AN OVERVIEW OF BLOCKCHAIN

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ABSTRACT

Blockchain was invented by Satoshi Nakamoto and has received extensive attention recently. Blockchain server is an immutable ledge which can allow transactionsina decentralized manner.Blockchain basic application can covernumerous fields in economic services, internet of things(iot) etc. Hence, there are many challenges in Blockchainapplication such asscalability and security,which can be overcome. This paper takes anoverview of Blockchainarchitecture and shows some consensus algorithms which are used in different Black chain technology. Further, there are some technical challengesrecent advancements. Then wecan also presentadvanced trends in Blockchain technology.

Keywords: Blockchainapplication, recent advancements, scalability

1. INTRODUCTION

Nowadays cryptocurrency has occupied a lot of space bothin industry and academia. It reached10 billion dollars in 2016 with the success of capital marketing.The translation in bitcoin network is acore technology and nothird party can make any changes[1]. The bitcoin is builton Blockchaintechnology, which was first proposed in 2008 and made use of in 2009.It hasconsensus algorithms which are used in different Blockchain.The committed transactionsin the list of block are stored and the public ledger isregarded from Blockchain[2],whichgrows continuously and from the new block chain. The Blockchainisa well-developed technology thathassome characteristics, andthe various fields the Blockchainuses are financial services,digital properties,remittances and online payment,smart contracts and public services [3]. The Blockchainin businesseshasmore reliability, and honesty in work can easily attract customers spreading fast. Every ten minutes Bitcoin block size is limited to 1MB. Blockchainhas some of the following features:

- Blockchain Architecture
- Consensus algorithms
- Possible future directions

2. ARCHITECTURE OF BLOCKCHAIN

Blockchain is nothing but a continuous blocks which have the complete record of the list and also they have some public ledger of records in their blocks. Then we explain about the inner works of the Blockchainin details

2.1. JioBlock

Jioblock consists of the body and header in each block. Each block consists of block version which is composed of transaction counter in every transaction. Jio blockchain technology is one of the largest blockchain networks in the world.

2.2. Digital Signature

Every consumer has his own pairs of private keys and public keys. The digitally-signed transactions are broadcasted throughout the whole network.They are typically used in the Blockchain digital algorithm.

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3. Blockchainkey Characteristics

There are some key characteristics as follows:

- **Decentralized**

Through central trusted agency, the transaction must be validated by the conventional transaction system.

- **Persistency**

The validated transaction must be done quickly. An honest miner would not admit invalid transaction.

- **Anonymity**

The generated address can easily help the user to interact with the blockchain. The user's real identity cannot be revealed.

- **Auditability**

The data must be stored in the bitcoin Blockchain. Through this the user can strike a balance based upon the unspent output transactions.

3. CONSENSUS ALGORITHMS

The distributed Blockchain is a decentralized network which has no vital ability to validate and verify the communication. But, the presence of consensus protocol makes the transaction which is a secured one. Some of the objectives of consensus algorithm are contract, partnership, cooperation and mandatory participation of each node in the consensus process.

4. APPROACHES TO CONSENSUS

- **Work Proof**

In this, nodes of the network are calculated as hash values for a blockheaders nodes. We calculate thehash values called work proof.

- **Stake proof**

This an alternative method of work proof for energy saving.The miner is prover in the stake proof.Wehave amount of currency for the ownership.

- **Ripples**

The subnetworks are the parts of larger networks and they have trusted collectively to utilizes the consensus algorithm.

- **Tender mint**

Tender mint is the fundamental of byzantine algorithm. Tender mint is a low-level protocol and assigning validators to each block.

4. FUTURE DIRECTION OF BLOCK CHAIN

Blockchain has shown its potential in the industry and academia. We have four possible future direction as: Blockchain testing,stop tendencies to centralization,big data analytics etc.

Testing in Block chain

There are many kinds of block chains which havecryptocurrencies over 700. Blockchain testing could be divided into two phase:standardization and testing.

Phase Standardization

All the criteria and agreed was created when the Blockchain was borned. The Blockchain works are consider as developer claim and they will tested the agreed criteria.

Phase Testing

The following are different criteria which it performed

- **Centralization of stop tendency**

The decentralized system is designed for Blockchainand the data mined earlier in the Neural system in mining pool are centralized.

- **Big Data Analytics**

Blockchaincan be well-combined with Big Data. This conglomerate of Blockchainand Big Data is categorized intodata types: management and Analytics. The big data Blockchain management have be used to store important data's as like security and distributor's .

5. CONCLUSION

It shows the potential of transforming traditional industry from the blockchain and they have some characteristics: Decentralized, Persistency, Anonymity and

Auditability. In this paper we have presenteda Blockchain overview on Technologies implemented. This paper shows the architecture of Blockchain, characteristics,Blockchain consensus algorithms.The different perspectives in protocols are compared and analyzed. Furthermore, we have some problems and challenge listed, and some existing approaches are summarized and developed in this hinder Blockchainthat would solve the problems. In paper we say the overview of Blockchain.

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