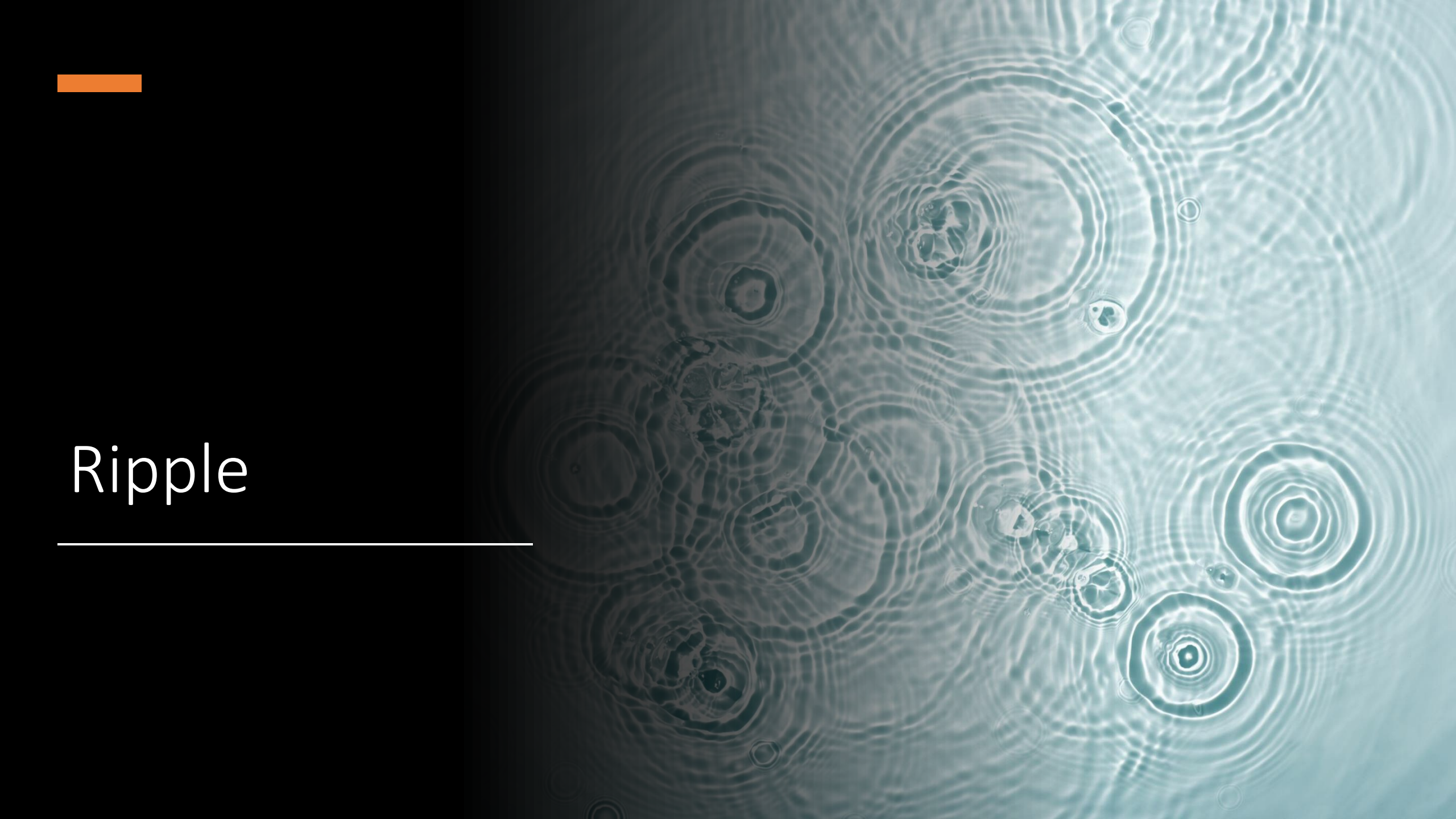
Blockchain and Cryptocurrency

By: Syeda Tayyaba Bukhari

Popular Crypto currencies and Crypto Platforms

Ripple



Ripple

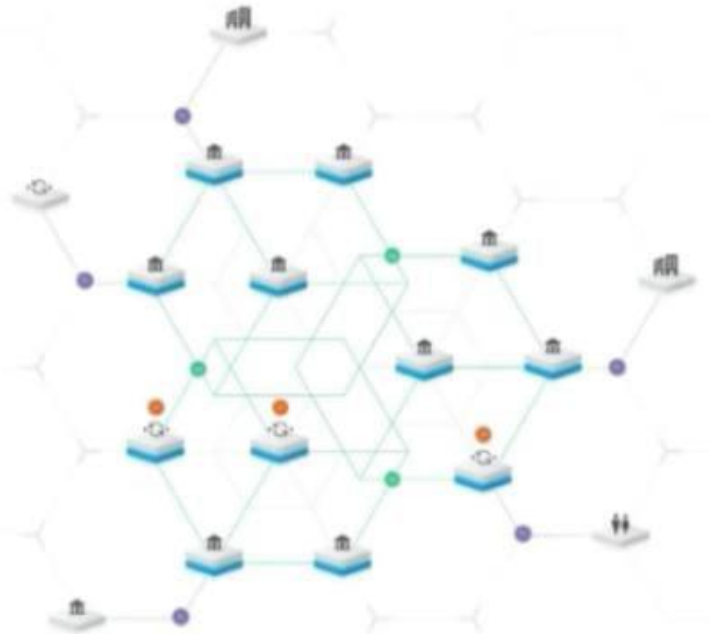
Also know as XRP

Prominent and popular forms of crypto currencies today

Due to its impact in banking sector, can also be seen as one of the main destructive technologies currently shaping industry

Ripple

- The company building the Ripple protocol, OpenCoin, was co-founded by CEO Chris Larsen and CTO Jed McCaleb.
- Originally released in 2012
- Written in C++
- Network can operate without the Ripple company
- Uses XRP currency code



NEO

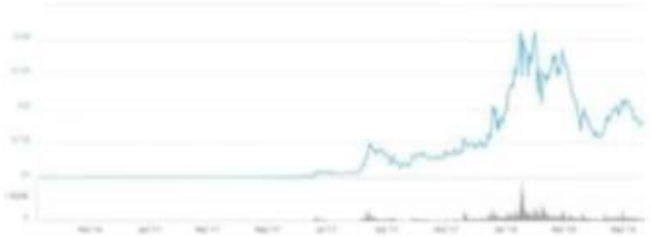
NEO

企业级区块链解决方案

onchain
Blockchain Solutions

Released in 2014

Designed to build a scalable network of decentralized applications



Market cap: $4.1B USD

„Chinese Ethereum“

- Rebranded from AntShares to NEO in June 2017
- Given green light by Chinese government in August 2017
- Distributed tokens to be used to vote on governance issues in March 2018

Litecoin

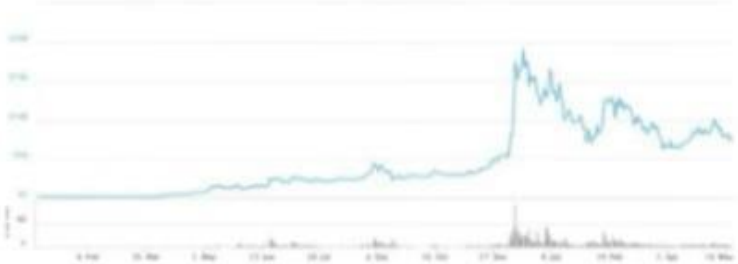
Litecoin

Released in 2011

P2P cryptocurrency, technically nearly identical to Bitcoin, except:

- faster transaction confirmation, larger number of coins
- easier to mine with a GPU

Meant to be the silver (or copper) to Bitcoin's gold.



Market cap: $7.5B USD

- Second most popular digital currency after its launch in 2011
- Chinese Litecoin Ponzi scheme in 2015 undermined acceptance
- Compatible with Blocknet protocol since May 2018

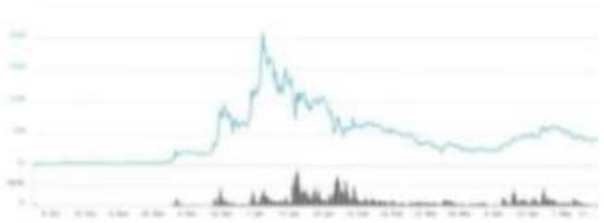
Cardano

Cardano

INPUT | OUTPUT

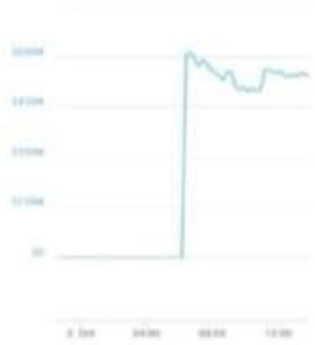
Released in 2017

Fully open source smart contract platform.



Market cap: $6.9B USD

Proof-of-stake mining



- Launched in September 2017, instant $600M market cap
- Wallet Daedalus released in April 2018

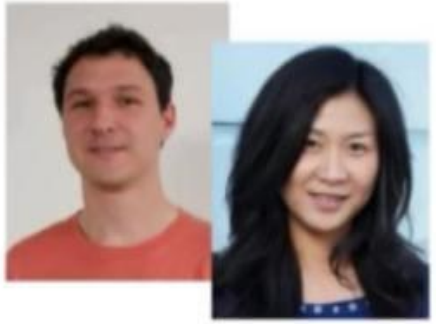
Multi-layer architecture

Stellar

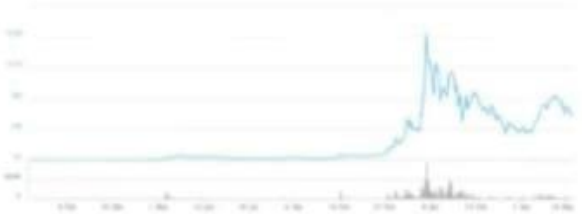
Stellar

STELLAR

Released in 2014 by
NPO Stellar.org



Open-source (hosted on GitHub) protocol for value exchange.



Market cap: $5.8B USD

It allows multi-currency transactions

- NPOs in developing countries have been implementing it since February 2015
- Announced cooperation with IBM in May 2018, which could challenge Ripple

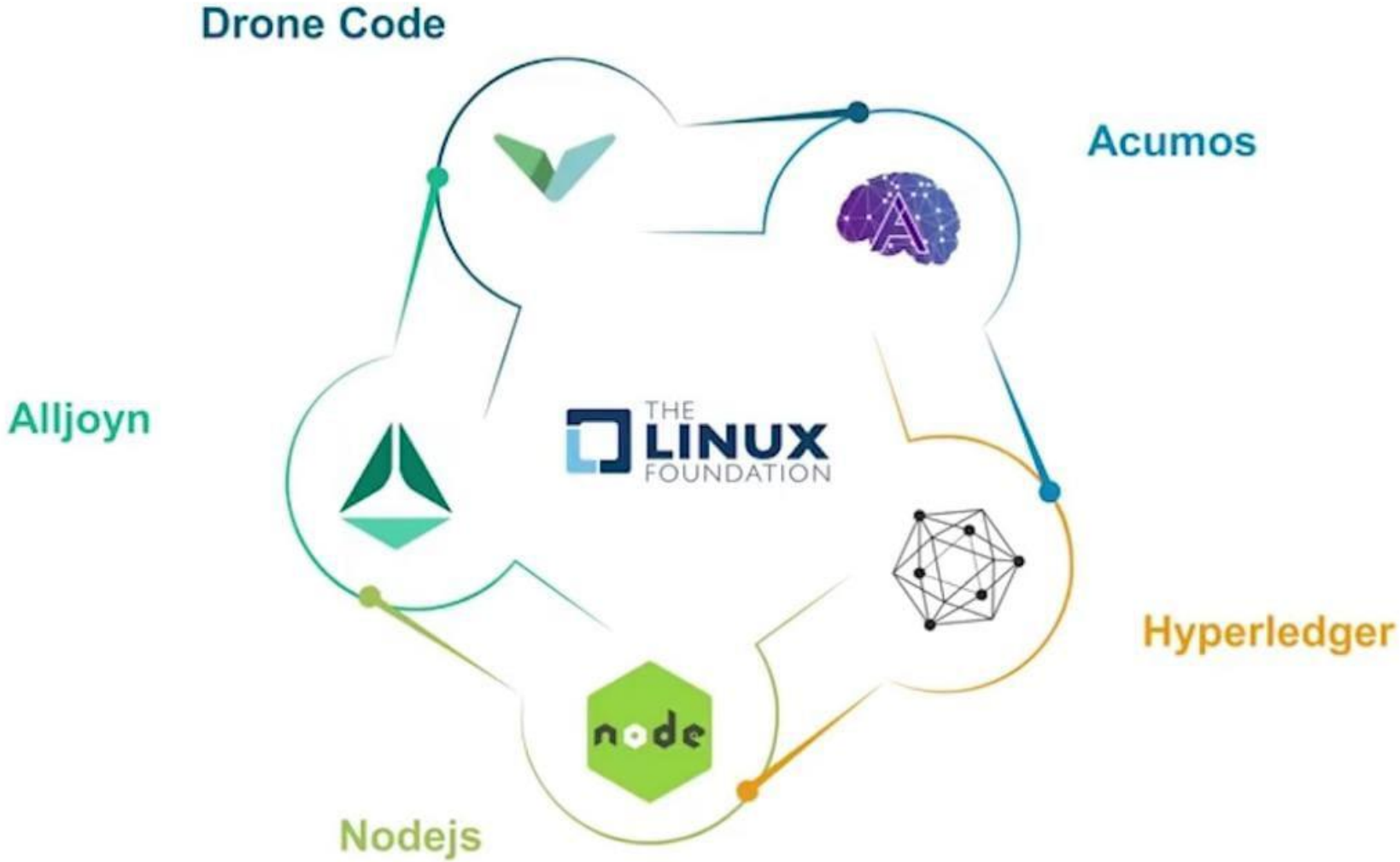
IBM

Hyperledger

Hyperledger

Project under the Linux foundation

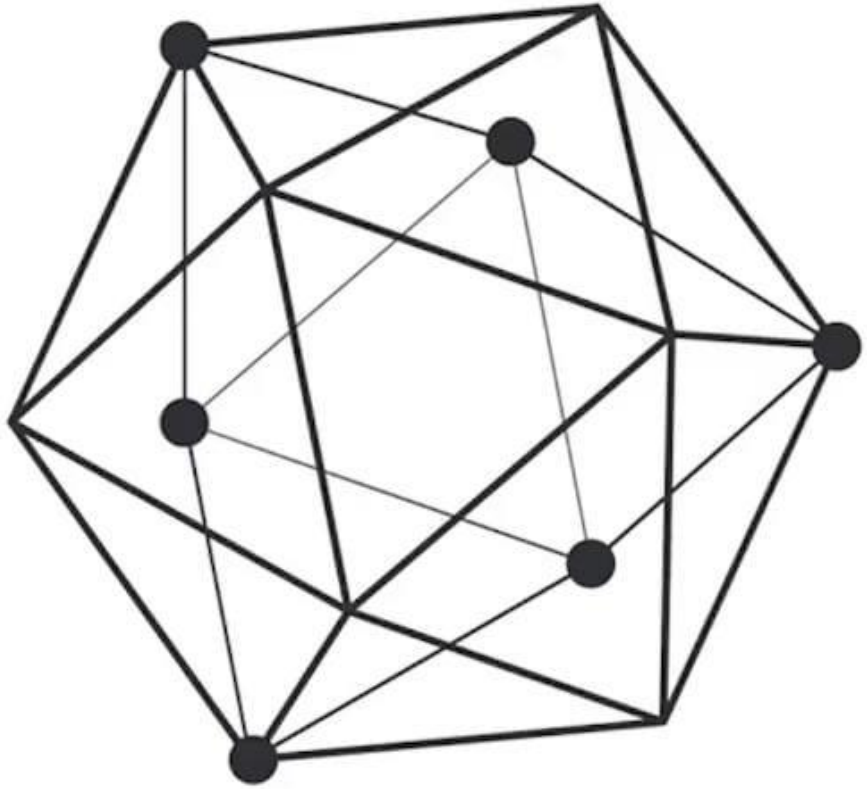
Open-source development project


Drone Code
Acumos
Alljoyn
THE LINUX FOUNDATION
Hyperledger
node
Nodejs

"Hyperledger is an open sourced community of communities to benefit an ecosystem of Hyperledger based solution providers and users focused on blockchain related use cases that will work across a variety of industrial sectors." –

Brian Behlendorf

(Executive Director, Hyperledger)



Why we need Hyperledger?

In simpler terms, Hyperledger can be thought of as a software which everyone can use to create one's own personalised blockchain service.

Parameters	Bitcoin	Ethereum	Hyperledger
Cryptocurrency	Bitcoin	Ether	None, but can be implemented when required
Network	Public	Public	Permissioned
Consensus	Proof of Work (SHA256)	Proof of Work (Ethash)	PBFT (practical byzantine fault tolerance)
Smart Contract	None	Yes (Solidity)	Yes (chaincode)
Language	C++	Golang, Python	Golang, Java

Is Blockchain Really Secure?

cryptography, immutability, and decentralization

cryptographic security and immutability

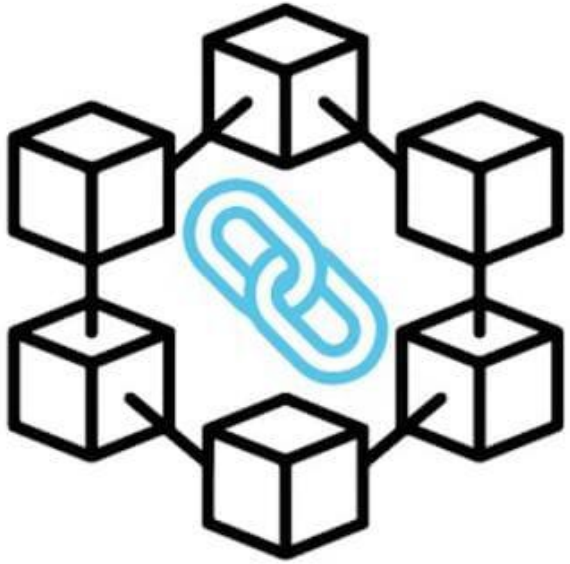
tamper-proof account of transactions

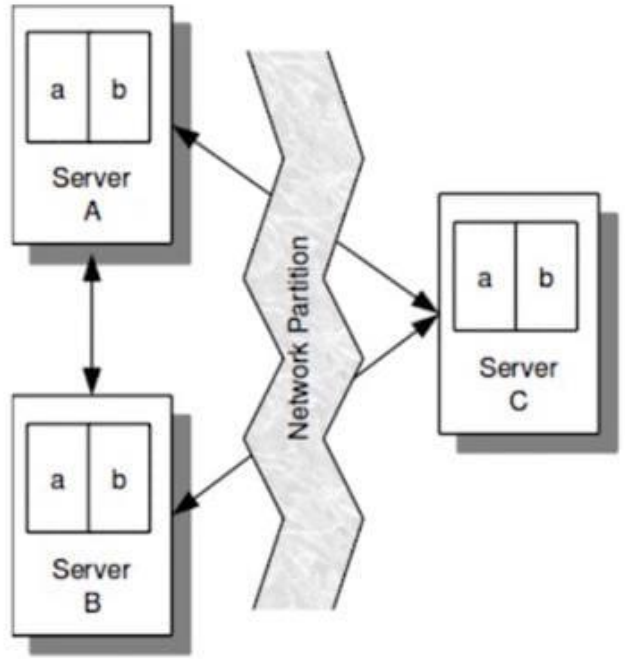
Security Threats/Attacks

1. 51% Attack

2. Routing Attacks

2. Routing Attacks





all blocks mined within the smaller component will be discarded together with all included transactions and the miners revenue

3. Blockchain Endpoint Vulnerabilities

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anywhere an individual is accessing any form of data

4. Vendor Risks

weak security controls on their own systems,
flawed code & even personnel vulnerabilities

smart contracts

5. Phishing Attack

posing as an authentic, authoritative source

100,000 phishing reported just in year 2020

Acknowledgement and Source:

- https://www.udemy.com/course/build-your-blockchain-az/