

Blockchain, Ethereum, ClojureScript, Fleet

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12-07-2017

Blockchain

What?

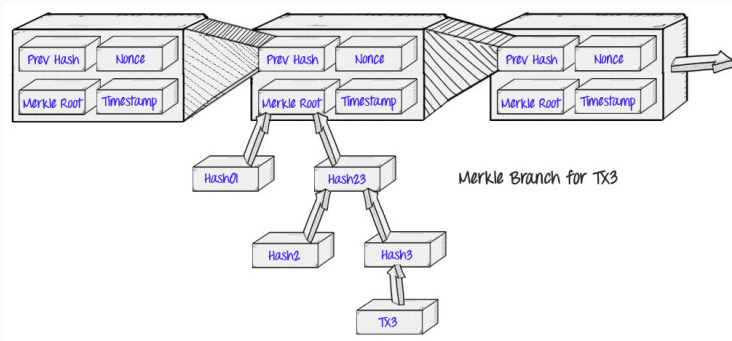
*"A **shared**, programmable, cryptographically secure and therefore trusted ledger **which no single user controls** and **which can be inspected by everyone**."*

– Klaus Schwab (Chairman World Economic Forum)

Four pillars

- Cryptographic Tokens and Addresses
- P2P Networking
- Consensus Formation Algorithm
- Virtual Machine

This.



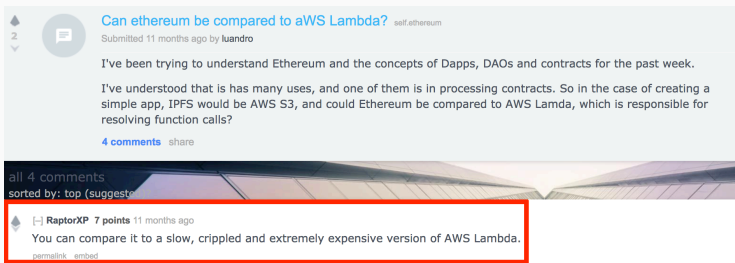
(Source: <https://blog.ethereum.org/2015/11/15/merkle-in-ethereum/>)

- **Proof of Work (PoW)**: the current difficulty in the Bitcoin network requires miners to try quadrillions of times before finding a nonce that fits. (because **hashing** can provide vastly different outputs on minor changes)
- **Proof of stake (PoS)**: mining is done by stakeholders in the ecosystem who have the strongest incentives to be good stewards of the system. (E.g., by setting coins aside for a longer period as stake.)



Smart Contracts

- Stateless webservices
- Contract-oriented programming
- Gas fees

Stateless web services



The screenshot shows a Reddit post titled "Can ethereum be compared to aWS Lambda?" by user [self.ethereum](#). The post was submitted 11 months ago by [luandro](#). The main text of the post discusses the author's attempt to understand Ethereum, Dapps, DAOs, and contracts, and compares IPFS to AWS S3. Below the post, there are 4 comments. The first comment, by user [RaptorXP](#) with 7 points, is highlighted with a red border and states that Ethereum can be compared to a slow, crippled, and extremely expensive version of AWS Lambda. The comment also includes links for "permalink" and "embed".



  [Can ethereum be compared to aWS Lambda?](#) [self.ethereum](#)
Submitted 11 months ago by [luandro](#)

I've been trying to understand Ethereum and the concepts of Dapps, DAOs and contracts for the past week.

I've understood that is has many uses, and one of them is in processing contracts. So in the case of creating a simple app, IPFS would be AWS S3, and could Ethereum be compared to AWS Lamda, which is responsible for resolving function calls?

[4 comments](#) [share](#)

all 4 comments
sorted by: top (suggest)

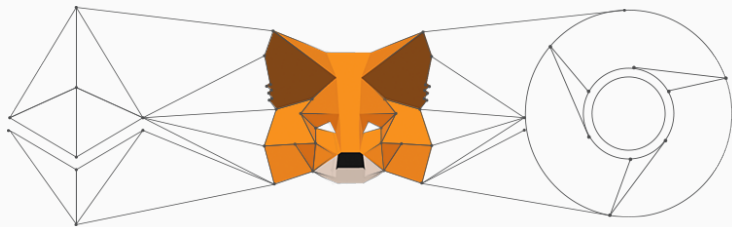
  [RaptorXP](#) 7 points 11 months ago
You can compare it to a slow, crippled and extremely expensive version of AWS Lambda.
[permalink](#) [embed](#)

Contract-oriented programming

```
contract HelloSayerFactory {  
  
    function create() returns (address) {  
        return address(new HelloSayer());  
    }  
  
    function delete(address addr){  
        HelloSayer(addr).remove();  
    }  
  
}
```

- geth: (Go Ethereum) **cli** for running full Ethereum node, exposes RPC
- web3.js: Ethereum compatible **JavaScript API** which implements the Generic **JSON RPC spec**
- solc: JavaScript bindings for Solidity compiler (creates **ABI** and **BIN**)

MetaMask (also: Mist; Parity)



Fleet

Why ClojureScript + blockchain

- Blockchain
- ClojureScript!
 - Reagent
 - Figwheel

Code inspiration and big help

- <https://medium.com/@matus.lestan>
- <https://github.com/district0x/ethlance>
- <https://ethlance.com/#/job/128>



erwin 8:40 AM

Hey I have a question related to Ethereum development

When I watch tutorials everybody is using Truffle

But in ClojureScript we don't need that?



madvas 8:41 AM

yeah, I don't use that. I've build my own tooling and with REPL you have much more power than with Truffle

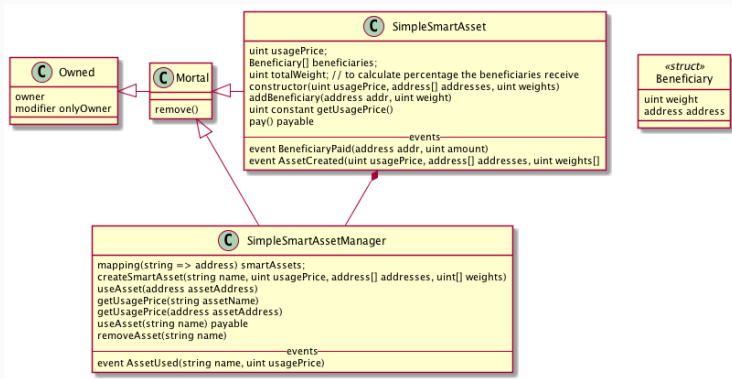
8:45 ☆ I started to build library which will be basis for all our dapps <https://github.com/district0x/d0xINFRA-frontend>
It's pretty opinionated, and not documented yet, but there's tons of code that can be reused in any dapp. I don't yet, but you can use it as inspiration. Especially events.cljs file.

- Elisa Achterberg (Circle Economy and Sustainable Finance Lab) *et al.*

The idea

- Linear economy *designs for failure* and sells “almost-broken” products, creating waste
- When they are used, smart assets (a fleet of assets) pay parties involved in value chain (involved with design, commodities, creation, maintenance, et cetera)
 - Shift *from ownership to use* leads to Circular Economy
 - A circular value network in which materials and products are shared as well as risks and returns

Design



Fleet demo
