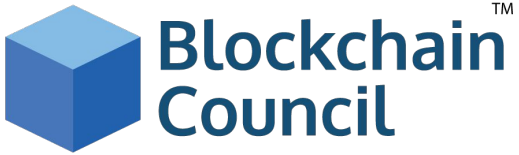

Certified Blockchain Architect

Is Blockchain A Silver Bullet?

What is silver bullet?

We define '**silver bullet**' to refer to an action which cuts through complexity and provides an immediate solution to a problem.

Blockchain has been referred as a silver bullet for the all the problems but that's not the case.

Blockchain can help solve some specific business problems, but it is not the universal answer to all business needs.

Let's take a look at look at use cases where Blockchain may not be the right answer.

Strict Data Confidentiality Requirements

- One of the main features of Blockchain is Security and Confidentiality which can be achieved using digital signatures, cryptography, data distribution to nodes etc, but can security in blockchain be enhanced?
- In past, microsoft injected more confidentiality in Blockchain using the Coco Framework which provides
    - Enhanced Transaction Speed which is more than 1600 transactions per second.
    - A distributed governance model which allows network distribution and allows members to vote on all terms and conditions.
- According to the architecture of Blockchain, an encrypted data is stored on nodes which can be anywhere in the world and all the nodes will get a seperate copy for all the data in Blockchain.

External Services to Process Transactions

- In Blockchain, a transactions are handled and processed by the miners. But in case of Blockchains such as Ethereum where there are smart contracts the transactions will be processed and handled by the smart contracts.
- In Blockchain Architecture there exists a mechanism which pushes the information to blockchain using the external entities called ‘oracles’.
- Oracles are the external services which stores an agreement between two or more parties.
- There is also one more services known as the notary services which is used to validate the transactions according to the agreement.
- But in case of Blockchain with Smart Contracts feature it does not depend on any external entity and the transaction operation result the same result that are performed on that particular nodes.

Large Amount of Data on the Ledger

- Blockchain is a decentralized database technology, and this technology maintains a ledger that can be accessed by every node which is present on the network.
- Since the blockchain shares the ledger with the peers, a mirror copy is maintained by every peer and the change is automatically propagated to the peers ledger.
- A Consensus algorithms such as Proof-of-Work, Proof-of-Stake etc are used to verify or validate the transactions.
- But Updating and replicating the ledger in Blockchain has a cost. So, if the data is large then there would be high transaction rate and in that case this technology will not be a most efficient solution.

Business Process Change Frequently

- In Blockchain business process are pre defined and stored on the network, this is really useful because the business rules are always applied in the same way.
- The rules between the two parties can be stored in the smart contract or in case there is no smart contract it uses the external services such as ‘oracle’.
- The rules will automatically be executed once the terms and conditions mentioned in the contract are completed or validated.
- But in case where rules are often recreated or redeployed frequently then blockchain will not be an efficient solution in that case.

Digital Payment at Scale

- Blockchain Technology became popular after the introduction of the bitcoin, but the real question is can bitcoin blockchain support digital payment needs on a large scale?
- Bitcoin blockchain is a mineable blockchain which provides you btc in return if you start to mine about using GPU or ASIC miners, and the energy consumption required for mining may not be sustainable.
- Currently, it is estimated that bitcoin mining is now consuming more electricity than 159 countries.
- If we go by the numbers than it is consuming (~45 TWh per year).
- The above estimation is enough to run 1 US household for 1 complete week.
- However, bitcoin blockchain is still very far away from the business transactions, because it btc is usually used by people for investment, funding and conjecture.
- So, if bitcoin blockchain is used for everyday payments or transactions would it be feasible?

THANK YOU!

Any questions?

You can mail us at

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