The Value of Open Financial Networks

(OMG!)

What Was Crypto Invented For?

New kind of money

Bugs in Existing Money

Limited currency choices

Some currencies not available (or censored)

Users cannot easily move funds

More Bugs

Risk of having transactions reversed

Cost of risk of having transaction reversed

Money availability dependent on reputation.
(see negative effects of banks (being forced to) force derisking on vulnerable economies.)

Even More Bugs

Transactions too expensive (rent)

Money issuers (such as govt) can change monetary policy (or supply) arbitrarily

Isn't Bitcoin Solving This?

"A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network."

Isn't Bitcoin Solving This? -

Easy to trade, not easy to use as money

Value up and down too much (or up and up)

"Other people" don't use it

The Status Quo

Money issued by governments (trusted third party) has value too.

Economically they're the lender of last resort.

Govts take care of people in times of group crisis.

We shouldn't let criticism of govt abuse of power make us blind to the fact that in a responsible society they serve an important role.

Why Ethereum?

We can use Ethereum to continue Bitcoin's goal to make a peer-to-peer electronic cash system that is:

- Non-reversible
- Cheap to use
- Reputation-free

Why Ethereum? +

We can use Ethereum to continue Bitcoin's goal to make a peer-to-peer electronic cash system that is:

- Non-reversible   +Accessible
- Cheap to use   +Accepted by your friends
- Reputation-free   and neighbours

+ As stable as govt money (maybe more stable*)

How Do We Do This?

By putting together existing currencies into a **competitive** and **fair** environment

And making that environment **freely available** to all people

OMG Network

Ocular Myasthenia Gravis?

Original decentralized exchange (Poon & OMG. 2017) designed for Plasma (Poon & Buterin. 2017.)

Operational Manoeuvre Group?

+ 100% public/permissionless

+ fully on-chain (yes)

+ cross-chain-compatible

+ currency-agnostic

+ massively-scalable

Outlaw Motorcycle Gang?

+ enables free trade among fiat currencies and network-backed (decentralized) currencies

+ can serve as a single point of execution for the whole world's trading needs.

100% Public/Permissionless

Should reflect the will of the people well

Can't be easily gated by a company or state
(or other special interest)

Fully On-chain

High level of certainty things are executing correctly and being remembered correctly

Trade engine built directly into consensus layer of OMG Plasma chain

"Not on root chain" != "Not on-chain"
Plasma != Lightning

Cross-chain Compatible

Inclusive and connective

Can leverage other chains' resources & stores of value

Currency-agnostic

No artificial intermediary currency necessary for trade pair settlement

No currency favouritism

The system is constructed so that people will use the currencies that are best for them

Massively-scalable

New way of doing scaling

Can go to millions or billions of tx per sec
(Too much?)

Useful for more than just crypto

Fiat + Crypto: Bring Them All Together

Enabling free trade among fiat currencies and network-backed currencies means users have the power to choose what money to hold.

(Which currencies are in my best interest to use?)

And in the Darkness Bind Them

Can serve as a single point of execution for the whole world's trading and money transfer needs*

(We have a responsibility to make sure the OMG network is a truly public network, and runs on a root chain that is truly decentralized and secure.)

Adoption

What will drive adoption of this new kind of value transfer system?

The Digital Money Pain Point

Online money with well-developed infrastructure is debt-based (e.g. credit cards) and most people are too poor to be classically credit-worthy

Asset-based online money (digital wallets) have poorly-developed infrastructure

Plug into Existing Fintech

Incentivize all existing digital wallet implementations to connect to the same ledger (Like Ripple but decentralized)

E-commerce payment gateways want to accept digital money already

Existing wallet and payment systems are highly siloed, and dependent on traditional financial infrastructure.
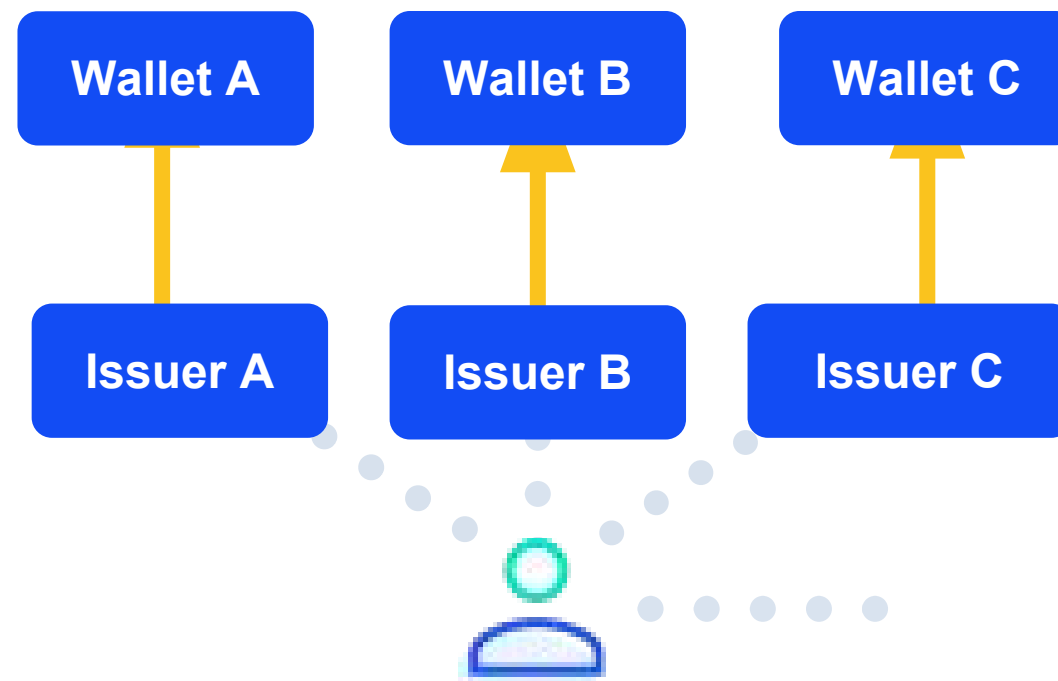
They all run on centralized networks.
Usually someone else's.

The Rent's Due Again

Consequently digital money adoption is low (outside China)

It's expensive for payment/wallet providers and bears other risks.

Why put up with it?

Networks Today are Private

Special interests

Represented by monopoly (or oligopoly)

Charge a lot to use

Resistant to improvements that don't improve conditions for owners

Let's break it down.

Privately-owned (centralized) networks are…

Inconvenient
Customers' needs are secondary

- No 'interoperability'—institutions operate in their own silos

- Customers must juggle many accounts, wallets and payment systems

- Limited to merchants that accept the existing systems

- Difficult for providers to achieve network effect

Expensive
Can basically charge whatever they want

- High %-based costs

- Businesses must comply with many conditions

Vulnerable

- Centralized databases are a one stop shop for hackers

- One careless individual can leave the entire system exposed

- Consumers suffer the consequences of irresponsible data handling

Minority of people with majority of power

Susceptible to:

- Human error

  - Fraud

    - Short-sighted decision making

      - Corruption

        - Lack of accountability

Self-interested

Cycle of inequality:

wealth buys power, power begets wealth

As long as everyday users have no other option,

these institutions have no incentive to change

Limited consequences for bad actors: corporate fat cats are sheltered by systems designed to protect their interests
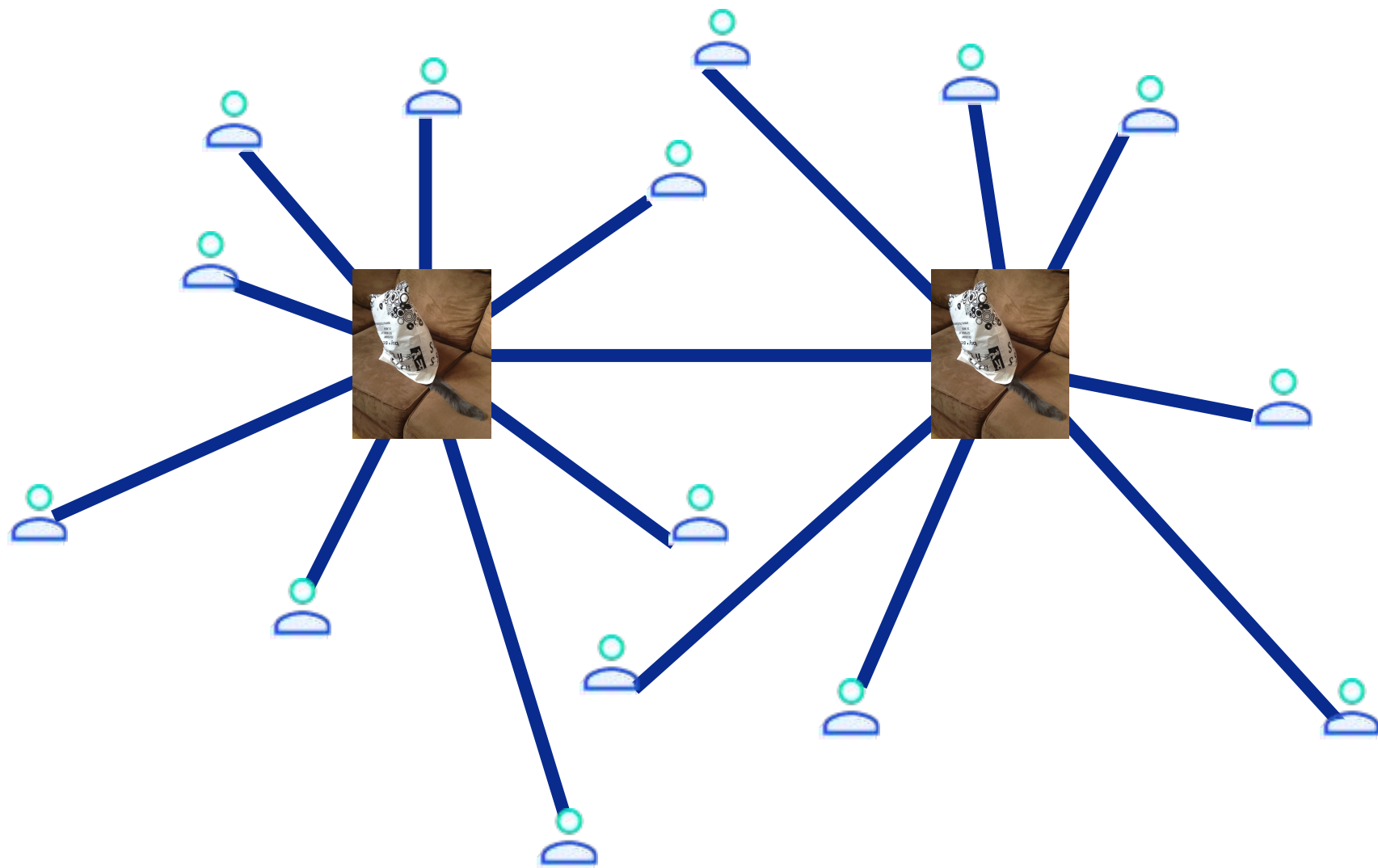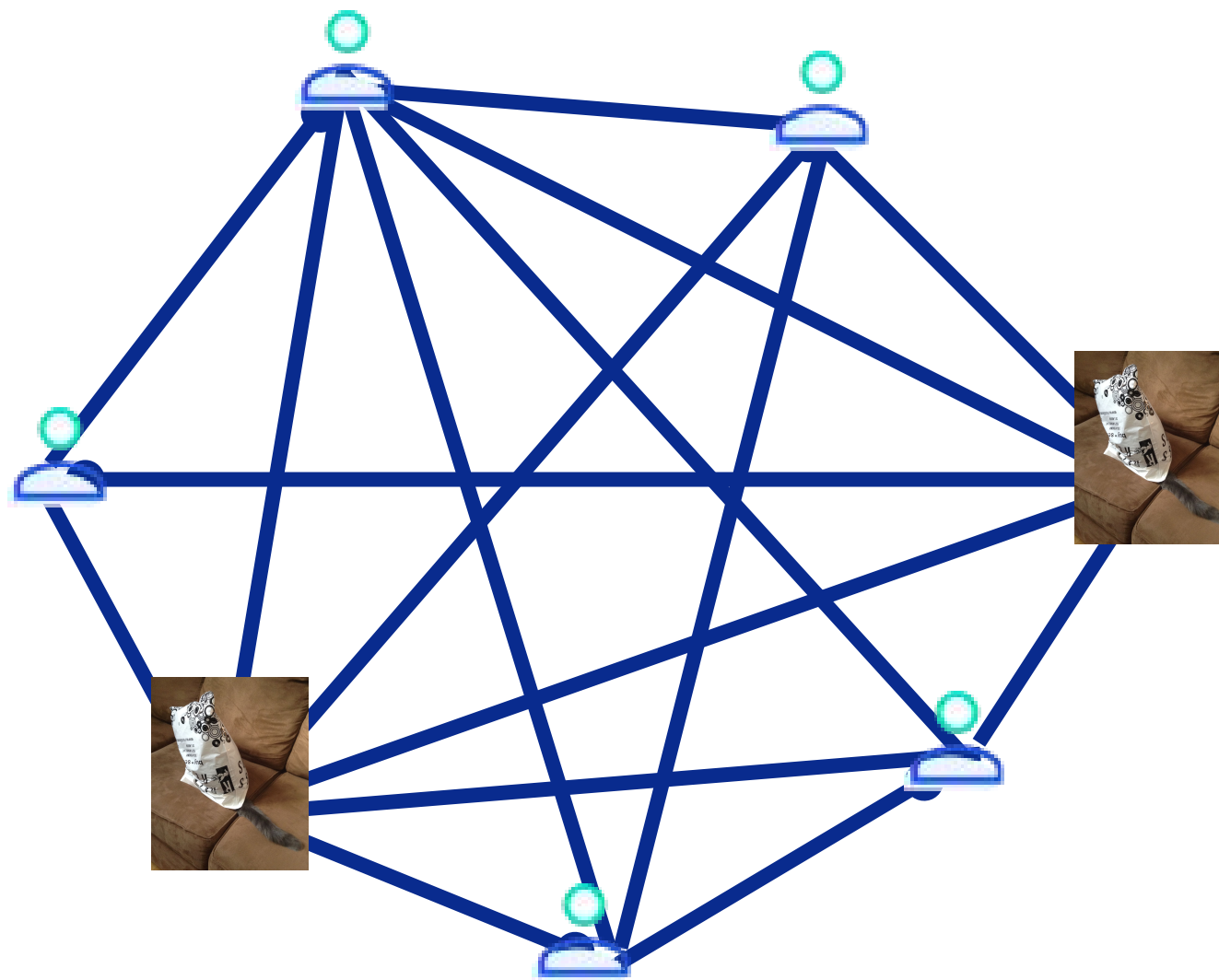
Business as Usual?

Most payment providers / digital wallet providers
don't actually like this either.

But soon we'll be able to do better.

We can replace this…

With this.

# By doing this.

(cr. u/DaggerHashimoto)

Plasma: The Basics

Permits chains within chains, allowing for exponential increase in scalability

Proof of a child chain's validity is submitted and stored on the chain below, not the entire computation

Significant interaction with the root chain is only necessary in the event of a dispute

Something going wrong? Mass withdraw all your money to one of the other child chains or parent chains.

Child Chains

Parent Chains

Root Chain (Ethereum)
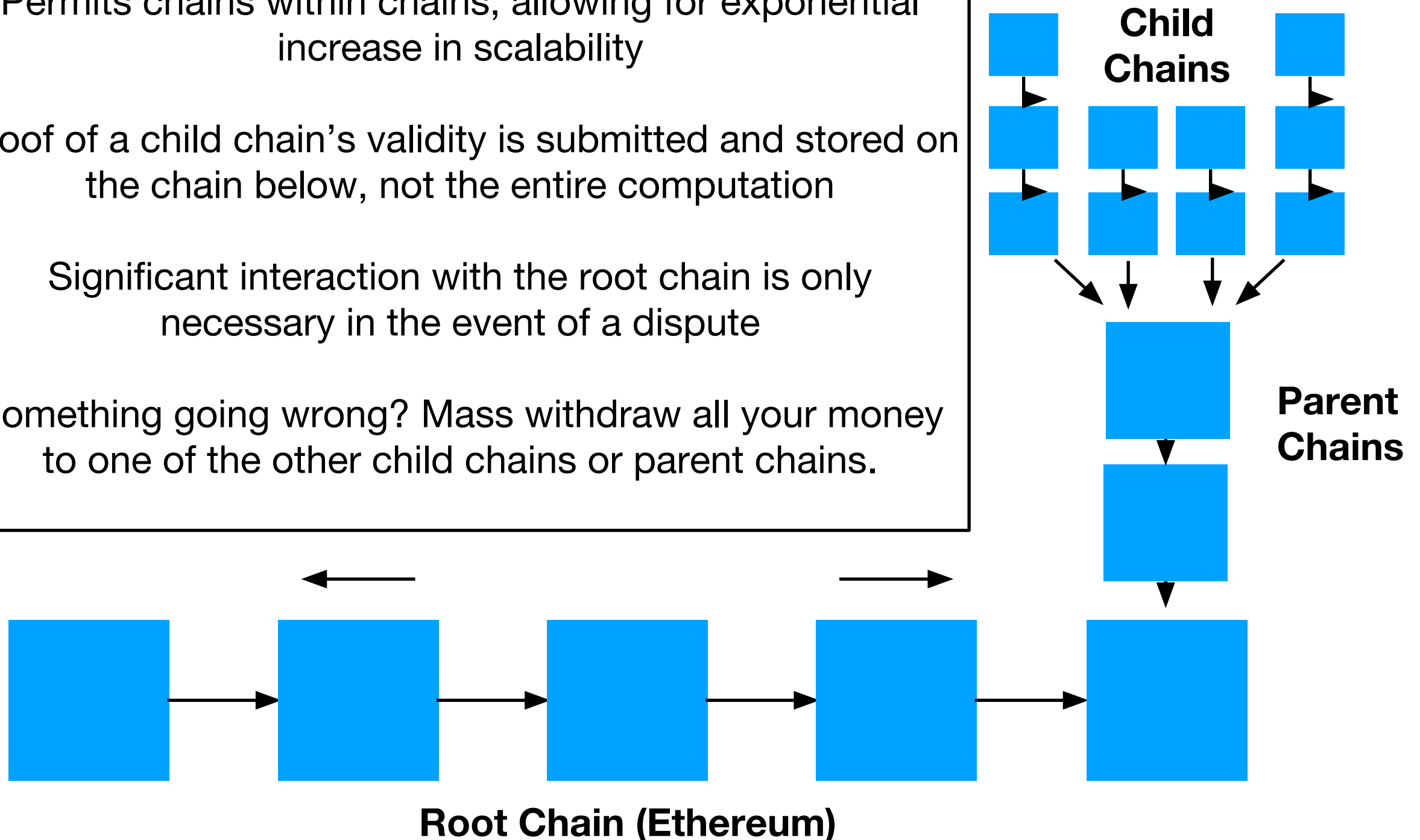
How does a decentralized network actually function?

The task of network validation is spread across many small "nodes", all working to keep each other honest

Consensus is enforced by incentivizing accurate validation and penalizing misbehaviour; community accountability

Totally permissionless and open to all: anyone can run a validator.

OMG PoS model

OMG token holders have 100% stake in the public network

By holding tokens, users gain the right to take an active role by running validators, using OMG as a security deposit

Good validators are rewarded with transaction fees
(paid by users)

Bad validators have their tokens slashed

As the network becomes more value, so does the token, and the network becomes more secure

Effects of a Decentralized System

No central, self-interested authority

No "gatekeeper" deciding who is and is not worthy to participate

Transaction fees reflect the actual cost of validation & network security, not the whims of a third party; community cost

Lock the network open and everyone wins.

Why is a private company taking the lead on building a public network they won't own?

Because it's better for them than a private network they could build for themselves.

A decentralized network run competitively doesn't charge much more than cost of maintenance, resists rent extraction, and can be improved by users.

Omise recognises the need for infrastructure that nobody owns. In the meantime, no one's built it yet.

What's the takeaway message?

The original vision for bringing cryptocurrency to the masses was too simplistic.

Mass adoption isn't about convincing everyone to adopt a new "better" currency.

Instead, it requires creating infrastructure which facilitates **free transfer of value**, no matter what form that value may take.

Value is not in the money, it's in the freedom to use it. OMG!

道德经　第十一章　无用

三十辐，共一毂，当其无，有车之用。
埏埴以为器，当其无，有器之用。
凿户牖以为室，当其无，有室之用。

故有之以为利，无之以为用。

omisego

Unbank the Banked with Ethereum (OMG).

利用以太坊 摆脱银行的伽锁（OMG!）

3 December 2017

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Thank you.