AN OVERVIEW OF BLOCKCHAIN TECHNOLOGY AND COMPARISON BETWEEN VARIOUS CRYPTOCURRENCIES

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Abstract: A Blockchain is termed as a public ledger which contains all the details of all the digital transactions. These transactions have been done by between the two parties participating in digital events. Every possible transaction in the ledger is recorded and verified. It has a permanent record of every data entered. Every transaction has a vital part of information recorded in blockchain. The most accepted blockchain technology Bitcoin is also known as digital currency and has a broad range of applications financially as well as non-financially. The main supposition about the blockchain is that it sets up a firm of creating a distributed agreement in this digital world. This technology opens a wide range for developing a better democratic and digital world. This paper highlights the concept of blockchain technology and in addition to also compare the different crypto currencies.

Index Terms - Blockchain, centralized, bitcoin, crypto currency

I.   Introduction

Blockchain is a technology which is used in every field related to monetary like banks, enterprises and public bodies. Not only limited field but also indulge in projects by government [1, 2]. The blockchain can also term as a digital coins field after all the evolution of bit coins world's first and the largest crypto currency. It is used for the change nearly in every faces of our digital lives from the way we send money in the daily basis. Blockchain is a software product that has a secured storage, and a convenient way of transaction. It has a great feature of traceability. It is a product which is completely track able and against forgery.
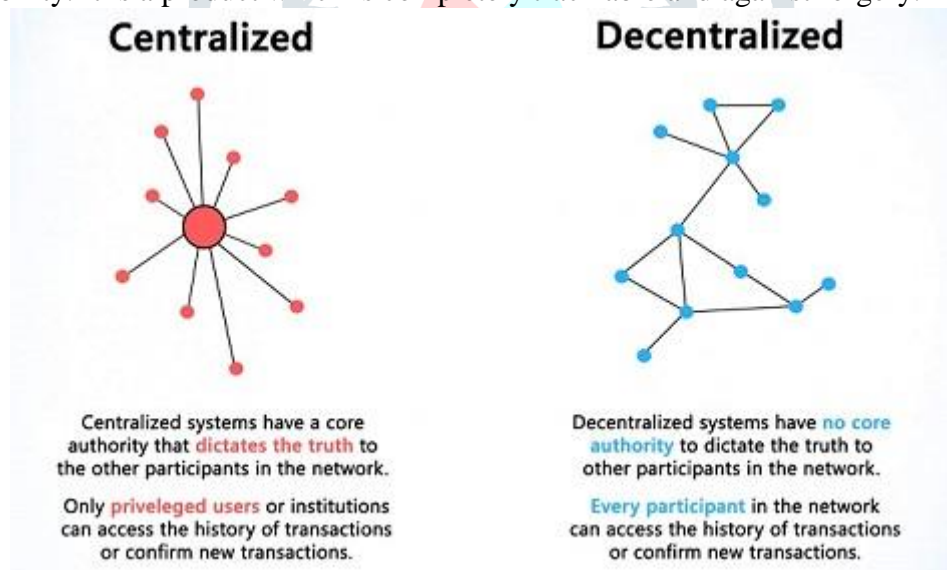

Figure 1: Centralized and Decentralized Technology

Its name blockchain is suggested as the growing lists of records are called blocks. It consists of the concept of cryptography. The term cryptography is explained as study of techniques for secured communication. Cryptography is about constructing & analyzing the protocols that prevents from the other person to access the information. The data are secured; integrated and only authorized person can access and do transaction on data. Block chain can also be termed as record-keeping technology behind bitcoin [4, 5].

Now the term bitcoin can said as electronic cash. Bitcoin can use exchanged for currencies, services or even goods. The original author of bitcoin remains unknown and invented by a group of people using "Satoshi Nakamoto". In 2009, it was released as open source software. There is a public ledger called bitcoin blockchain that records bitcoin transactions. In this there are chains of blocks where each blocks containing a hash of the previous block [3].

There is a also a word associated with this technology – Crypto currency. Any form of currency which exists digitally may be termed as crypto currency. The transactions which happen between the end users are called

cryptographic process. Crypto currencies use blockchain in order to meet transactions. Blockchain is sighted as the best way to maintain the records over any network. Crypto currency is made with two words "crypto" and "currency"-

- Crypto means secret or hidden. In this technology crypto is used as all the transactions records and the front end or background details are to be hidden & any authorised person can access or know the facts.
- In this Currency considered as a part of virtual currency, it is a type of digital currency that is only available in electronic form and not in physical form.

Blockchain architecture (Figure 2) can be termed as centralized where nodes all over the world are connected to a central server which is the agent for all the communication nodes. Also can be characterized as decentralized architecture where nodes communicate directly i.e. One-to-one communication without any use of central server as a common medium.
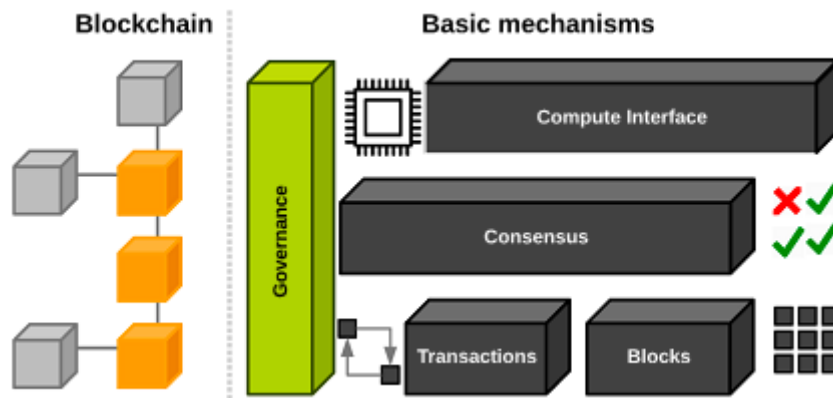

Figure 2: An Overview of Blockchain Architecture [9]

There are probably over 10,000 blockchains existing today. And they are either public blockchain or private. Public Blockchain are those where open source software is used by any participating node across the world. Every node is permissible to join the network globally e.g. ERC20 is the most acclaimed example built on Ethereum. Private Blockchain are those which have similar functionality as the public blockchains but has one difference i.e. software is proprietary and hosted on private server instead e.g. Organisations like Wal-Mart are developing their own blockchain as private blockchain [6].

Apart from the properties like- secure, provable, trusted, visa monetizes trust as the intermediary between merchants and customers, amazon monetizes trust as the intermediary between seller and customer and uber monetizes trust as the intermediary between drivers and customers [8].

There is a new term recalled from an article on bitcoin technology called 'miner'. This miner is termed as companies or individuals running special software to work on the bitcoin blockchain platform. New blocks of transaction are written in every few minutes into Bitcoin bockchain and are termed as "Mining" and a linkage is provided to the existing chain of blocks [7].

II.   COMPARISON OF VARIOUS CRYPOCURRENCIES

Table 1 reviews the existing crypto currency systems with its hash function and programming languages, which are presented in global world [1].

Table 1: Comparison between various crpto currencies

Currency	Release Date	Founder	Hash Algorithm	Language Used
Bitcoin	2009	Satoshi Nakamoto	SHA-256d	C++
Litecoin	2011	Charlie Lee	Scrypt	C++
Namecoin	2011	Vincent Durham	SHA-256 d	C++
Peercoin	2012	Sunny King	SHA-256 d	C++
Dogecoin	2013	Jackson Palmer & Billy Markus	Scrypt	C++
Gridcoin	2013	Rob Halford	Scrypt	C++
Primecoin	2013	Sunny King	Cunningham chain	TypeScript,C++
Ripple	2013	Chris Larsen & Jed McCaleb	EC digitalsignature	C++
Auroracoin	2014	Baldur Odinsson	Scrypt	C++
Dash	2014	Evan Duffield & Kyle Hagan	X11	C++
Ethereum	2015	Vitalik Buterin	Ethash	C++
EOS IO	2017	Dan Larimer	-	Web Assembly, C, C++

III.   CONCLUSION

It is considered that the blockchain technology is the backbone of bitcoin. It is actually a digital ledger for the functionality of all financial as well as non-financial sectors. It is highly secured which makes it the most appealing property of blockchain technology. The great financial institution like **Visa (**an American multinational financial services corporation facilitating electronic funds), **Mastercard (**Financial services company), **Bank (**Financial Institution), **NASDAQ (**Second largest stock exchange) are subsidizing in this applications widely. Instead, some of these institutions are trying to explore more business into this new model of Blockchain. In this review we discuss the fundamental of blockchain and its related application with its advantages. The technology is not yet in a good level but in future with some good work on this field it will deal with large sectors of the world and also the crypto currency produces a better base for blockchain technology in future.

IV.   DISCUSSION

This review is about the theory development and discuss of this blockchain technology. We will now culminate and come to a conclusion that how various elements of any business model are to be affected by this technology. These elements could be the preposition, capture, delivery etc. According to the integrated business model, this a network model where this technology changes or may be eliminates certain partners for this given role. For instance, the banks may reach to culminate because of the technology level may be raised. A member of corporation is busy working on the various projects relevant to blockchain for growth. In this there is a risk of being affected to the auditing firms that may be affected to the revenue model.

V.　　REFERENCES

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