

Blockchain Update:

What Does it Mean to You and Your Company?

About Me:



BLOCKCHAIN
INSTITUTE



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Join The Demo!

Please download one of the below apps:

- Android:
 - Edge Wallet
 - Testnet3
- iOS:
 - Edge Wallet

Getting to Know You

- What is a blockchain?
- Who would say they understand how a blockchain works?
- Who holds some form of crypto?
- Who has made a crypto transaction?
- Who could explain a consensus algorithm?

What We'll Cover...

- How a blockchain networks makes decisions
- Blockchains, cryptocurrency and commerce
- What blockchains do well and what they don't do well
- When a blockchain makes sense
- How blockchain can help supply chains
- Immutability and auditability
- The Walmart Hyperledger case study
- The difference between public and private blockchains
- Keeping business data private and other blockchain concerns
- Other business blockchain projects and case studies to be aware of

To understand Blockchain Business Applications, you need to understand Blockchain!

So let's do that.



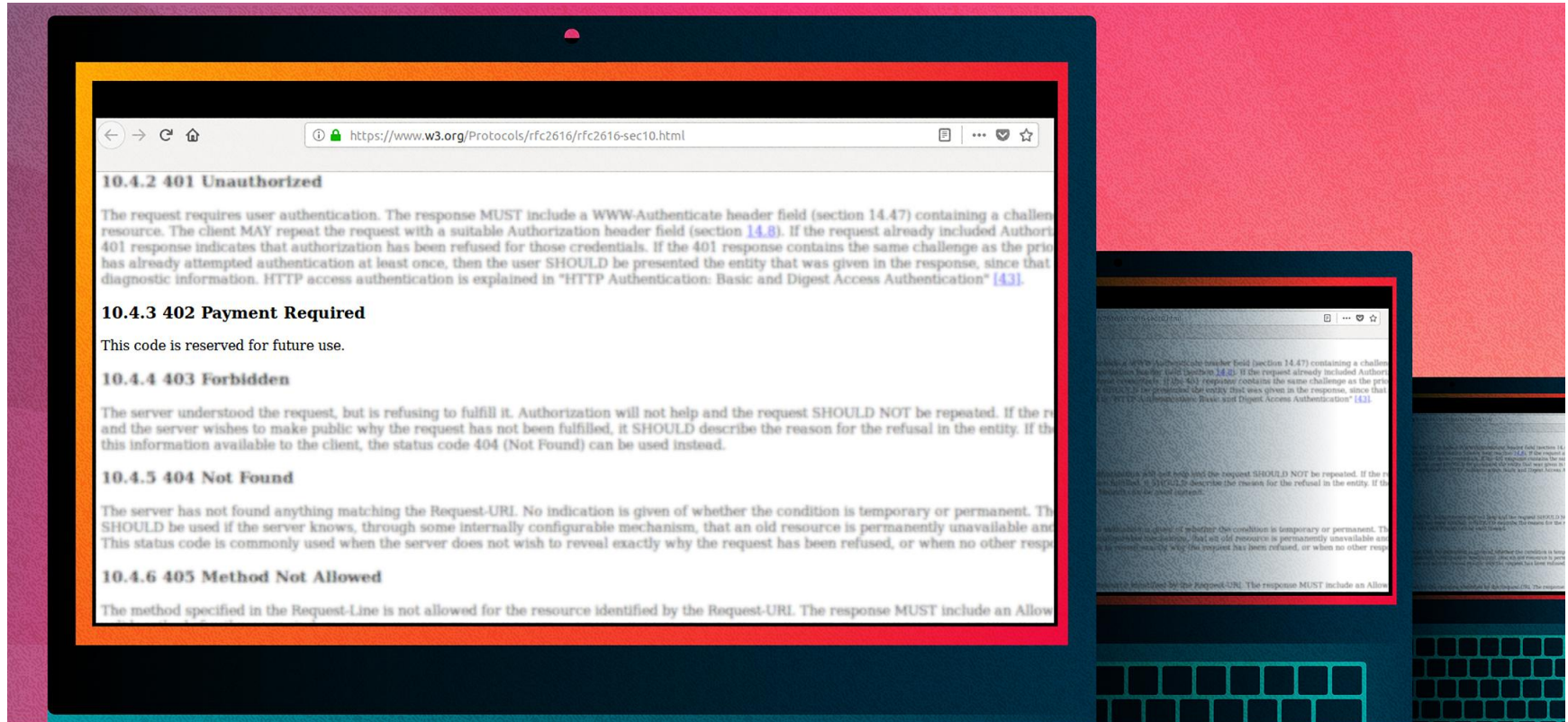
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What problem was Bitcoin built to solve?

Cash for the Internet



Digital Currency Experiments

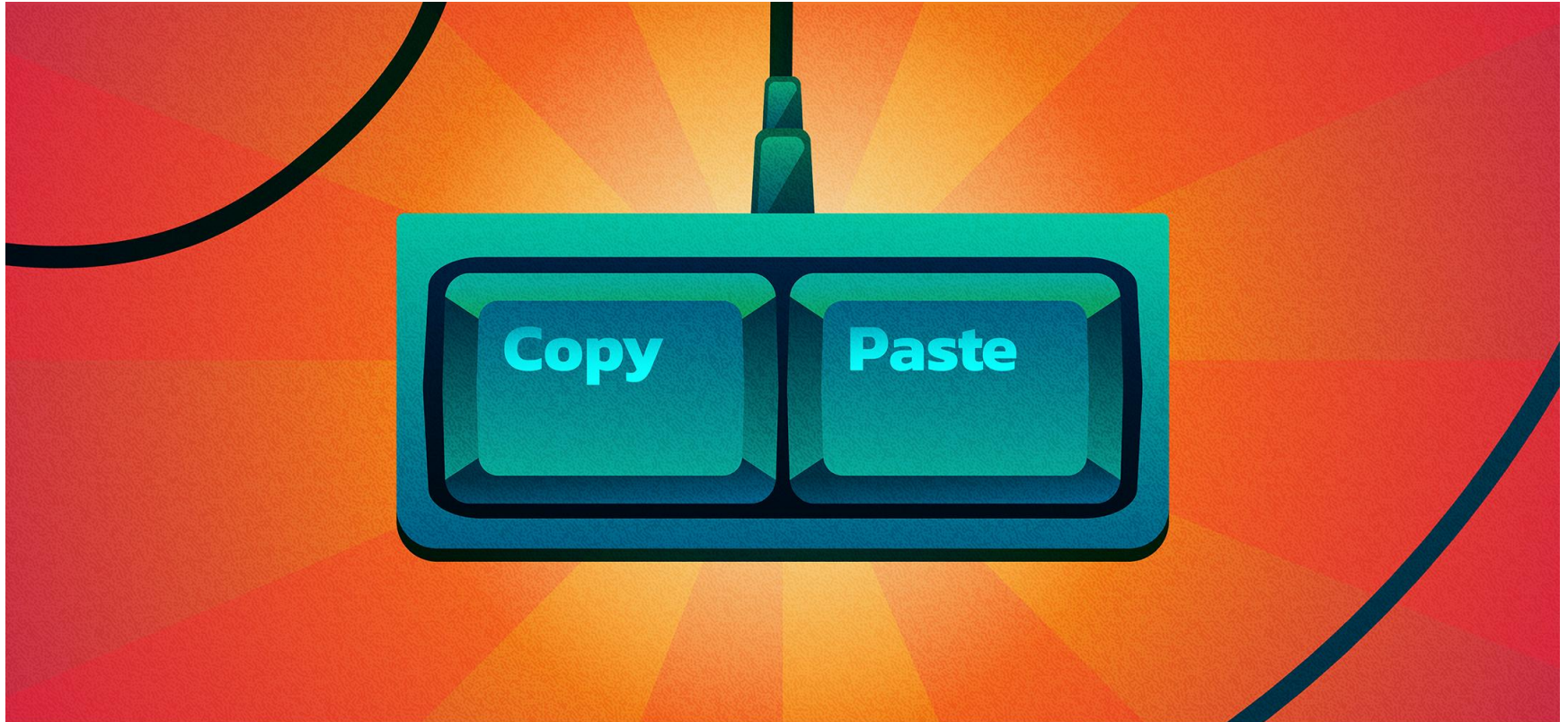
DigiCash™

 Liberty
Reserve

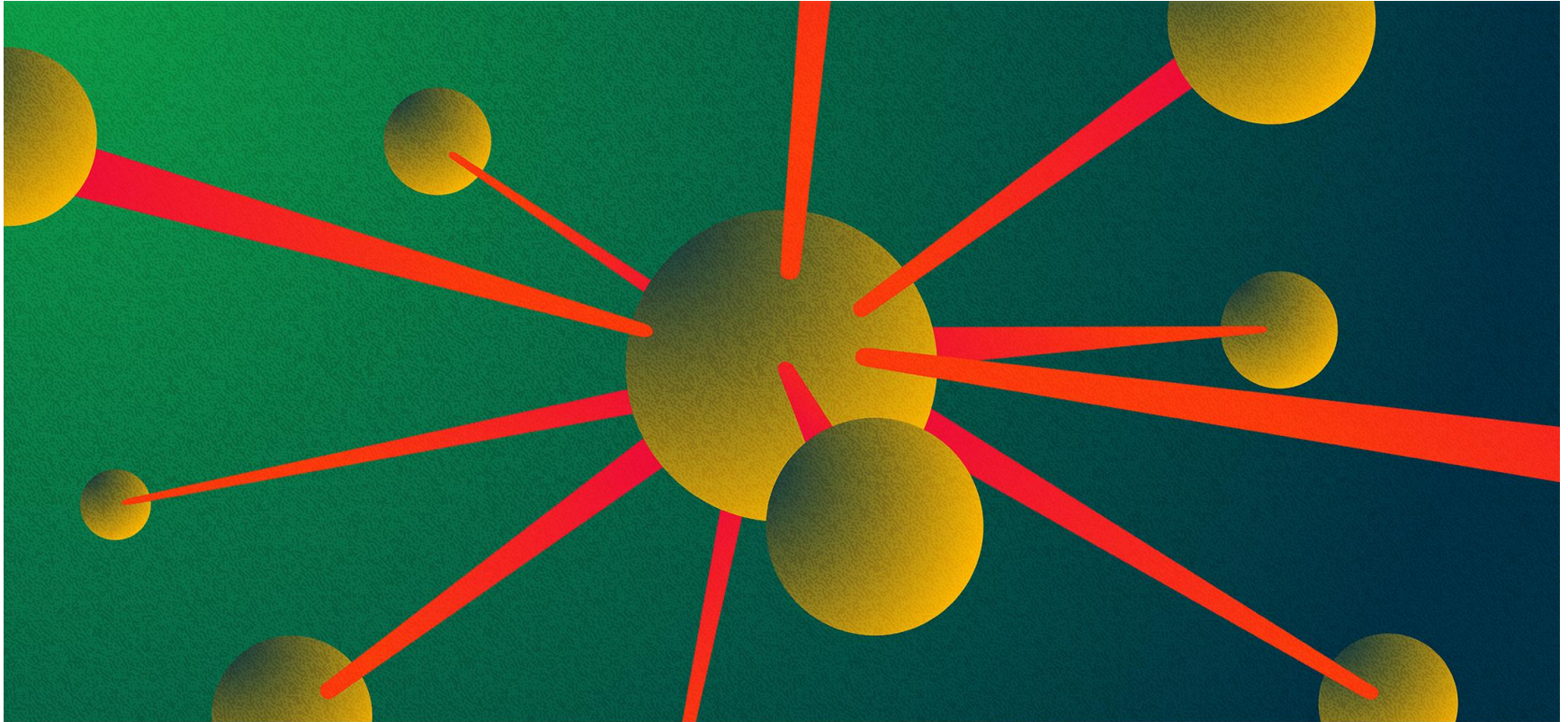
e-gold

Goldmoney®

The Double Spend Problem



The Central Server



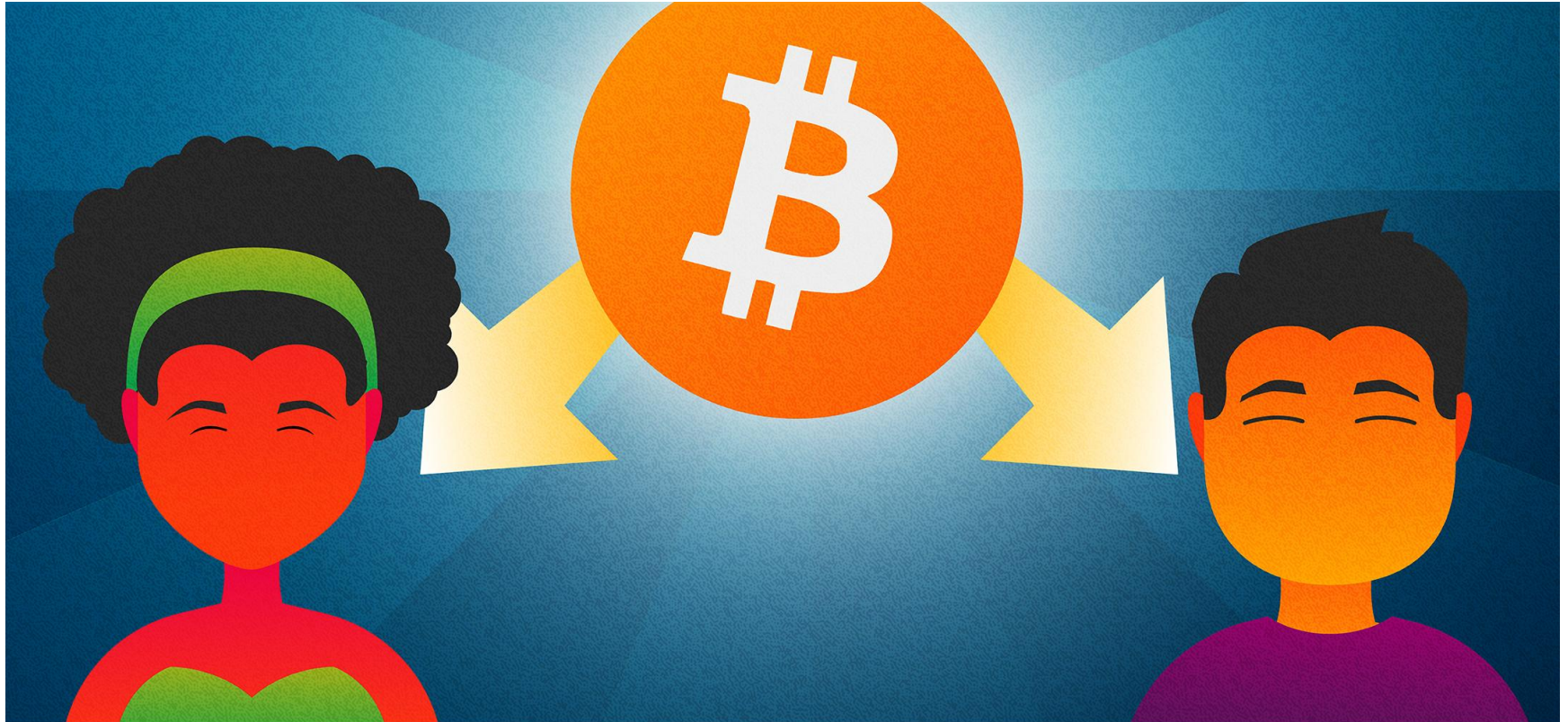
Satoshi Nakamoto



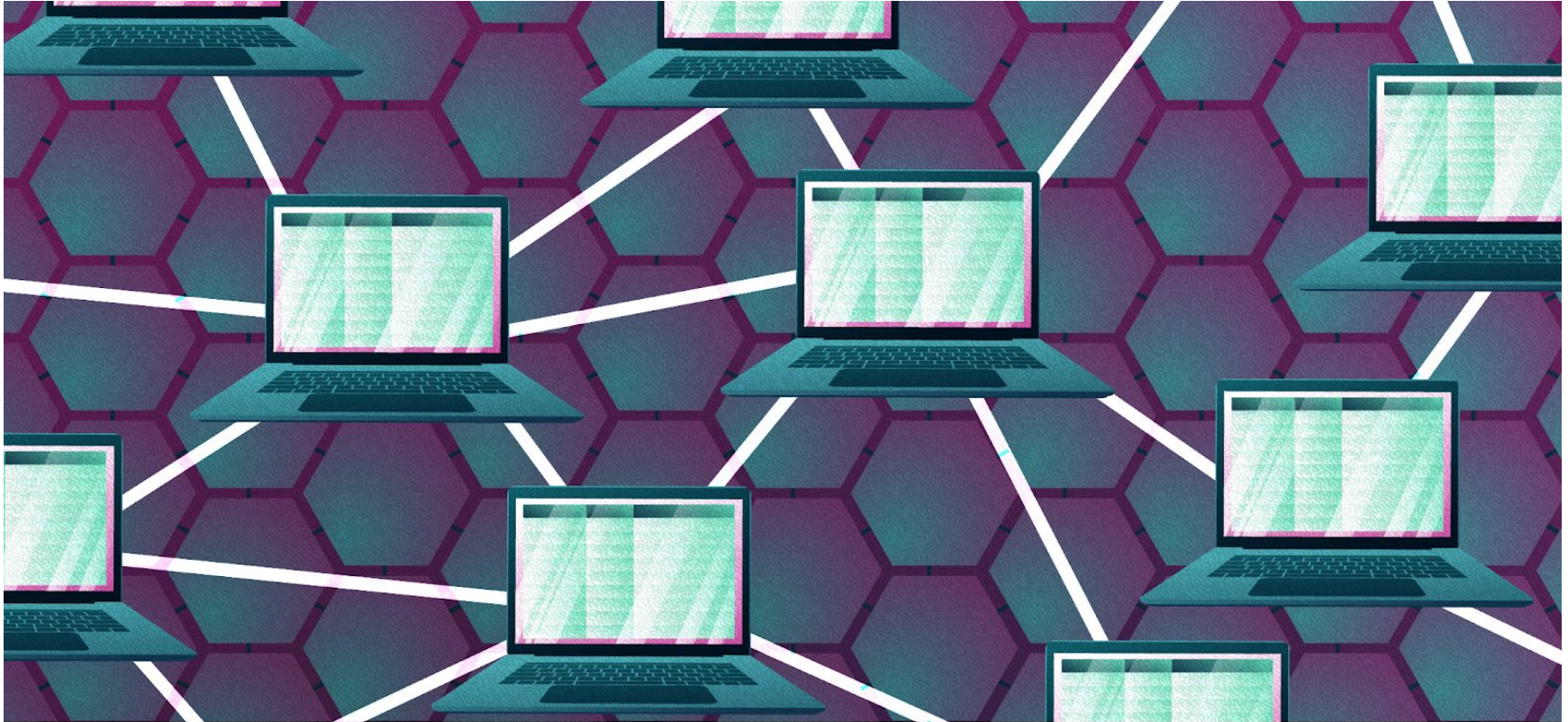
It's Just Software...



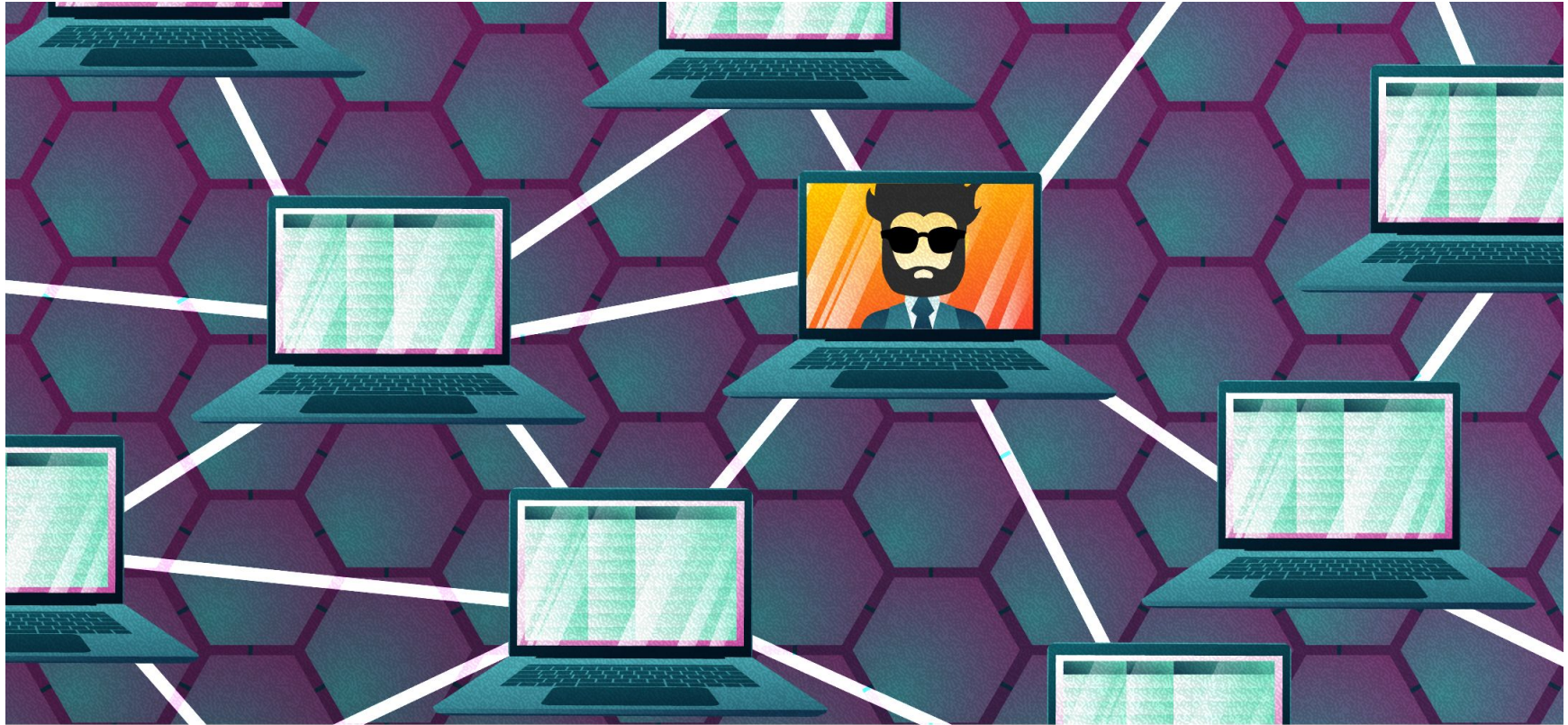
How the Network Makes a Decision



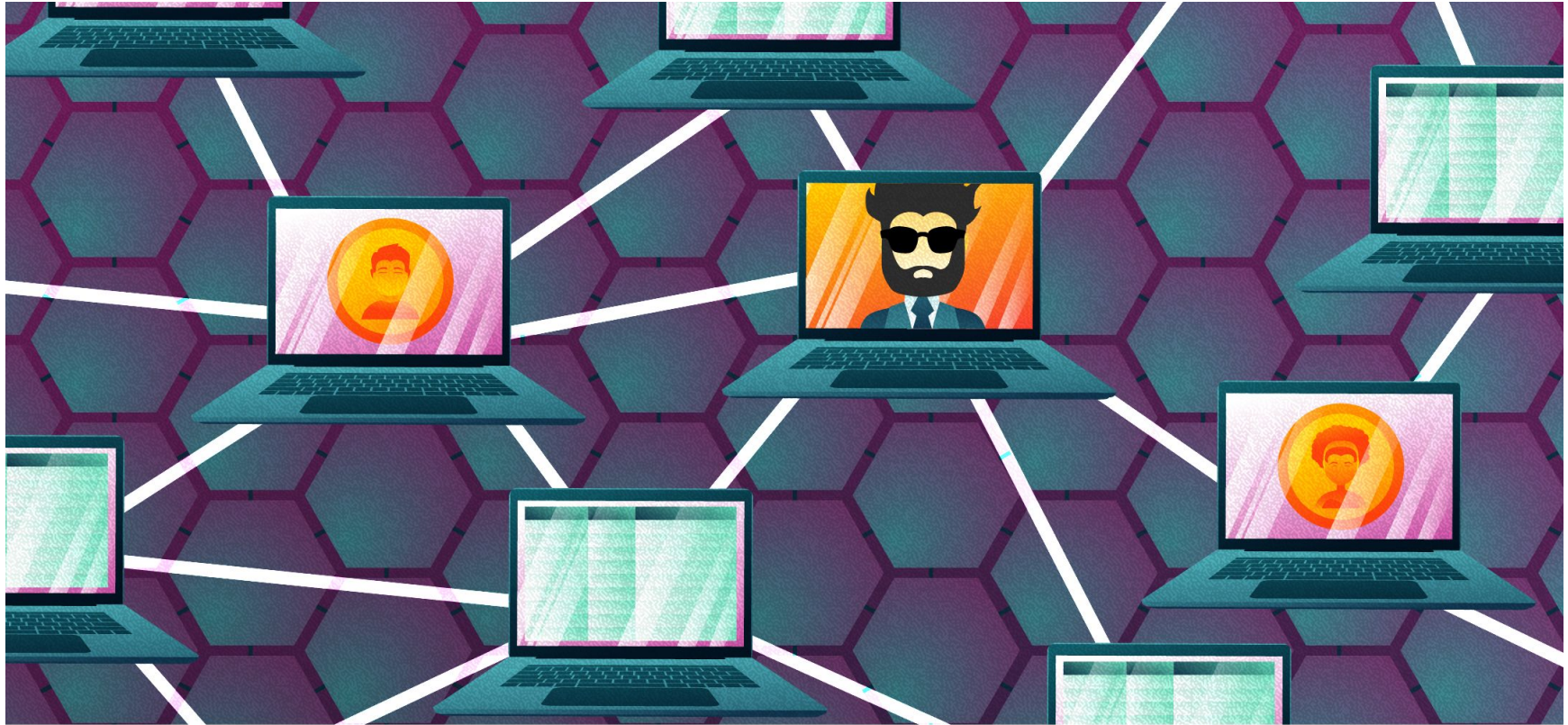
How the Network Makes a Decision



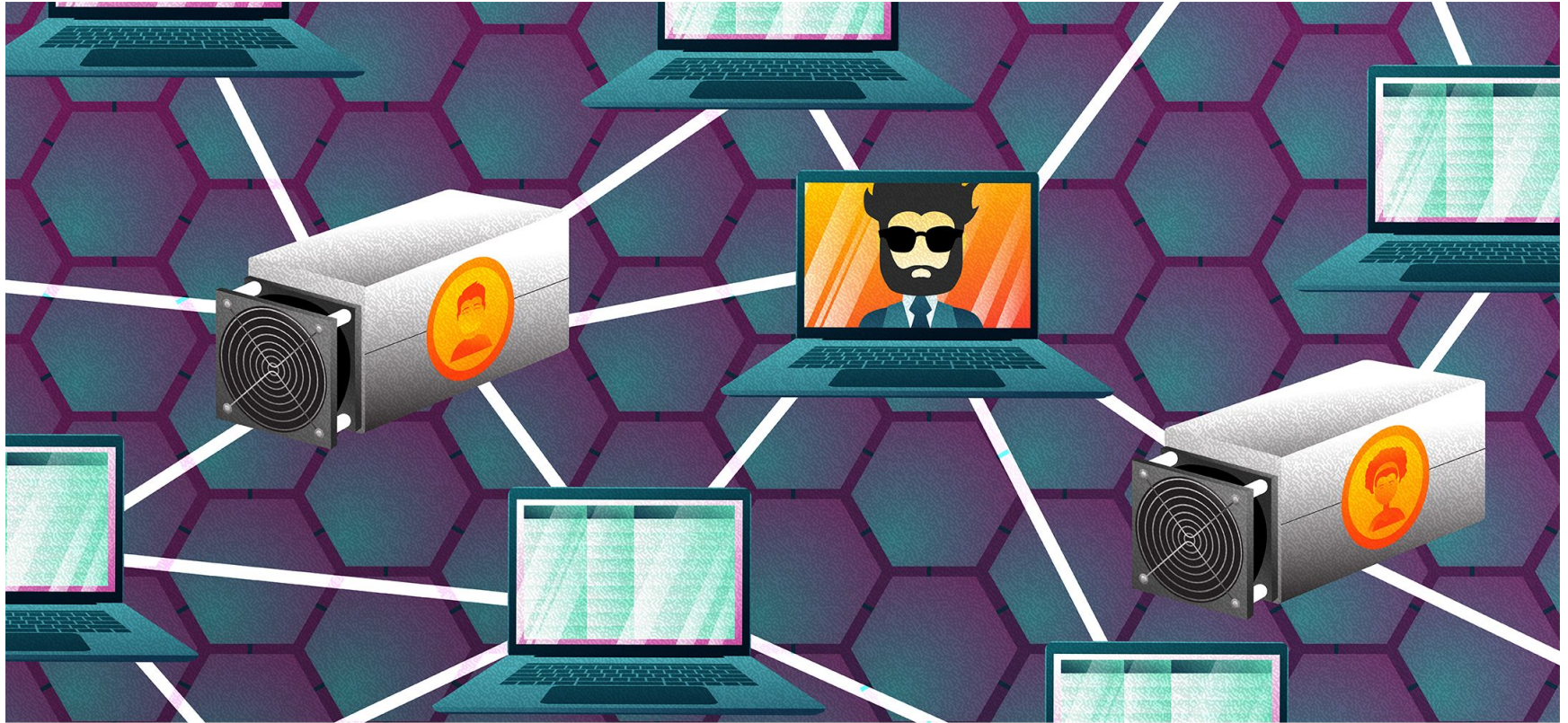
How the Network Makes a Decision



How the Network Makes a Decision



How the Network Makes a Decision



The Block Joins the Chain...



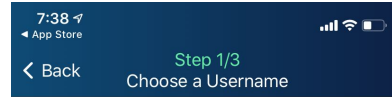
**So now we all understand
Blockchain! ...right?**

Questions?

Demo!

Let's send a (testnet) transaction!

The Edge Wallet App...

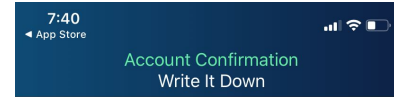
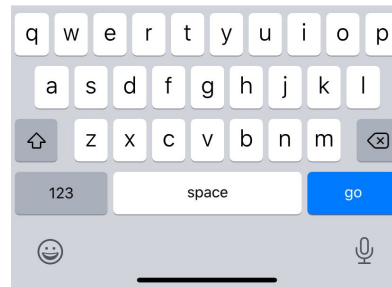


Your username will be required to sign in to your Edge account on this and other devices.

Username

Test

Next



Almost done! Let's write down your account information

ⓘ
If you lose your account information, you'll lose access to your funds permanently. Write down and store it securely.

Hide account information ^

Username: TestAmanda

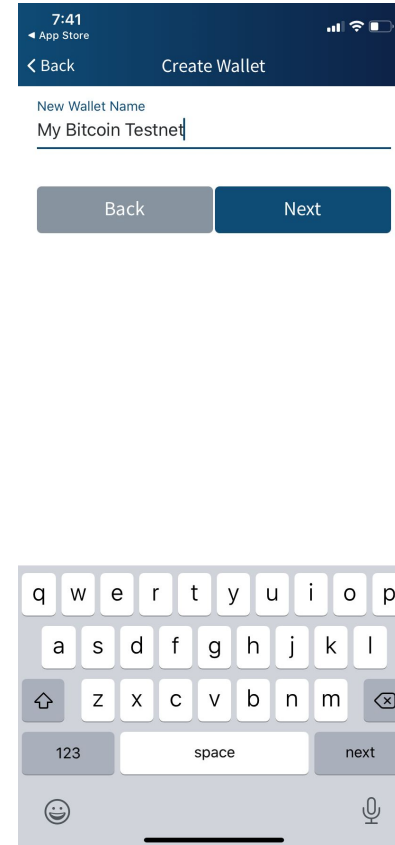
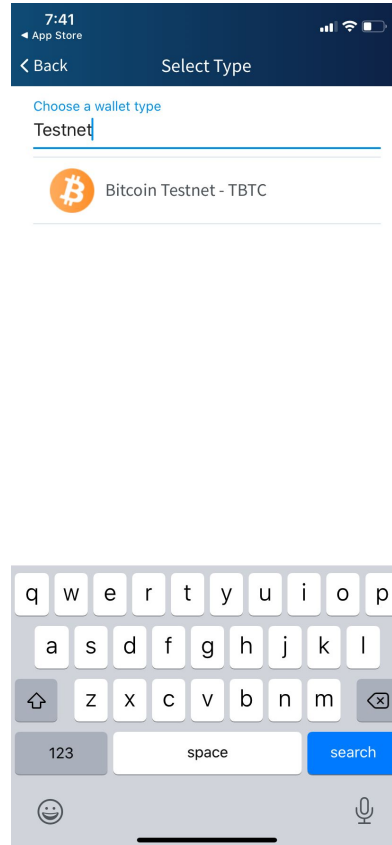
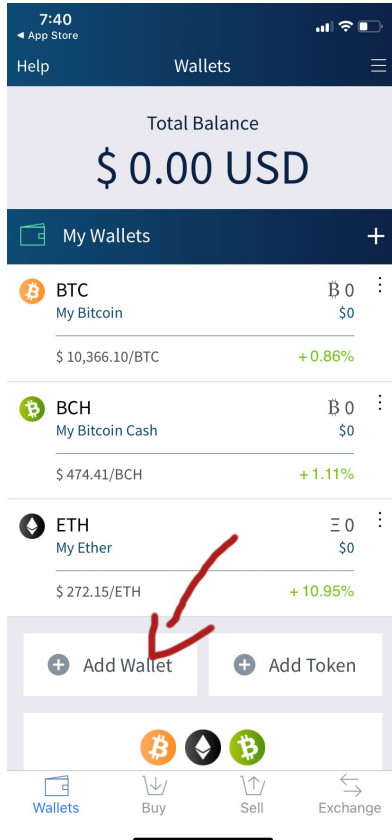
Password: [Redacted]

PIN: [Redacted]

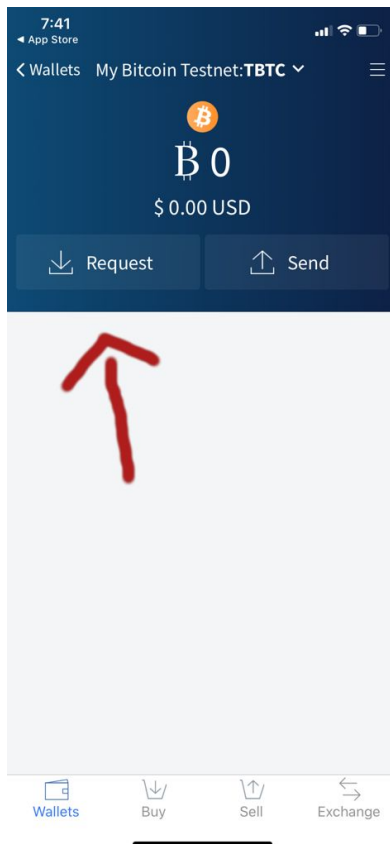
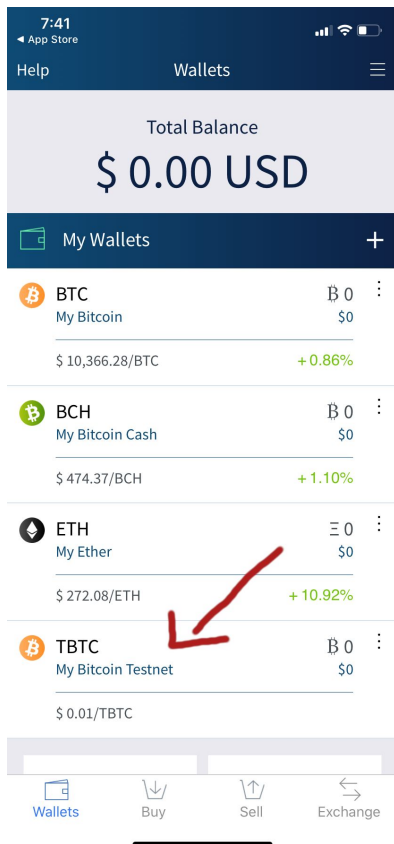
Next



The Edge Wallet App...



The Edge Wallet App...

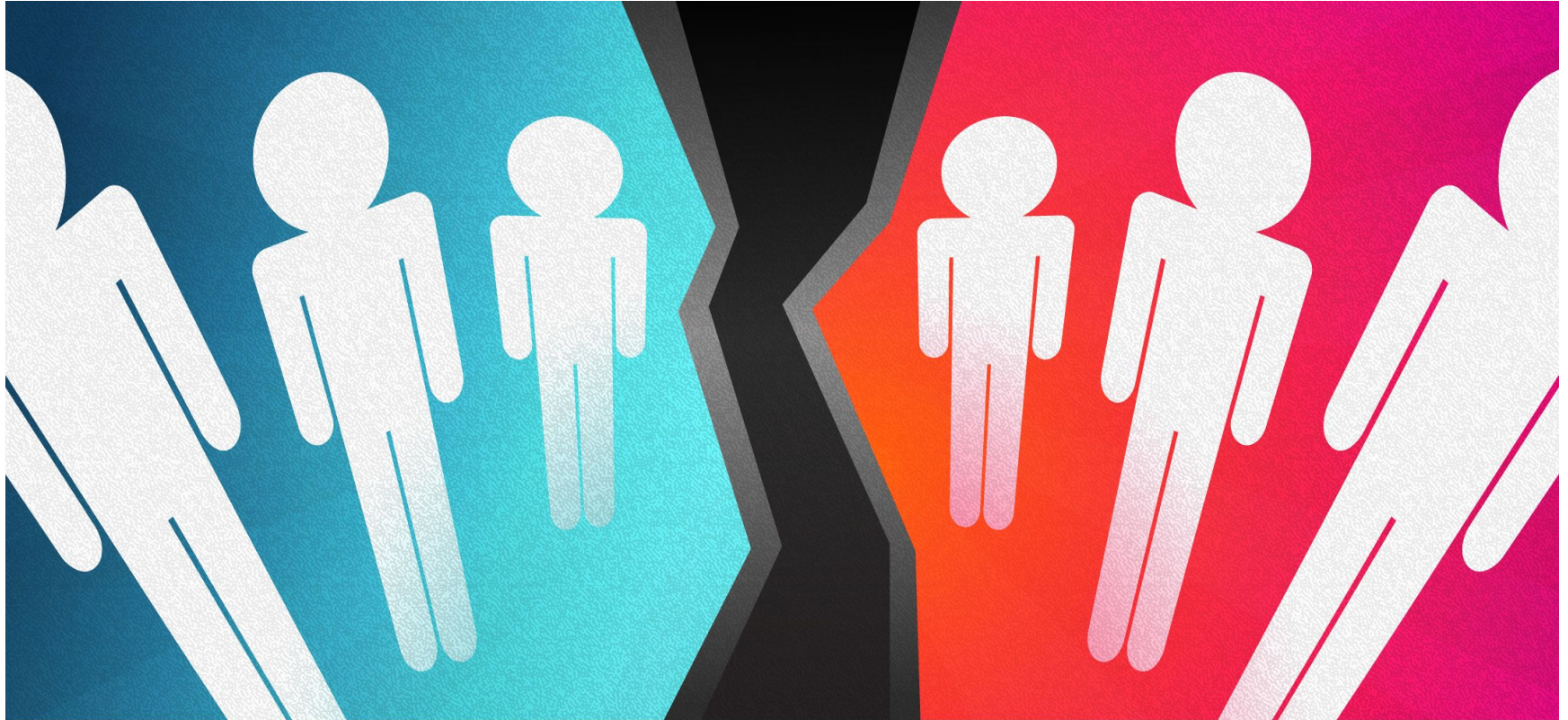


Crypto Commerce!

New Markets

New Possibilities

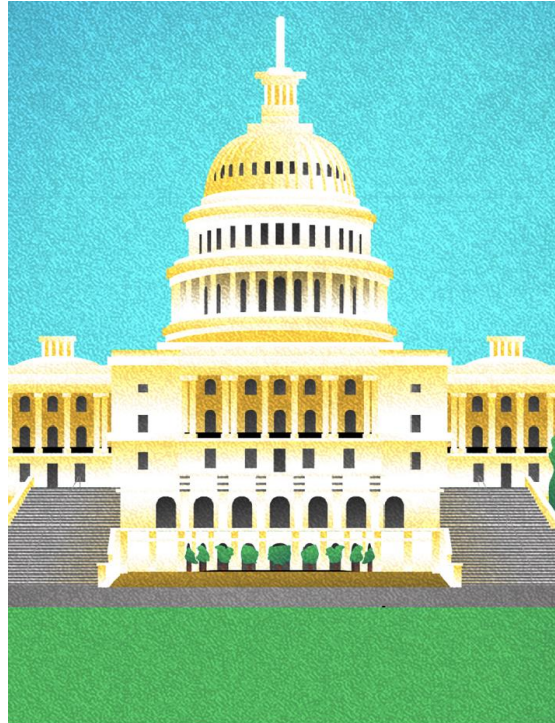
Our Current Systems Separate Us...



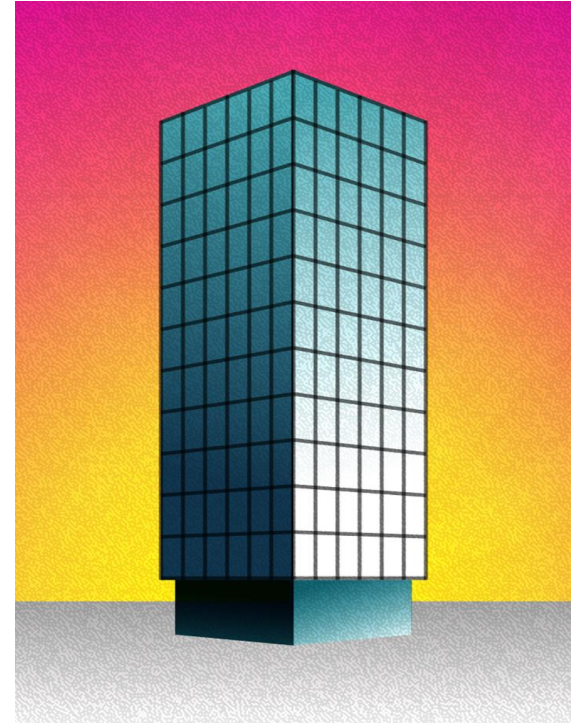
We Transact Only When There is a Big, Third Party Intermediary



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**This creates friction as we
cross borders, deal in
different jurisdictions and
work between institutions.**

Distributed Dispute Resolution Systems



Example: Multisig



MODERATOR



BUYER



SELLER

Example: The OpenBazaar Model



OpenBazaar

Example: Smart Contracts

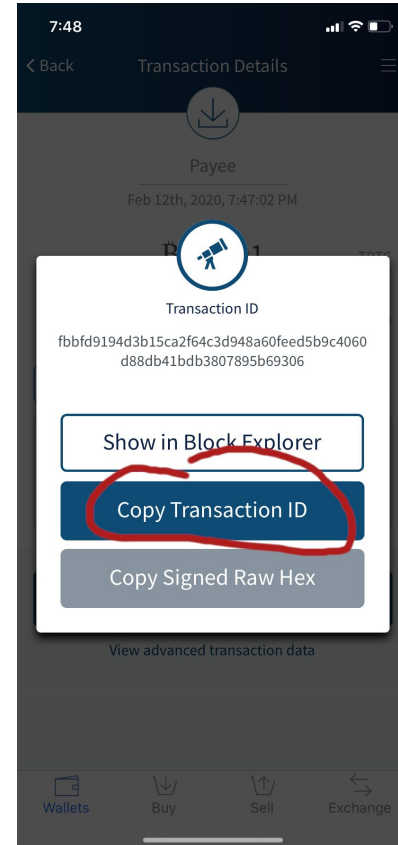
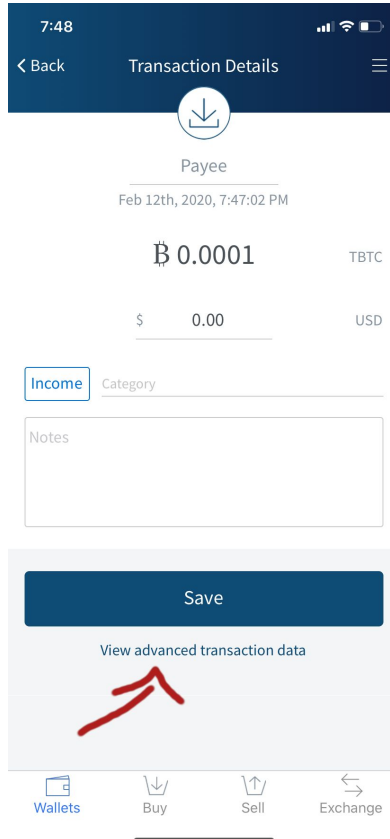
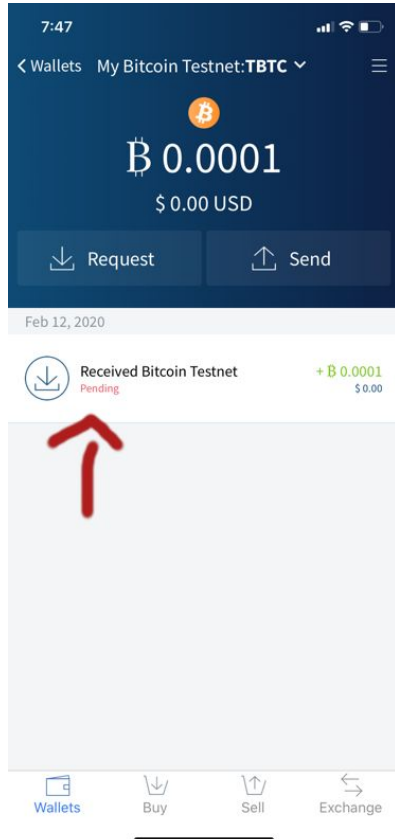


Demo!

Let's go look at that transaction!

<https://live.blockcypher.com/btc-testnet/>

The Edge Wallet App...



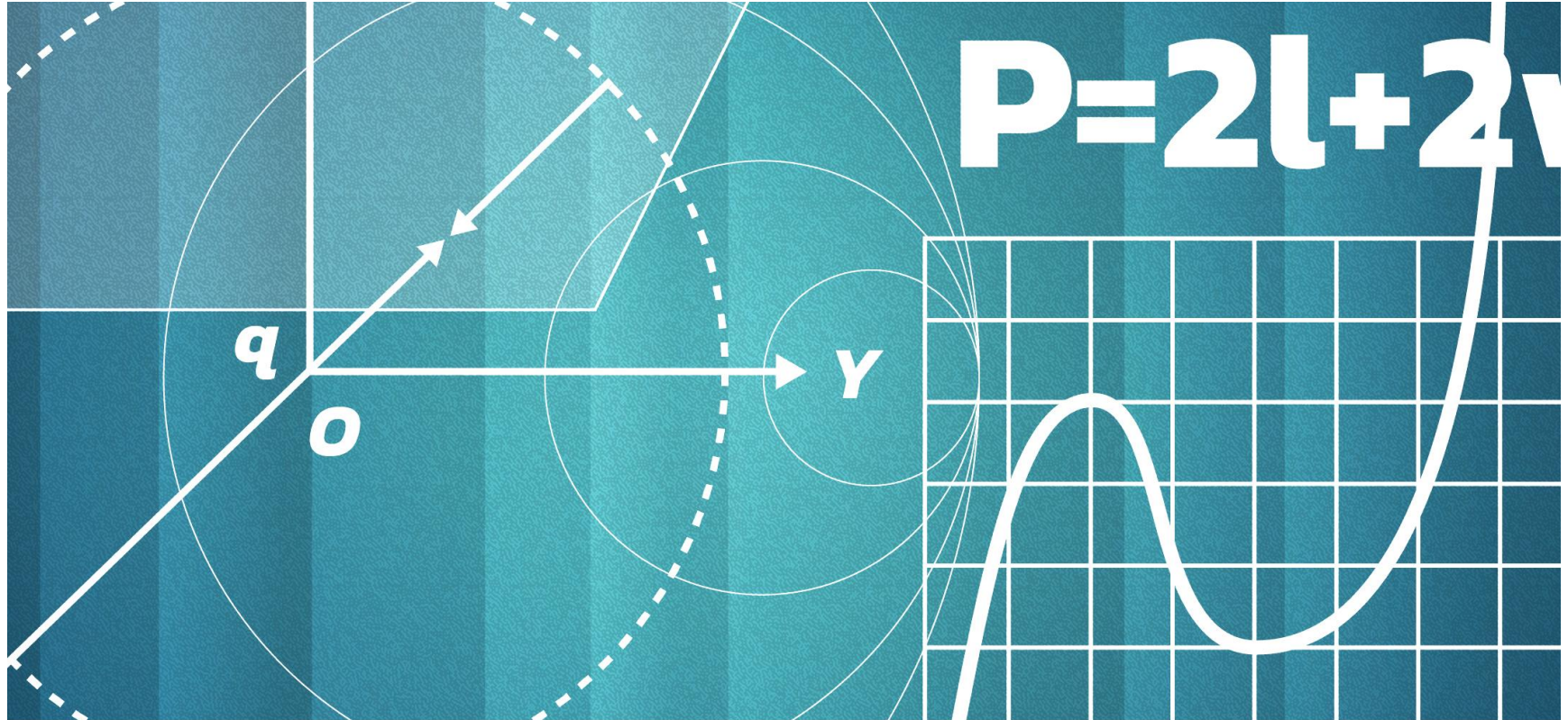
**What does Blockchain do
for us?**

**What qualities make it
useful for business?**

**Share, and agree upon data, with
people you don't know and don't trust.**



Cryptographically Signed Entries



Immutability



Auditability



The rule of four.

Are there at least 4 entities that will need to *interact* with this data?

**But public Blockchains are
not often used for business
applications.**

Why not?

Public vs. Private Blockchains – Different Animals



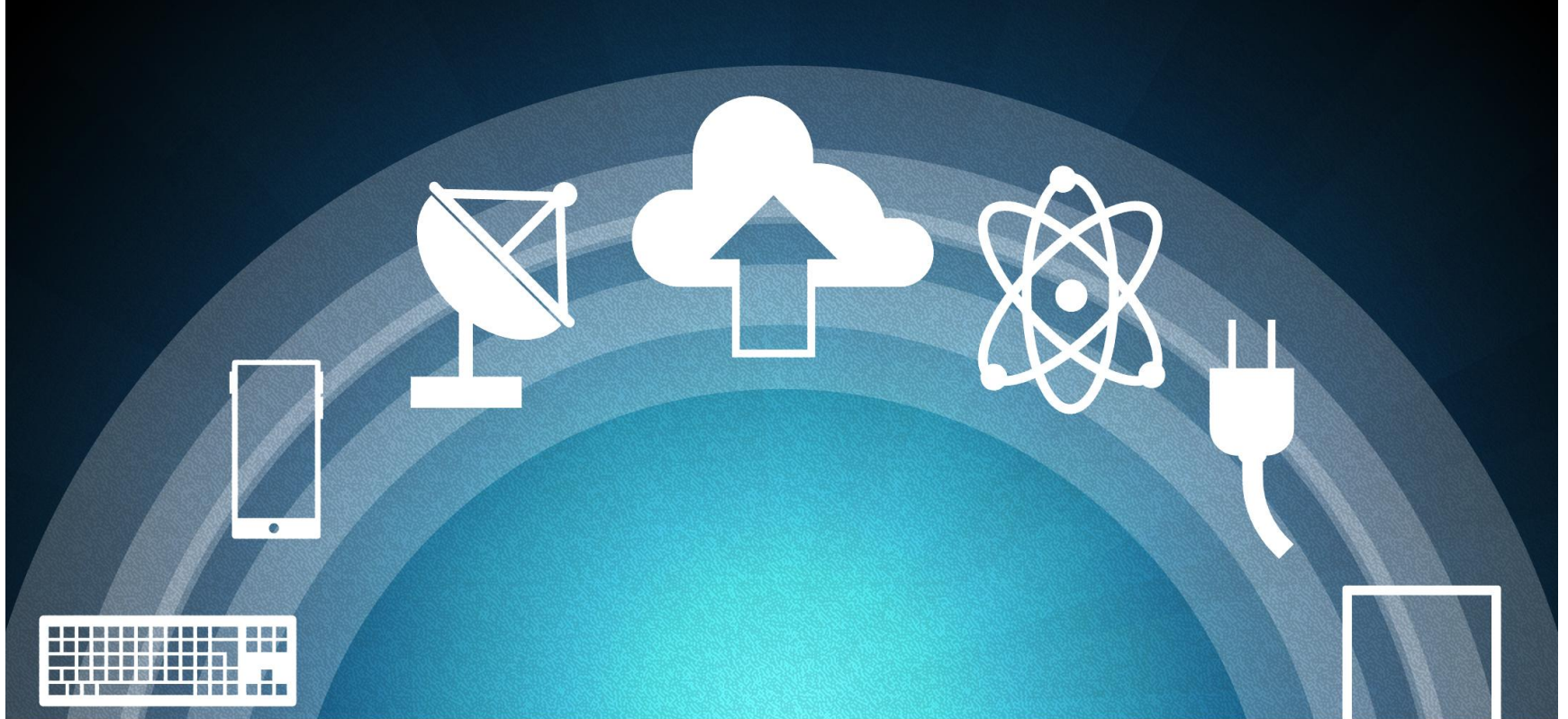
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Permissionless vs. permissioned

Not Blockchain, but Blockchain inspired

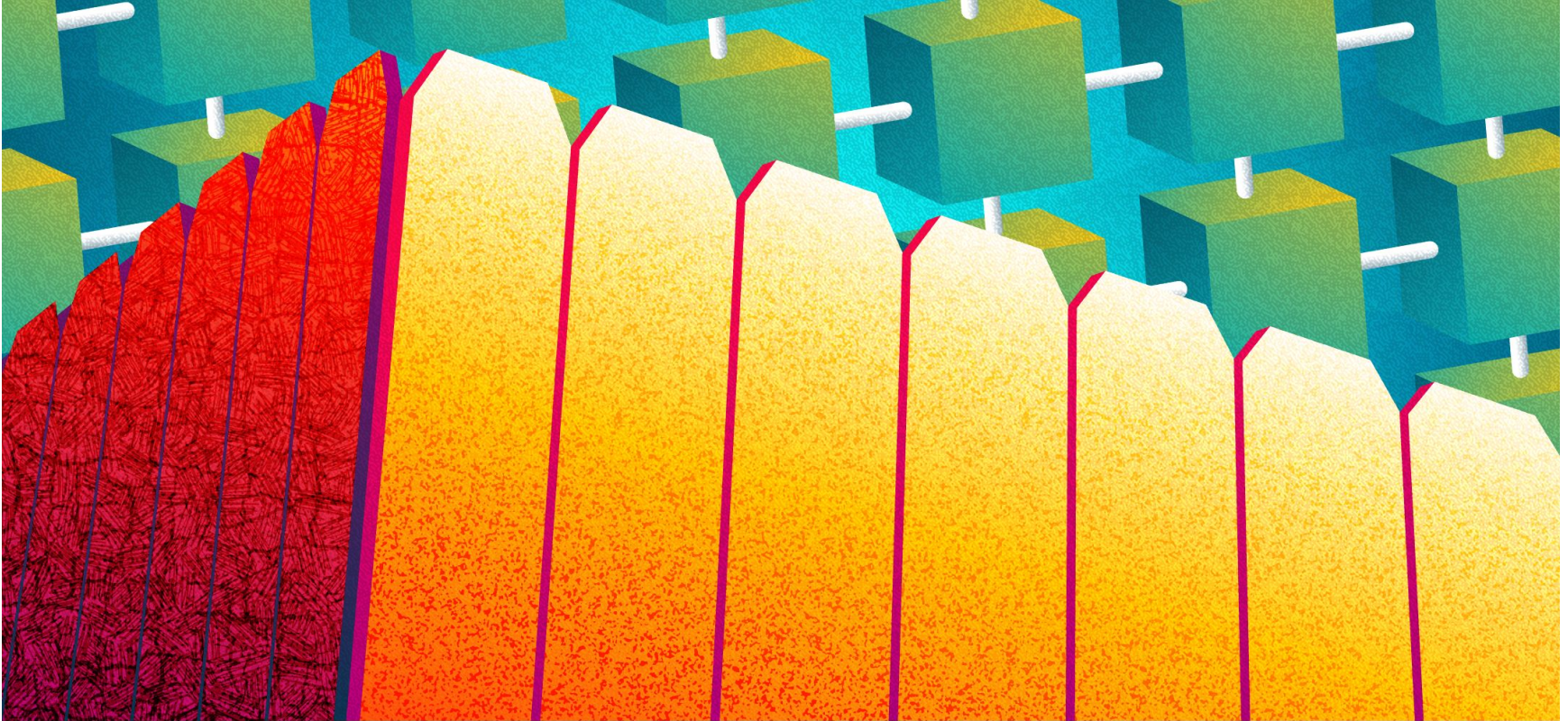


But What is DLT?

Distributed Ledger Technology or DLT, is a consensus of replicated, shared, and synchronized digital data geographically spread across multiple sites, countries, or institutions. There is no central administrator or centralized data storage.

A peer-to-peer network is required as well as **consensus algorithms** to ensure replication across nodes is undertaken. One form of distributed ledger design is the blockchain system, which can be either public or private.

Privacy



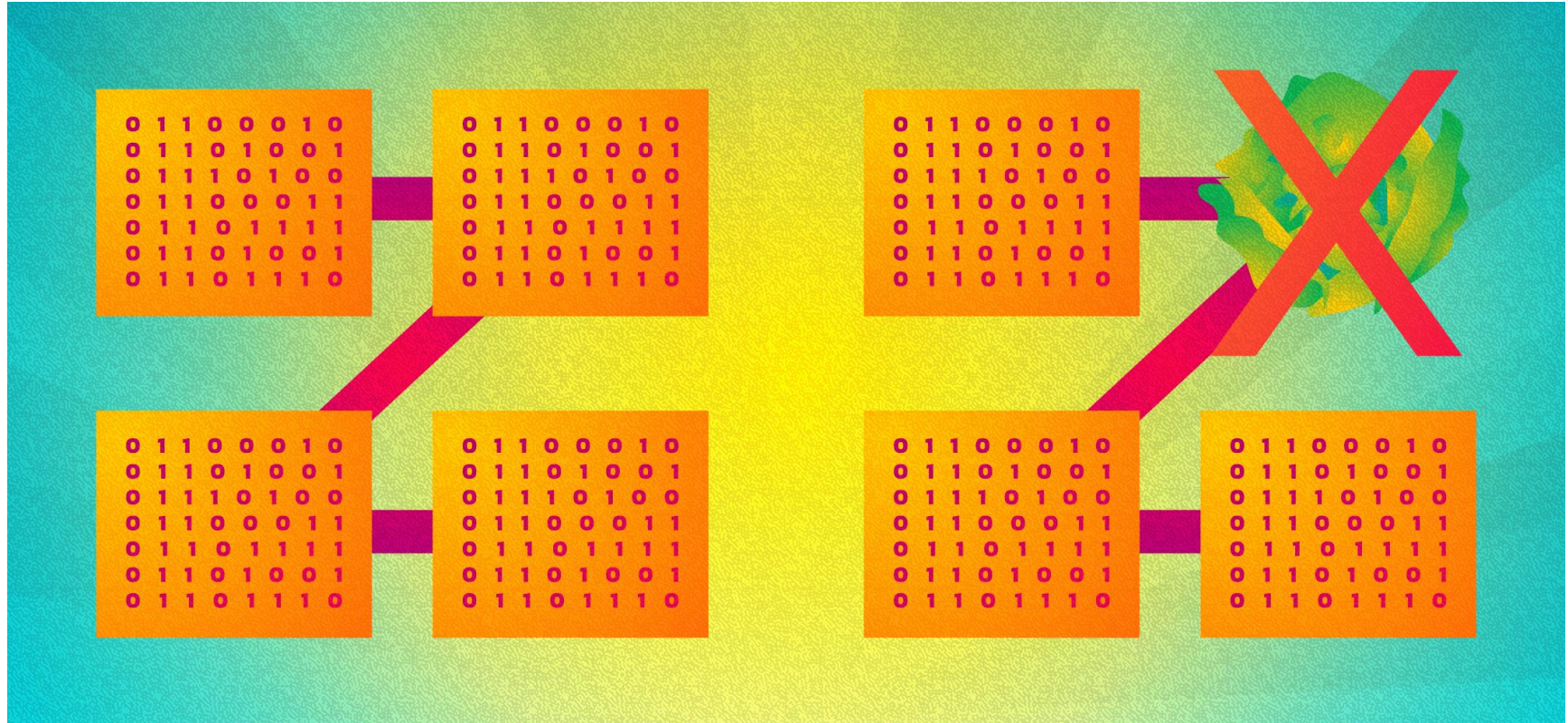
Security Resources



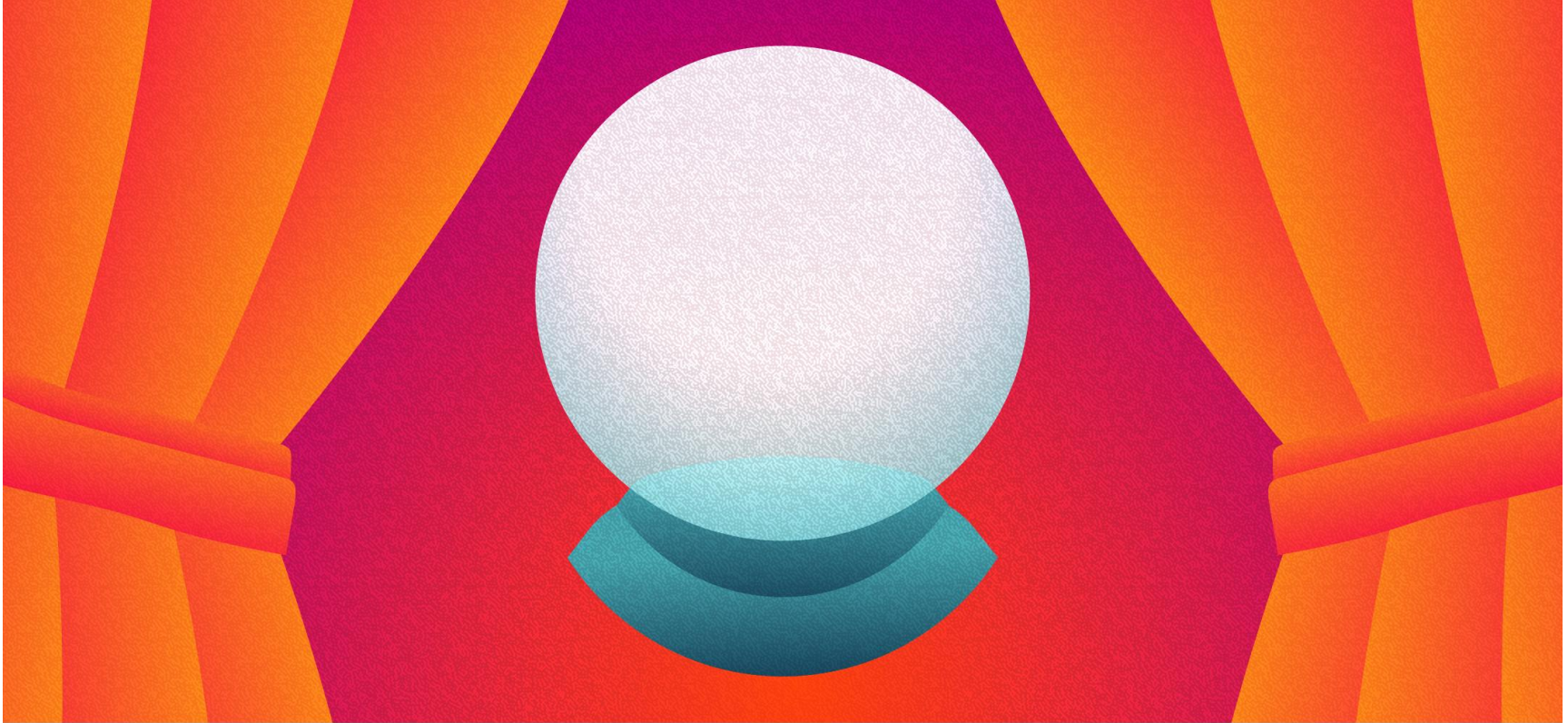
What DLT Won't Do for You

Blockchain, DLT, etc. These systems aren't magic, they just help coordinate data.

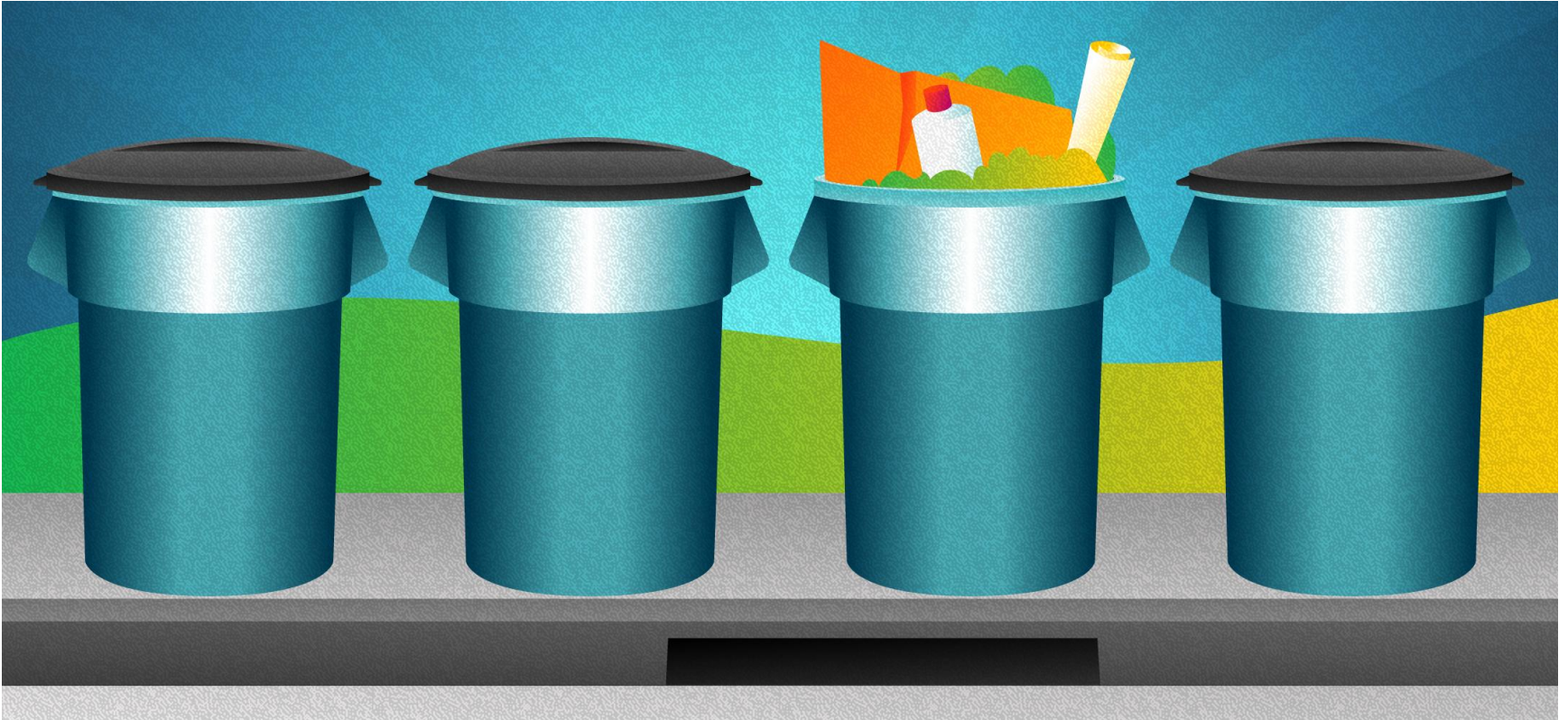
What "Lives" on the Chain?



DLT Won't Solve the "Oracle Problem"



Garbage In, Garbage Out



Blockchains are not Databases



How Do You Get Everyone to Use It?

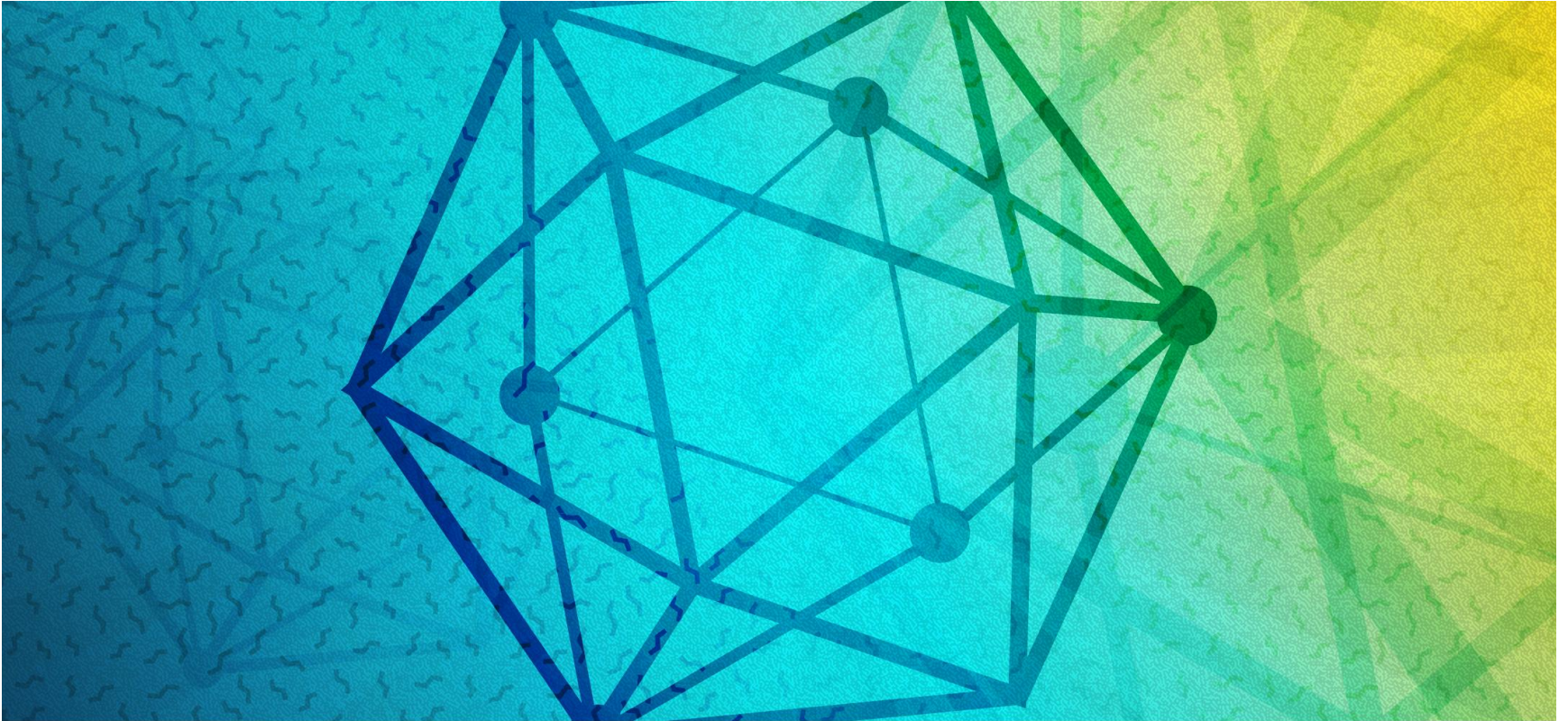


Let's Get Specific

- Tools
- Examples

Hyperledger

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Walmart is betting on the blockchain to improve food safety

Case Study



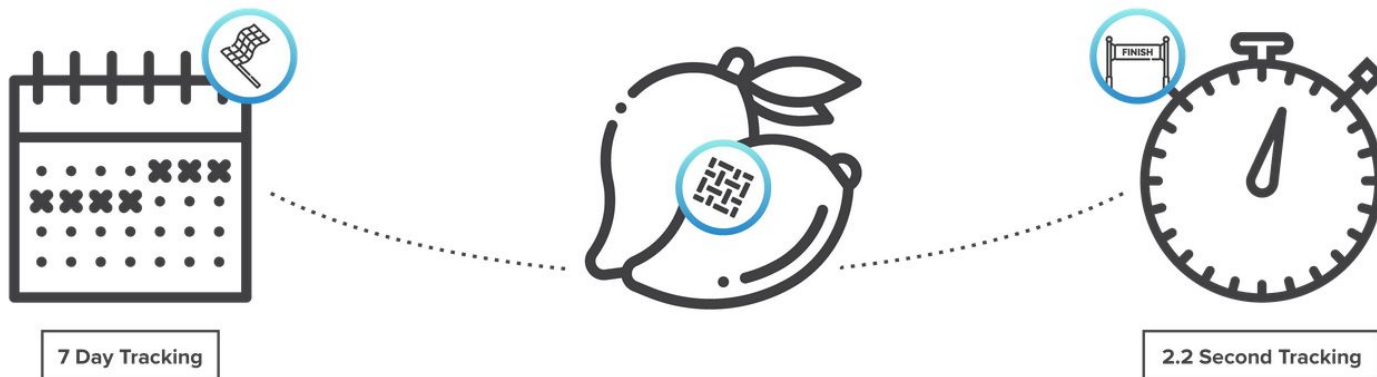
SCANTRUST

How ScanTrust Brought Transparency to the Supply Chain with Hyperledger Sawtooth

The Walmart Example

- Hyperledger case study: <https://www.hyperledger.org/resources/publications/walmart-case-study>

For mangoes in the US, the time needed to trace their provenance went from 7 days to... 2.2 seconds!



IBM Food Trust



Examples

- Scallops
- Olive Oil
- Baby Forumla

IBM Food Trust

- Built on Hyperledger Fabric
- Permissioned data access
- Querying food product identifiers
 - Global Trade Item Number (GTIN)
 - Universal Product Code (UPC)
- Immediate access to end-to-end data.
- IoT capabilities
- View certifications
- Each member organisation owns its data - Encrypted
- Advisory Council for governance

Blockchain Tech is Amazing!!! But It Isn't Magic...



Filtering Out the Hype

- Understand the business case. Make sure that you know and can explain why blockchain is the right solution.
 - Just sharing data, or interacting with it?
 - How many entities need to interact with the data?
- Humans are always a problem.
 - Garbage in, garbage out.
- Speak to other organizations who have launched similar projects successfully.

Questions?

Thank You!

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