use the digital BITCOIN. But blockchain technology and bitcoin are two different technologies, where blockchain is used for peer-to-peer payment, supply chain tracking but bitcoin is an encrypted currency. The blockchain is a special instance of DLT almost all of which have risen in bitcoins wake. [1]

2. TYPES OF BLOCKCHAIN

- Public blockchain
- Private blockchain
- Consortium blockchain

2.1 Public blockchain

A blockchain is said to be public when anyone can become a member of the network without the condition of admission. If

anyone wants to access the service provided by the network can download the protocol locally without having to reveal the identity of the user or meet predetermined criteria. In public blockchain, anyone can download a code and run on their local device. A public blockchain has absolutely no access restriction. In public blockchain, anyone can send the transaction to it as well as become a validator by using an internet.

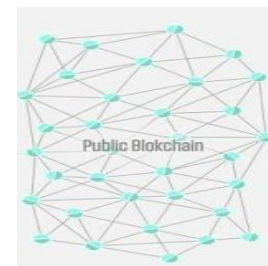


Fig. 1: Public Blockchain

2.2 Private blockchain

In private blockchain, the members of the network should be selected before the user able to download the protocol and to use the proposed service by the network. The mining capabilities and the system of consensus as a whole are centralized within the same entity. One cannot join private blockchain unless the user is invited by the network administrators. Participant and validator are restricted. Private Blockchain is considered as a centralized for the user's that they are interested in the blockchain technology but are not comfortable with a level of quality offered by public networks.

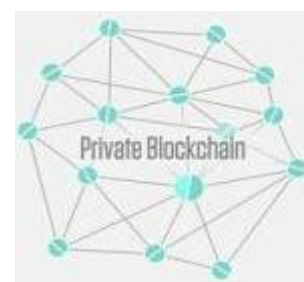


Fig. 2: Private blockchain

2.3 Consortium blockchain

A consortium blockchain is also called as semi-decentralized. It is also permission but instead of a single organization

controlling it, a number of companies might each operate a node on such a network. Consortium blockchain works under the leadership of a group of a single entity. It is considered partially decentralized. Instead of allowing any person to participate in the verification of transaction who are with an internet connection, the user can process a few selected nodes are predetermined. [2]



Fig. 3: Consortium blockchain

3. WORKING OF BLOCKCHAIN TECHNOLOGY

Blockchain technologies are created by the combination of five principles.

- **Cryptographic keys**

The main purpose of this component is to create a secure reference to a digital identity. The identity is based upon combinations like private and public cryptographic keys. The combinations of these keys are extremely used and useful in digital signature and the digital signature is used for providing the control of ownership.

- **Identity**

The ownership not based on only giving the secure digital transactions. But also when authentication is solved, it paves the way for providing transactions and permissions. It also begins with a distributed network.

- **A Distributed Network**

The blockchain has a major category as a larger network. Each larger network is divided into small networks after gathering of required data all the small networks are grouped as larger networks this subdivision of networks is also called a distributed network.

- **System of record**

The cryptographic keys are super useful one of interactions with digital emerges. Each process begins with a private key by sorting in case of Bitcoin. In which we are sending it in a sum of cryptocurrency and we attach it to a blockchain public key.

- **Protocol**

It is also a block which is used to send emerging information to all nodes. The protocol is used to eliminate the process of separate transactions at the same time using bitcoins. In such a way it is very difficult to detect. If we understand the protocol we can use it in a perfect way. [3]

4. BLOCKCHAIN SECURITY

The blockchain is one of the growing technologies which support the bitcoin known as digital currencies it almost performs on a decentralized platform which secures transactions process through encryption. This technology which cannot be used by any one user or person or company who has the ability to access or view the blockchain state at any time. It has become a newly growing protocol and infrastructure which have a great impact on business, industry and among society and governments. Using protocol we can achieve the security and vulnerability.

It has the ability of business process by eliminating the political and the economic risk factors with a trusted system of centralization. In blockchain trust and transparency are run together to check its validity.

4.1 Blockchain data security

The blockchain technology needs for the driving factors like confidentiality, integrity, and authentication of related information through finance. Through cryptography and encryption, the blockchain can pass through the process and storing of data. The cryptographic technique consists of a mathematical algorithm to encrypt and decrypt data. The blockchain is helping the individual, government, and businessmen to overcome the fraud, hacking and malicious actors.

5. BLOCKCHAIN POPULARITY

The global financial system has become wide enormous to transfer the money. How we send the mail through the world in a second but at first transferring money takes so many days or weeks to arrive destination. Financial intermediate which is required to transfer a lot of money which will take a service charge. The financial officials are always victims of the fraud which takes place in the economy, it also results in a greater increase in higher costs for all parties who were involved will definitely get a reduce costs. It also increases the cash flow and capital investments and the velocity of the transaction of money faster and efficient.

6. CONCLUSION

Blockchain will predict the reduction of inefficiencies in the financial marketplace. Each and every banking & financial market will take a lot of blockchain benefits and make the advanced implementation of fintech startups. Banking fraud and costs for the consumers will get reduced. [4]

7. REFERENCES

- [1] <https://www.Forbes.com>
- [2] <https://www.Blockchainhub.com>
- [3] <https://www.coindesk.com>
- [4] <https://www.bookinbug.com>