

OBADA the Open Blockchain for Asset Disposition Architecture

An NFT Registry *for Physical Asset Data*

A tool for ITADs to provide chain-of-custody.

Built and run by stakeholders in the asset disposition sector.
Based on an open data standard stewarded by the **OBADA Foundation**, a 501c(6) nonprofit.

ITAD EXPLAINER

August 2021

Introductions

Rohi Sukhia

- Founder, OBADA Foundation
- Founder & CEO Tradeloop Corporation
- BOD Member, Repair.org
- Committee Member ISO TC 307 "Blockchain and Electronic Digital Ledger Technologies".

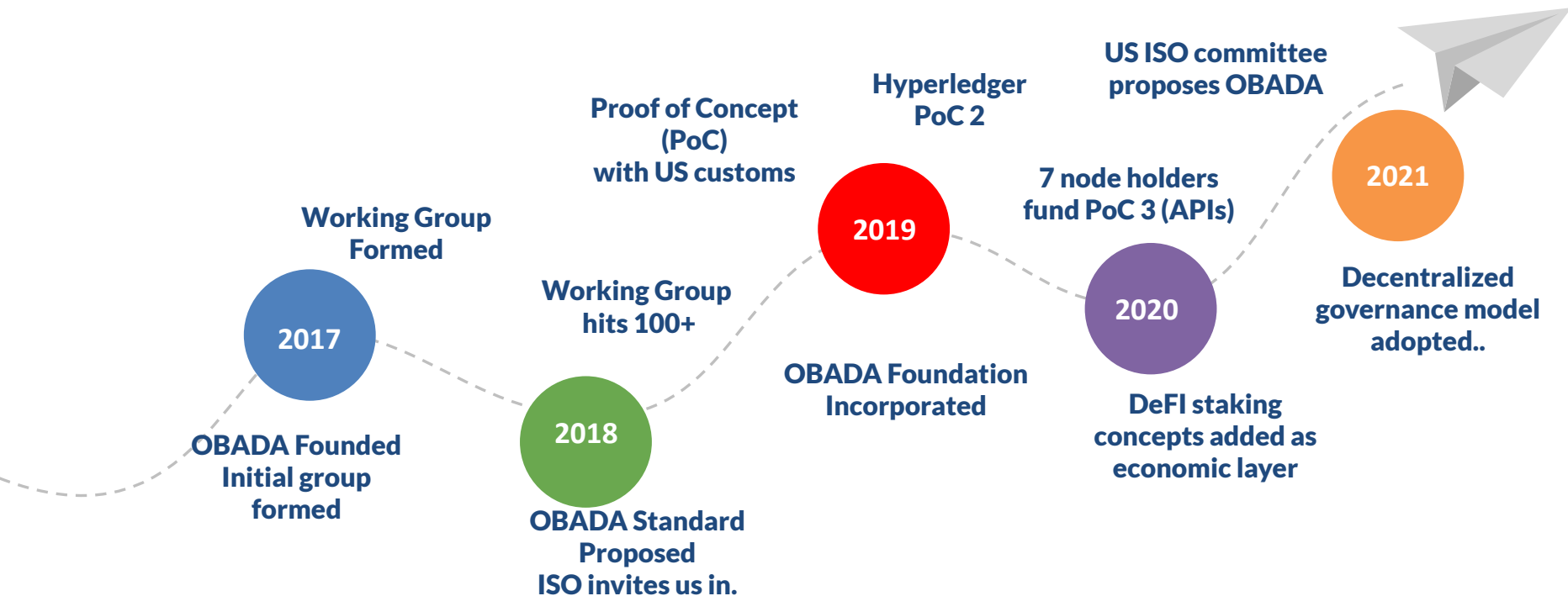


Dr. Ron Lembke

- Chair, Standards Committee, Reverse Logistics Assoc.
- Lead author, 12N QR code standard
- Board Member, OBADA Foundation
- Chair, Marketing Department, University of Nevada
- Assoc. Professor, Operations Management and Business Analytics



OBADA's History



OBADA Mission / Tenets

Platform

1. Maximize decentralization.
2. Open: a semi-public utility, interoperable with any other blockchains or system.

Governance

3. Complete business privacy, with methods for accountability.

Economic

4. Transaction based economics, to enable permissionless innovation.

ITAD 2018: The *promise* of blockchain.

ITAD 2021: Blockchain is *happening*

2021: Blockchain is going through the roof

\$8 trillion in settled transactions

- Ethereum is a financial settlement platform 4 times the size of Paypal

\$2.5 billion of NFTs were sold in 1H 2021

- up from just \$25 million last year.

\$18 billion in platform revenue

- Ethereum is a compute platform larger than AWS

This is our focus. OBADA is building a registry to store NFT data..

An NFT Registry.

\$118 billion in decentralized finance

- DeFi is now larger than all but 15 banks, and it *was just invented last year.*

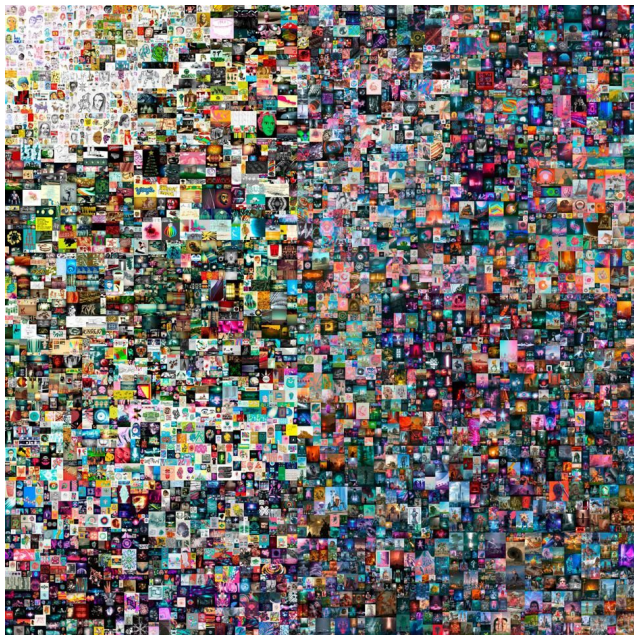
But what the hell's an NFT?

2 Minute Video Setup:

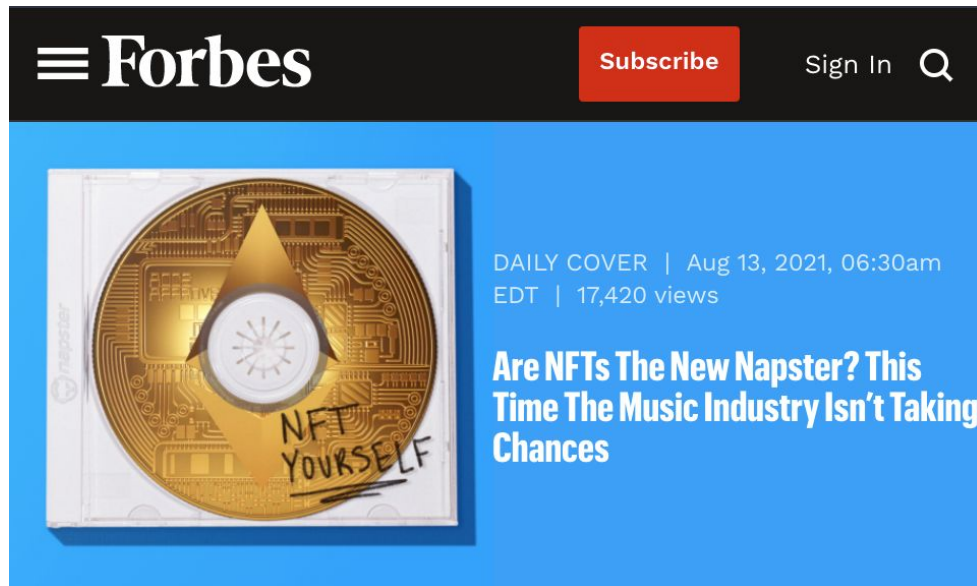
Janet Yellen (Secretary of the Treasury) and a professor
explain NFTs to a college class.



Art and Music NFTs



Artist: Beeple. Sold for \$69 million.



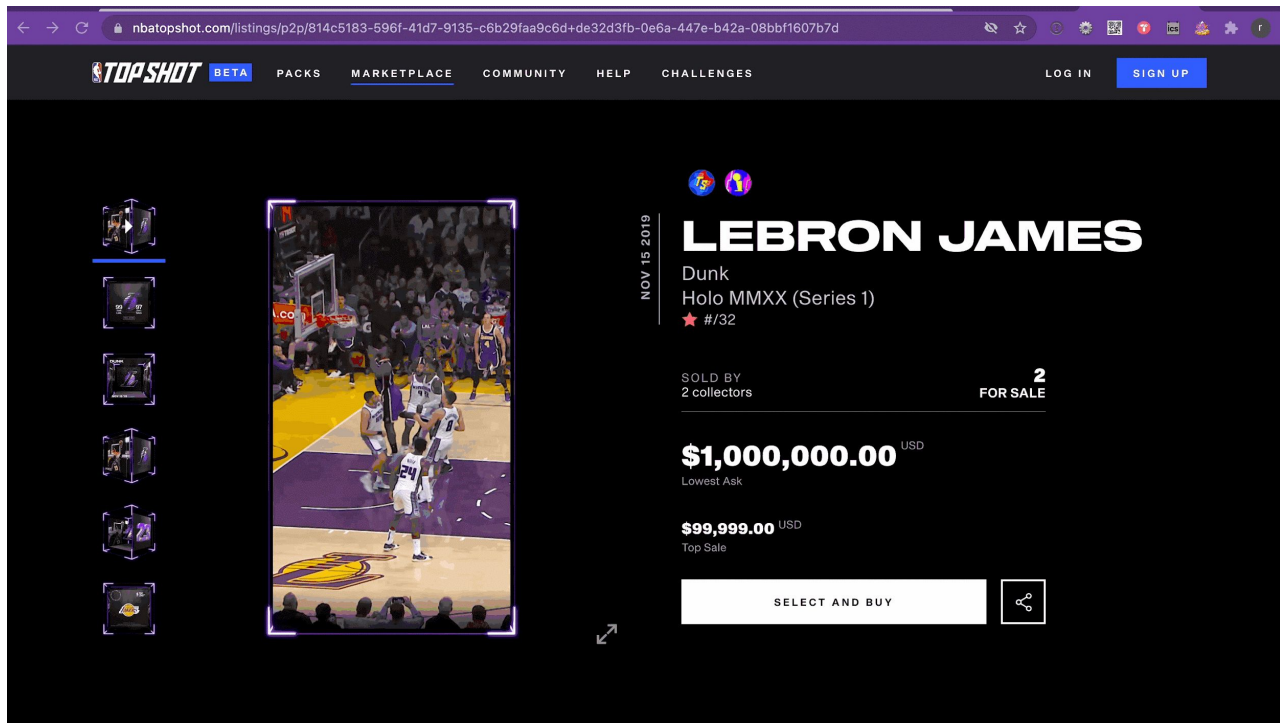
An artist creates an NFT, sells it, & collects royalties.
The "Kings of Leon" already did.
Will the music industry have a role?

Sports & Collectables NFTs

Baseball cards go digital

- NBA Top Shots
- Topps NFTs
- UFC
- Summer Olympics
- etc..

People value uniqueness & trust the security of the platform.



NFT Avatars are the new status symbol



Jay-Z Changes His Twitter...



Video Game NFTs

Birth of the "Play to Earn" Genre.

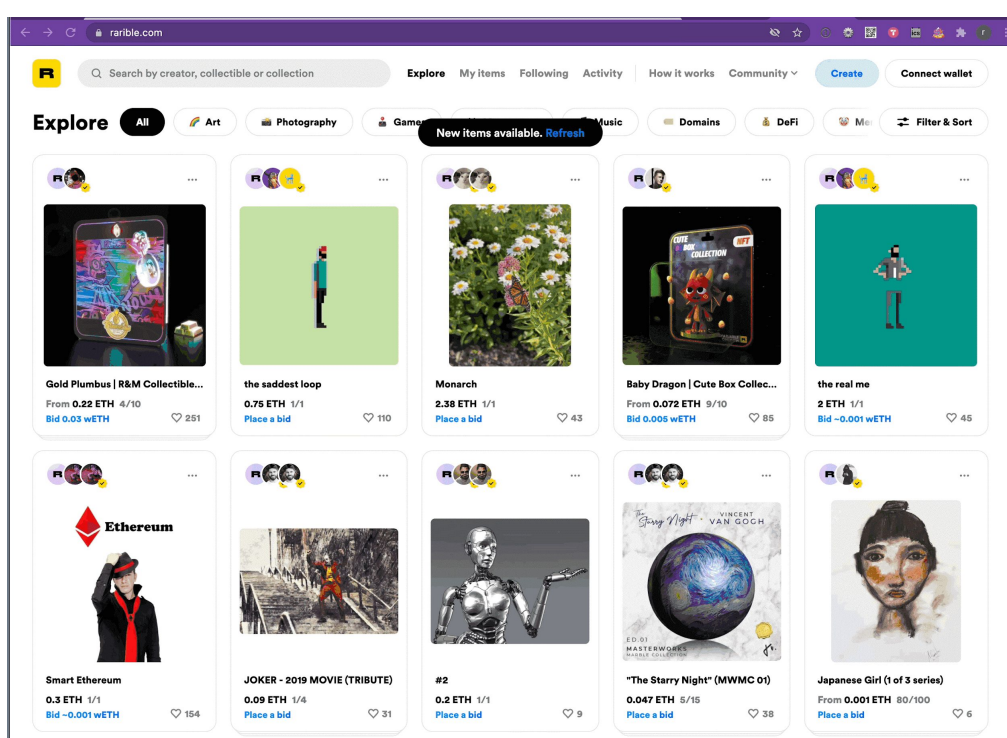
Axie Infinity is currently the highest revenue blockchain application: \$35 billion in July 2021.

Driven by gamers in emerging markets, earning more playing than the local economy,



NFT Marketplaces are Exploding

Opensea.io did \$20M in 2020. They are now do \$50M in NFT sales daily.



MARKETPLACES			
MARKET	TRADERS	VOLUME	
1 OpenSea	214,446	—	\$1.625B
2 Axie Infinity	362,372	—	\$1.203B
3 CryptoPunks	4,187	—	\$677.862M
4 NBA Top Shot	418,468	—	\$639.351M
5 Rarible	66,914	—	\$184.52M
6 Sorare	27,523	—	\$97.421M
7 SuperRare.co	4,237	—	\$91.008M
8 AtomicMarket	628,892	—	\$73.236M
9 Foundation	13,271	—	\$55.271M
10 PUNKS Comic	2,379	—	\$48.357M
11 Decentraland	5,959	—	\$36.326M
12 Aavegotchi	4,851	—	\$27.403M

How long until we see physical asset NFTs?

rarible.com


Search by creator, collectible or collection


Explore My items Following Activity How it works Community

Create Connect wallet

Explore All Art Photography Games Music Domains DeFi Me Filter & Sort

New items available. Refresh

 ...





Gold Plumbus | R&M Collectible...

From 0.22 ETH 4/10

Bid 0.03 wETH

♡ 251

 ...





the saddest loop

0.75 ETH 1/1

Place a bid

♡ 110

 ...





Monarch

2.38 ETH 1/1

Place a bid

♡ 43

 ...





Baby Dragon | Cute Box Collec...

From 0.072 ETH 9/10

Bid 0.005 wETH

♡ 85

 ...



the real me

2 ETH 1/1

Bid ~0.001 wETH

♡ 45

OBADA's Role

There's now a big digital infrastructure for NFTs.

But there is no connection to the real world.

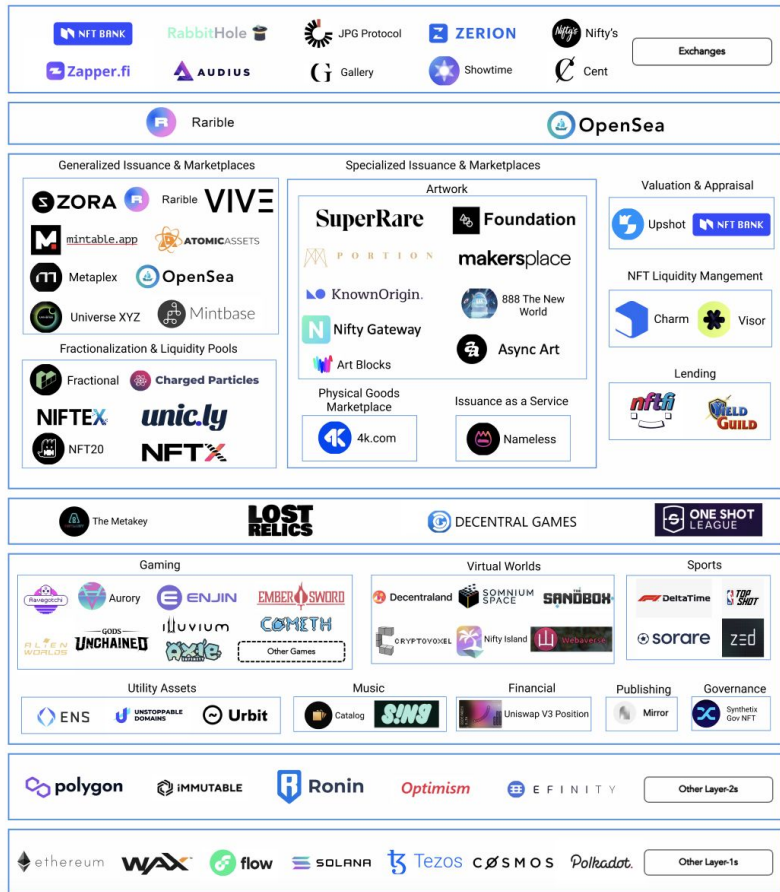
OBADA is building that connection.



The NFT Stack



The NFT Stack

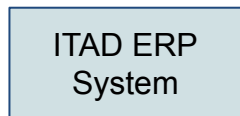


ITAD Explainer

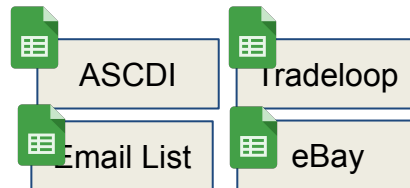
Dr. Ron Lembke

How the ITAD sector manages asset info today

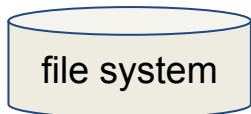
Inventory **copies** are sent around **manually**.



- Something sold? Update each site.
- None are “in synch” with the current stock.
- These sites are in “control” of your data.



Device documentation is sent **manually**.



- Functionality Reports
- Cert of Data Destruction
- Other device info



Collate &
Organize



Payment processing is done **manually**.

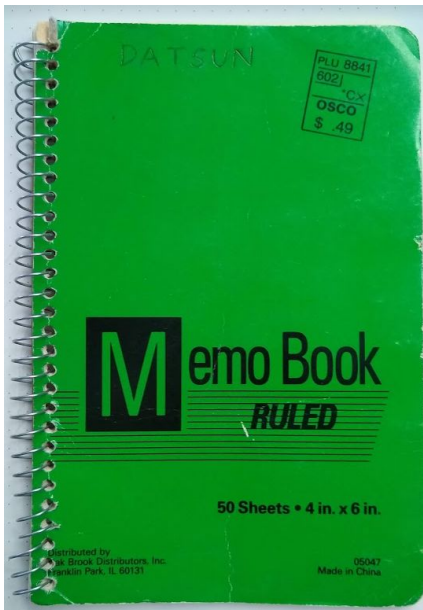


- PO, Invoices, etc..
- “the check is in the mail”
- etc..



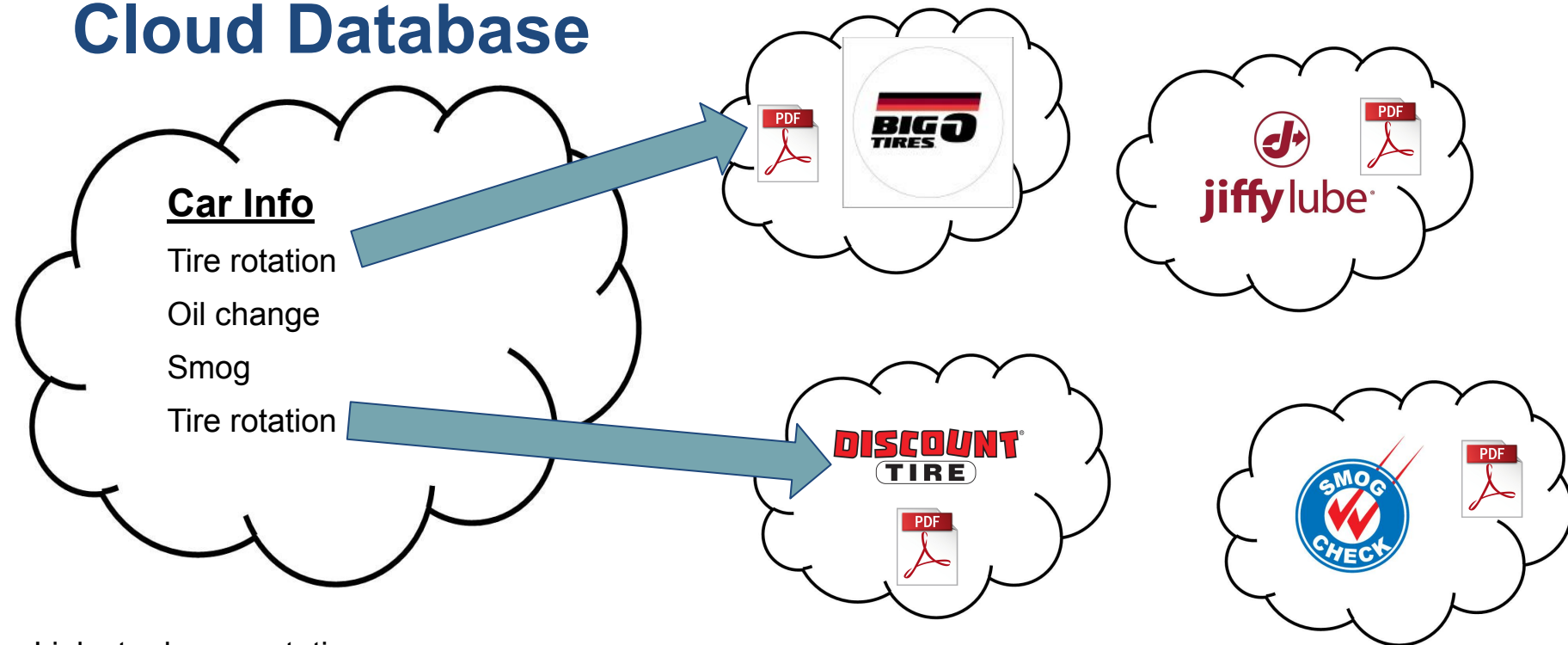
Buyer

Paper-based Recordkeeping



- Difficult to update (therefore out of date)
- Only trusted by creator
- List of transactions
- Documentation offline in manila folder

Cloud Database

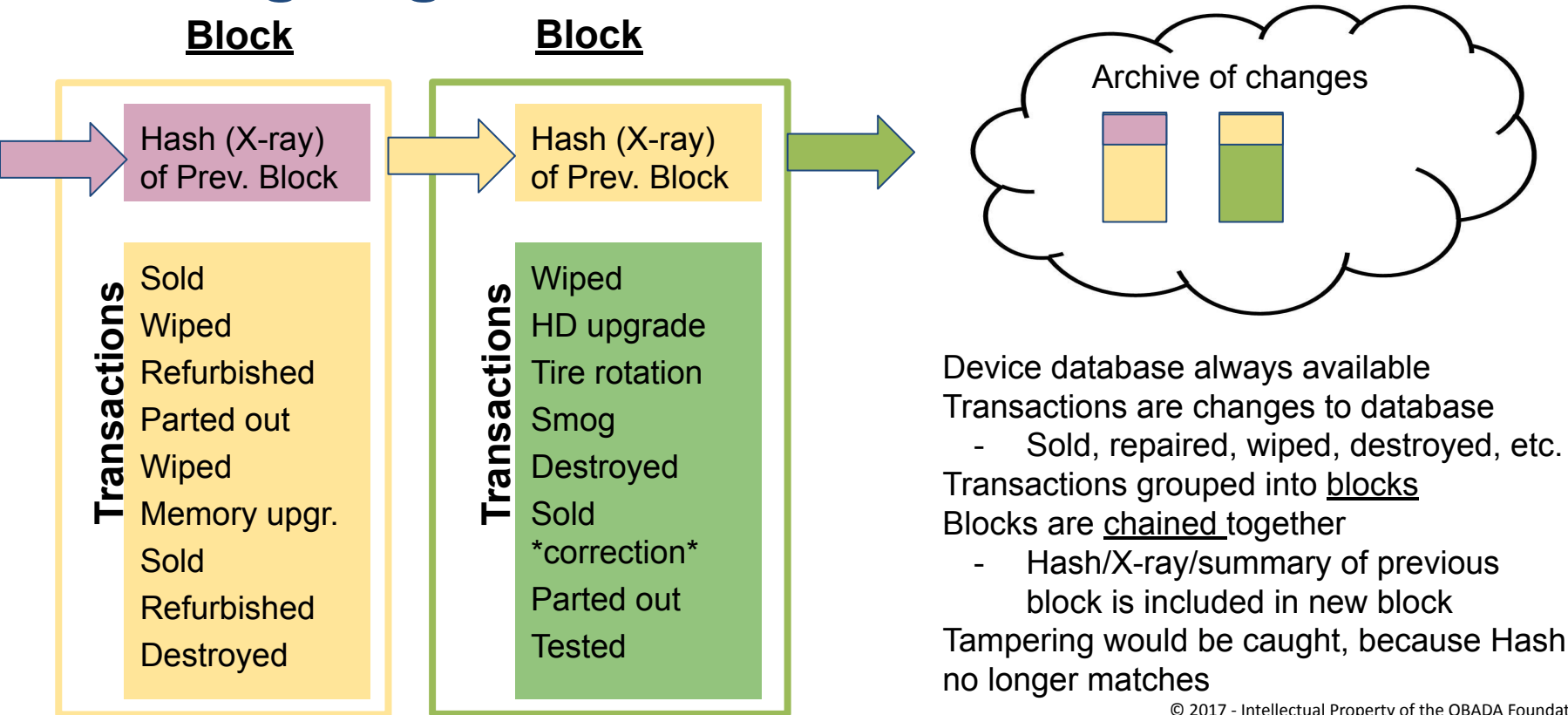


Links to documentation

Data online, up to date, verified, trusted

User chooses what information to share with whom

Changelog Archive = Blockchain



The OBADA Solution: A "Carfax" for every device.

This "Carfax" is an NFT.

- a non-fungible token

It's like a digital logbook of the devices' history (similar to a carfax) including a digital certificate of ownership.

The NFT is a "**digital twin**" of the physical asset, permanently "tied" to the physical device.

The NFT can even provide an IOT connection to the physical device.

OBIT NFT *Digital Twin*

USN: [1V3Z-JwPg](#)



OBIT ID: 0f89...c43e

Physical Asset: Dell model 2714h, SN# CN0NV2C46418045H1CBS

Owner: 9De6....A69j

Asset Status: **Functional, Authentic**

Disposition Events: [view](#)

Data Root Hash: d9b97a2fcace15764057d06f4d47ca754760235e3a5f6684bcff961bb07e80f6

Service History & Proofs

Authenticity: **Genuine** (ZKP) - [proof](#) from Dell

Warranty: **Active** - [proof](#) from Dell

Data Status: **Sanitized** (ZKP) - [proof](#) from TechSpec

Functionality: **Functional** (ZKP) - USODY [Diagnostic Report](#)

Operating System: **Valid COA** (ZKP) - [proof](#) from Microsoft

Pre-paid CoC Orders

- \$3 for Drive Wipe
- \$2 for Recycling Report

Send reports to: happyguy72@hotmail.com

NFTs are decentralized. No central authority.
You create the NFT. You own the NFT.

These "Carfax" NFTs are stored in an open Registry.

Like a cloud database

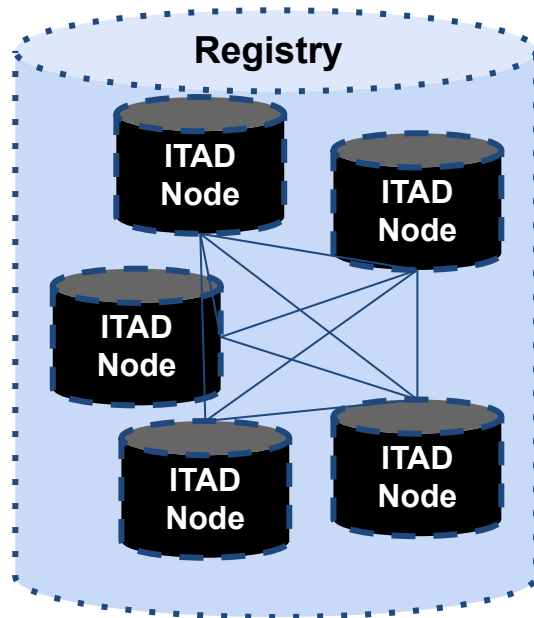


It's really just a collection of synchronized database "**nodes**".

ITADs run the nodes. ITADs vote on changes. ITADs set the fees. ITADs share the platform profits.

These ITAD Node Holders are in effect the "owners" of this decentralized business.

But it's decentralized.



How the ITAD sector will manage assets, using NFTs

Inventory **syncs**

and **you control**
who sees it.

ITAD ERP
System

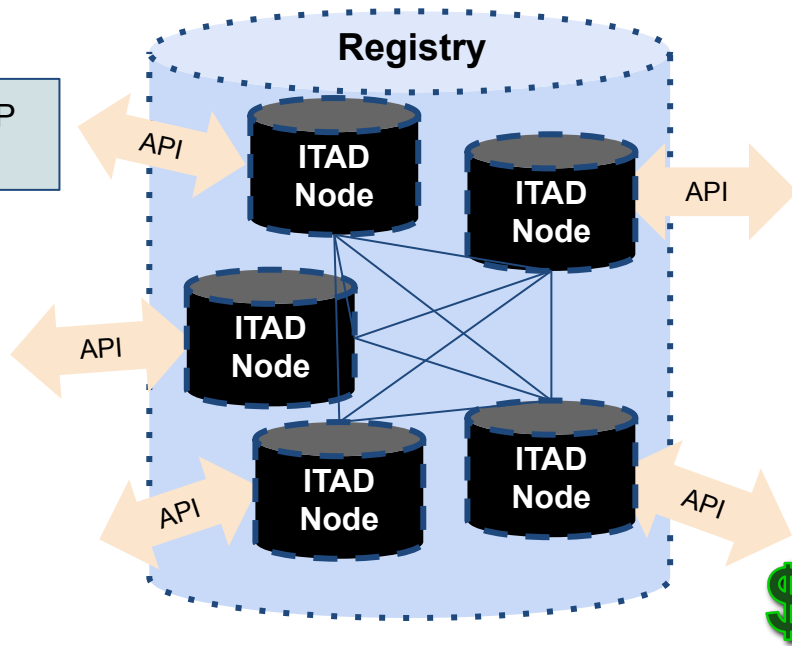
All documents **sync.**

Docs are **provable**.
All changes are
transparent.

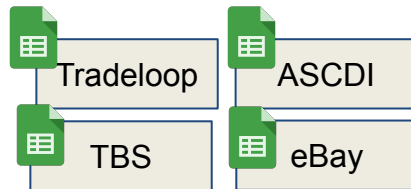


Services are **provable**

Drive wipes, functionality
reports, and proof of
recycling are all recorded to
the blockchain.



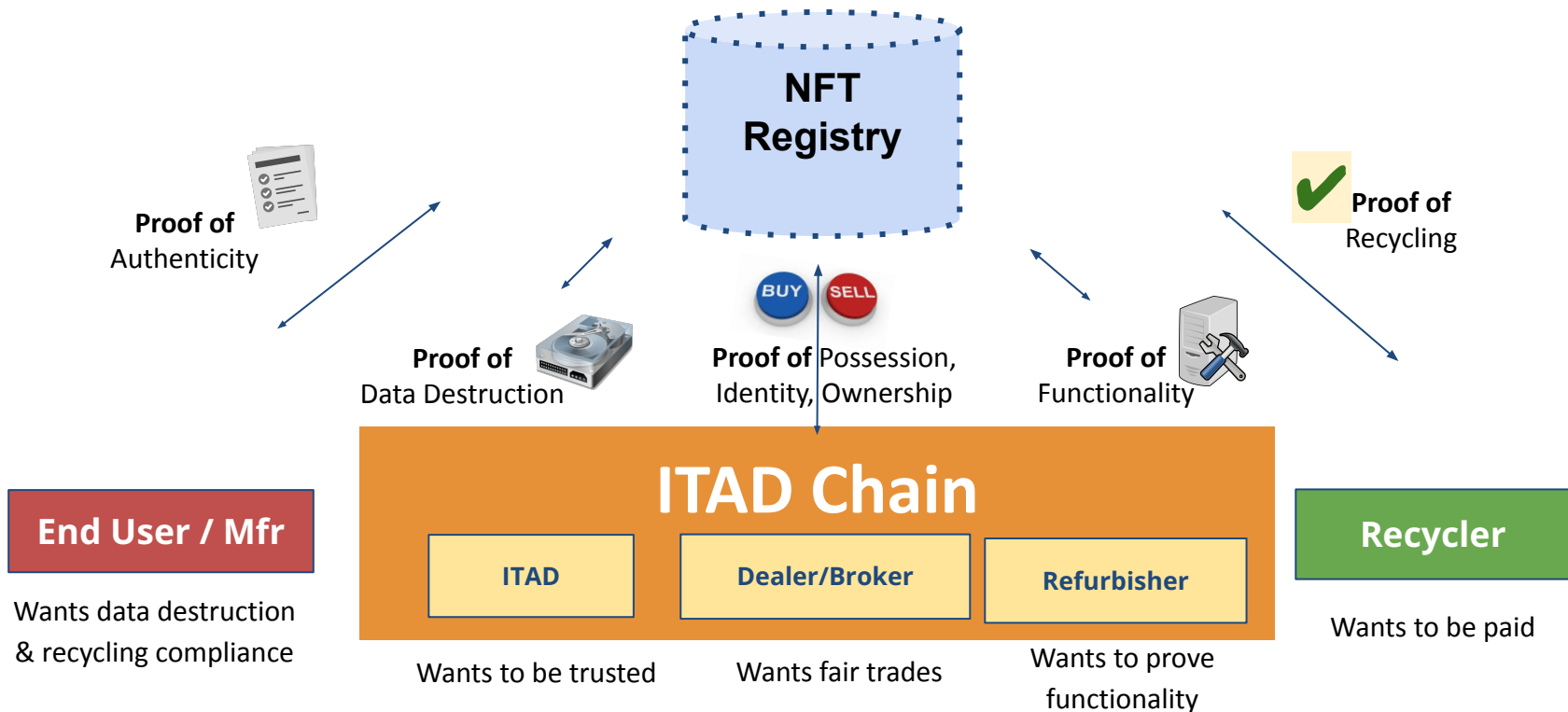
All parties see the **same**
syncd devices.



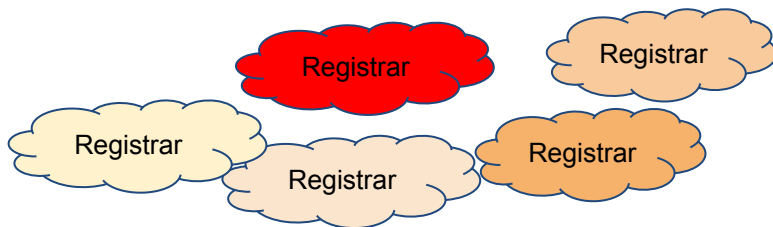
Payments are **digital**

The go directly from user
to user. **No middleman.**
No bank.

The Registry enables proof of "chain-of-custody" events.

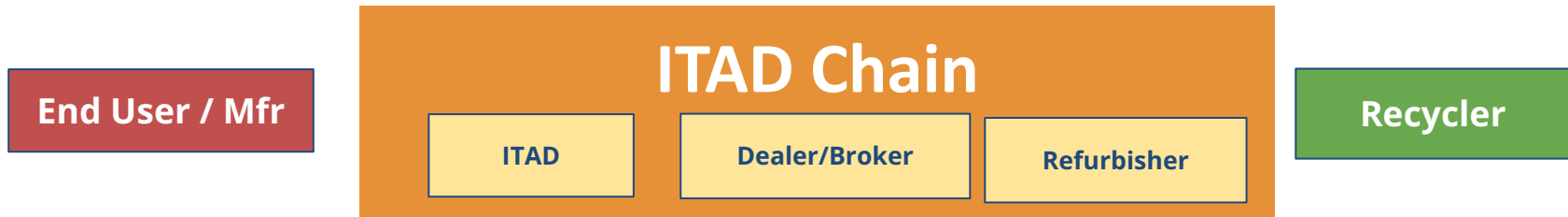


Identity Management: Trusting the Actors



Authorities can contact the registrar to request their identity.

Users are anonymous on-chain... they access the Registry via **anonymous IDs** provided by a "registrar" of their choice (trade associations, membership orgs, etc.)



Financial Model

- Who pays for this and who gets paid.

DISCLAIMER: This is not a solicitation for investment.

The token mechanisms described below are intended to provide utility.
They are not intended to be an investment vehicle.

"System credits" are used for payments

These credits are **tokens**, akin to casino chips or video arcade tokens.

A Fixed Supply

100 million tokens total
will be created to float
through the system.



Tokens are reusable.

They can be resold to others with no
middleman.

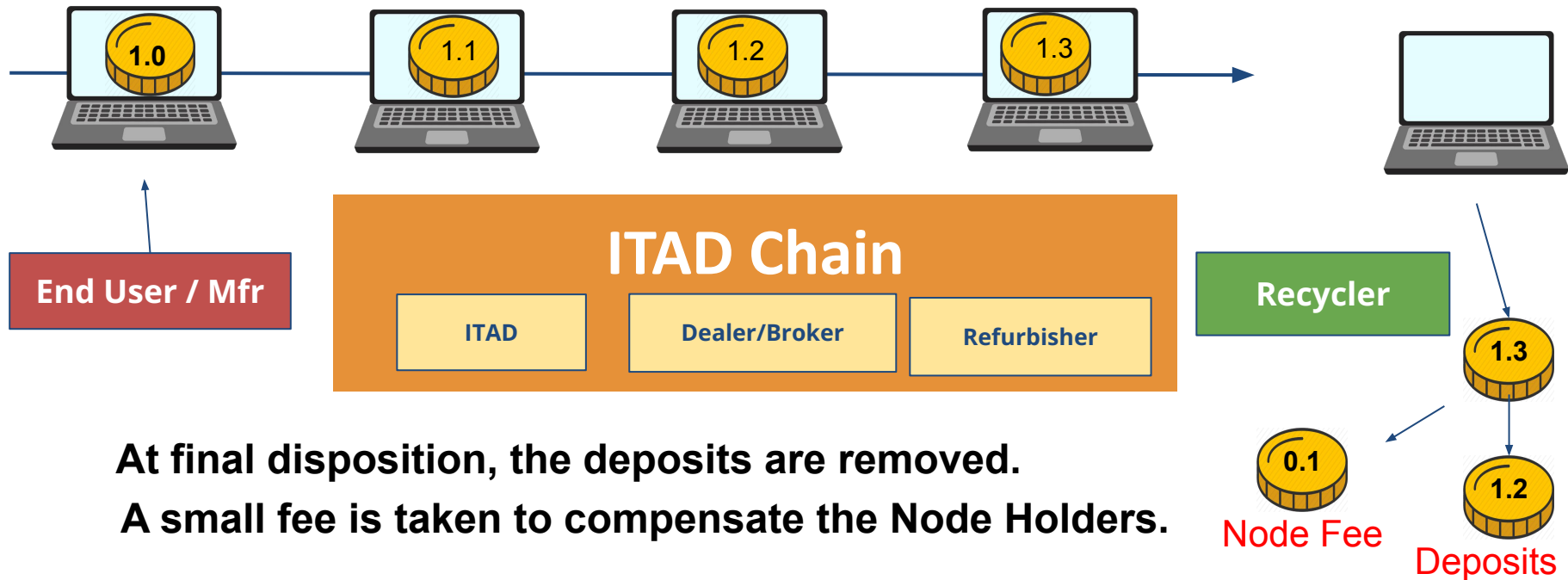
Tokens are used..

- to pay platform fees
- for chain-of-custody reports
- to obtain node rights
- any user-user transaction, es.
micropayments

Tokens are "staked" to the NFTs to pay for the system

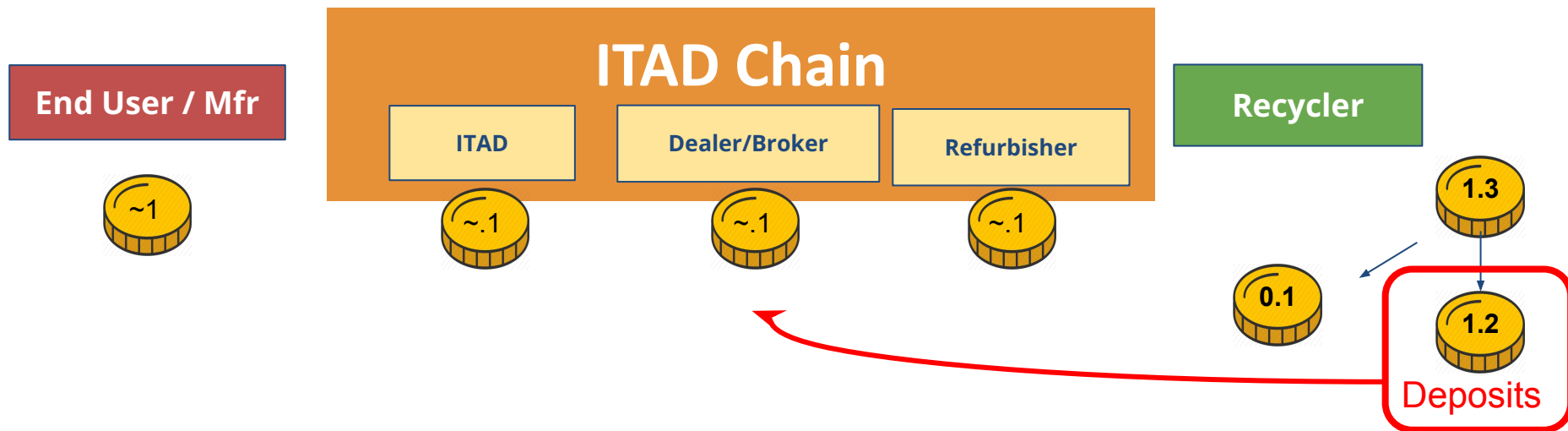
End users make a deposit

"Industry" makes smaller deposits



The deposits are returned.

Less the small Node Fee.

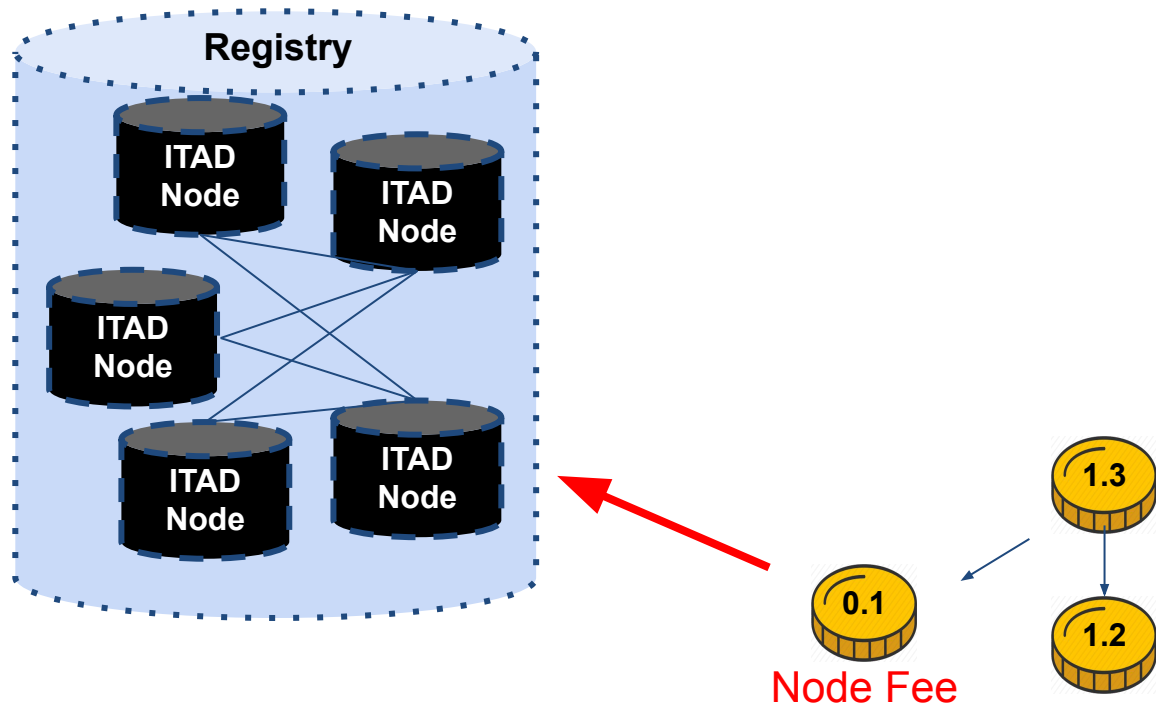


The Node Fee is distributed to Node Holders

To compensate for their computer power.

The intent is to keep this "industry" fee low.

The fee covers their costs plus a reasonable margin.



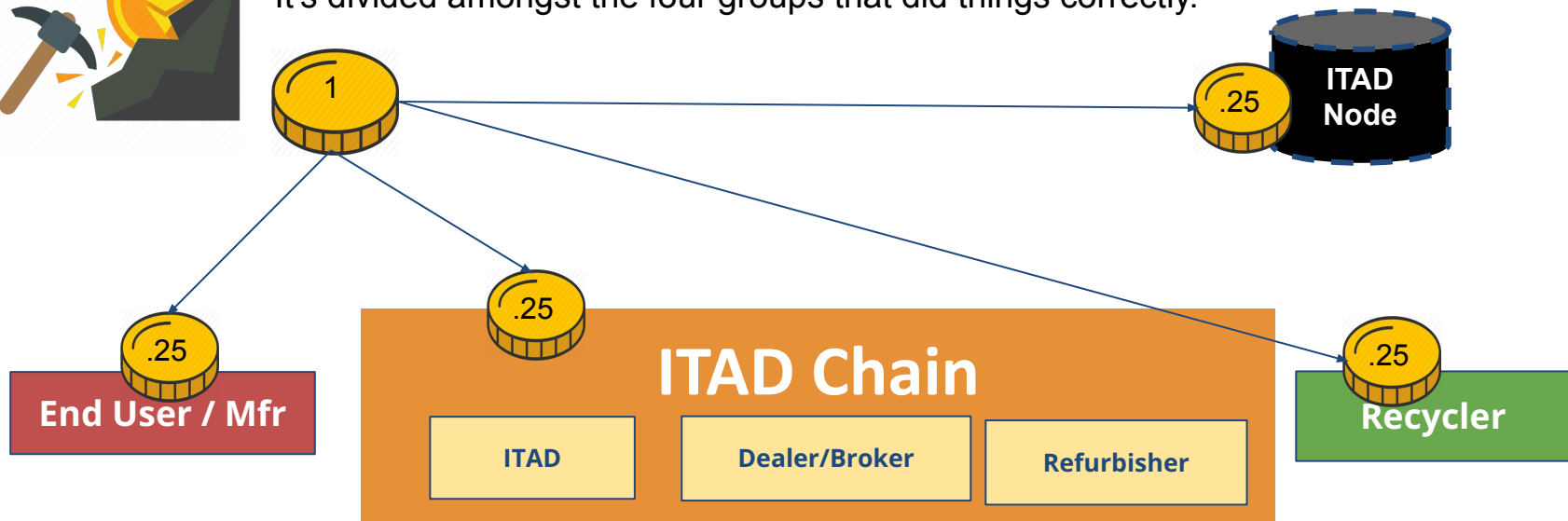
A recycling reward: mining replenishes the token supply.

This is the only source of new tokens.



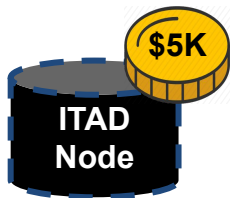
A new token is mined at Final Disposition

It's divided amongst the four groups that did things correctly.



100 Million "System Credit" Allocation

50M sold pre-launch



- For Node Holder Staking
- Token price: \$0.01 to \$0.75
goes up over time
- ~\$350,000 funds development

50M sold at production launch



- For users to stake NFTs and pay fees.
- Token price: \$1.00
- ~\$50M mainly funds a "token buyback pool"



No more tokens will be created.

- Future tokens must be "mined" by proof of device recycling

Node Holders "own" and run this "distributed business"

Requirements

- Node holders **"stake a node"** with \$5,000
- They must run a node server 24/7
- Must be an asset disposition stakeholder.

In return:

- **Voting rights:** one node one vote.
- **Node Rights** to sell production tokens and other services.
- **Revenue Share:** A dividend on the stake via the collected fees and the rewards.

Conclusion

Round 1: Ended

- **9 nodes have been staked**
- Working proof of concept, APIs, reference design, & blockchain explorer.
- Node installation is available on Github.

Round 2: 25 Nodeholders total (for minimum viable ecosystem)

- 10-15 more to be added in the next 2-3 months, pending attorney review of legal docs.

Round 3 & 4: 100 Nodeholders total before production

- \$5,000 stake scaling up to \$0.75 per token (500,000 tokens)

How to Get Involved

Working Group: 1st Thursday 12pm ET at <https://meet.jit.si/obada>

Get notified when new nodes are available: bizops@obada.io

Tech documents (node software, APIs) at www.github.com/obada-foundation

This presentation will be shared on www.obada.io

Rohi Sukhia
rohi@obada.io

Appendix

One Page Summary

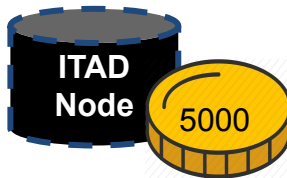
- An NFT Registry operated as a system of nodes, operated by ITADs. Node holders "own" and run this distributed business.
- Node holders gain rights by "staking" \$5,000 to a node.
- Users pay for the system by staking a small amount to the NFTs. The amount is returned at final disposition, less a small fee distributed to the node holders.
- Staking an NFT enables chain-of-custody tracking. ITADs sell this as a service to end-users who pay for the bulk of the system.
- Only 100 million system credits will be created, sold via the node holders, sold at \$0.01 initially but rising in price to \$1.
- Additional tokens are "mined" as reward at final disposition, issued to node holders and the participating actors.

OBADA Nomenclature



The OBIT NFT

The "Carfax" is an NFT called the **OBIT**.



Staking a Node

Node rights are obtained after **staking** \$5000 in OBD to the node.



The OBD Utility Token

An ERC-20 **utility token** called the **OBD**, financially secured by the public ethereum network.



The Reward: Crypto Mining

At final disposition, a new OBD is **mined**. Like bitcoin mining, except by recycling.



Staking the OBIT

Attaching 1 OBD "**stakes**" the **OBIT**. It cannot be removed without proof of final disposition.



The OBADA DAO

Node Holder "governance" is via a decentralized autonomous organization, a DAO.

Foundation BOD & Round 1 Node Holders

OBADA Foundation BOD ^{501c(6)}

1. David Franquesa (PS)
2. Rohi Sukhia (PS)
3. Joe Marion (PS)
4. Charles Brennick (PS)
5. Neil Vill (PS)
6. Ken Jacobsen (SS)
7. Leandro Navarro (SS)
8. Robin Ingenthron (PS)
9. Mark Schaffer (SS)
10. Ron Lembke (SS)
11. *Open*

OBADA DAO Members

1. ASCDI - Joe Marion (PS)
2. GPR - Robin Ingenthron (PS)
3. Rhapsody - Vincent Liu (SS)
4. TechSpec - Charles Brennick
5. Tradeloop - Rohi Sukhia (PS)
6. UNR - Ron Lembke (SS)
7. USODY - David Franquesa (PS)
8. *WDPI - Neil Vill (PS)*
9. *TBS - Mario Biemans (PS)*

PS = Primary Stakeholder

SS = Secondary Stakeholder

The OBADA Standard

Data Layer: A blockchain protocol

- a cryptographic method to generate a W3C DID (decentralized identifier) based on serial numbers and other immutable physical identifiers.
- a URL shortening method to create an 8 character human readable identifier.
- a methodology for creating a single data checksum from multiple data objects
- a DID method for accessing the data as a cryptographic address.

Physical Layer

- real-world methodologies for proving various asset disposition events

Application Layer: A W3C compliant DID Registry

- implements the protocol
- an off-chain governance layer
- an W3C SSI (self-sovereign identity) trust anchor framework for identity management.
- an ERC-20 economic layer

Oracle Layer

- A standard web API for interoperability with layer-1 blockchains, enterprise DLTs, and other systems.