HUMAN COLOSSUS
FOUNDATION

Microledger

Authentic Data Component

Robert Mitwicki
robert.mitwicki@humancolossus.org

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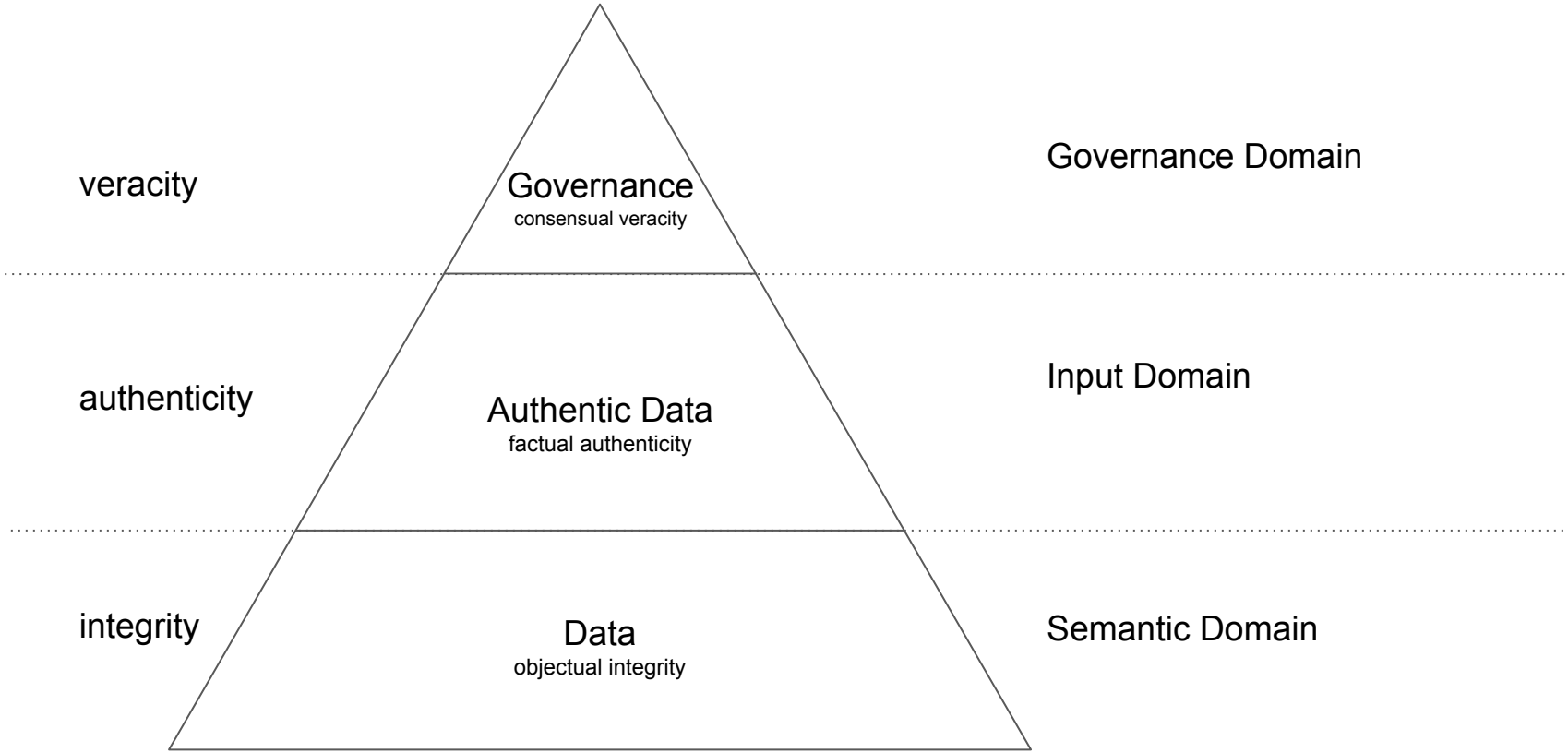
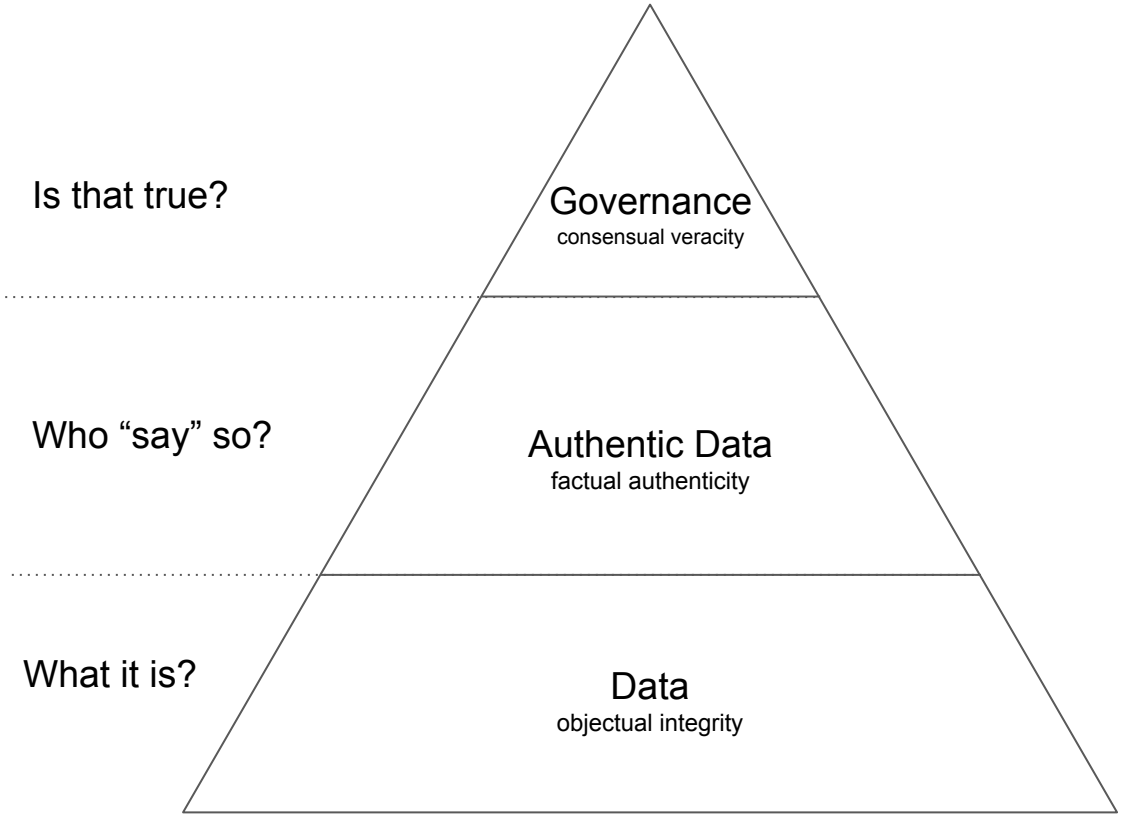
A Microledger is an event transaction log that is cryptographically bound to a self-certifying identifier, enabling auditable account details of the origin, changes to, and details supporting the confidence or validity of data.



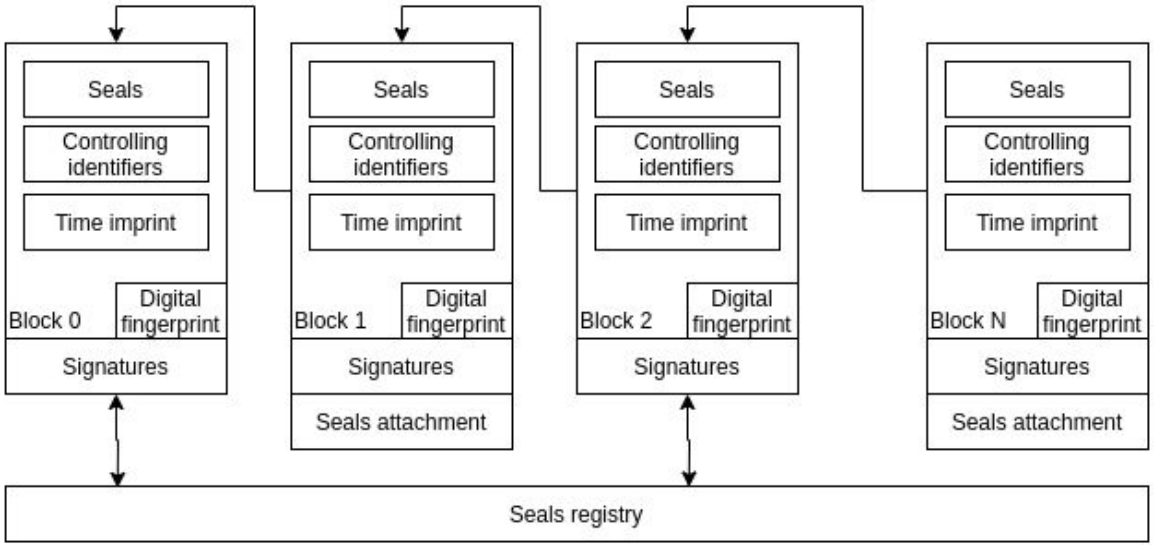


Microledger characteristic

- **End verifiability**
- **Composability**
- **Ownership Transferability**
- **Plugable**

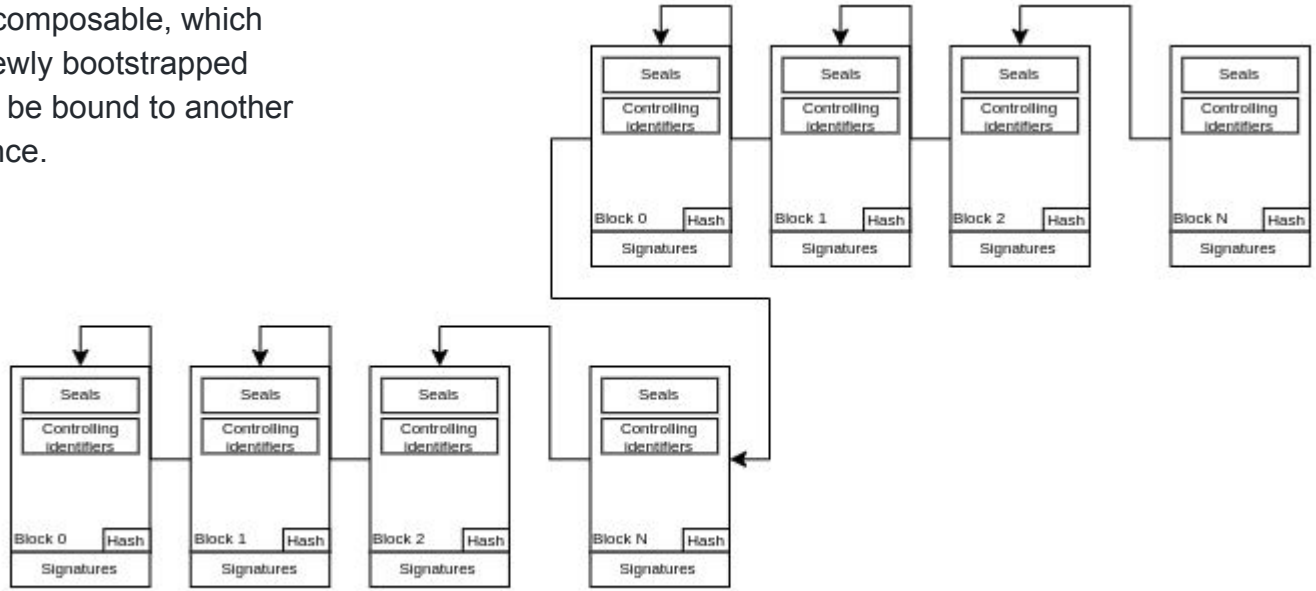
- **End verifiability**

Blocks are chained cryptographically. Each block encapsulates its own `digital fingerprint` and furthermore each next block includes the `digital fingerprint` of the previous block.



- **Composability**

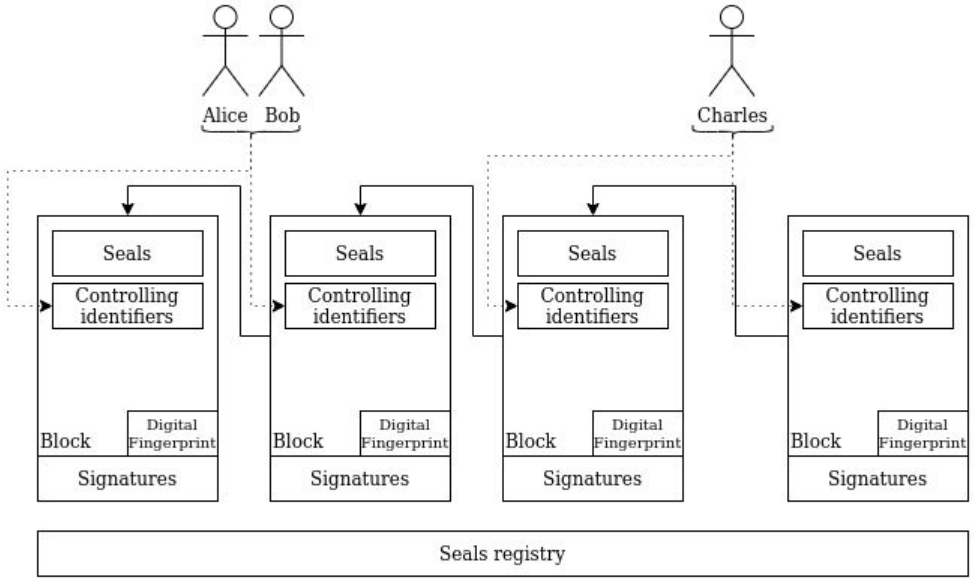
Microledgers are composable, which means that any newly bootstrapped genesis block can be bound to another Microledger instance.



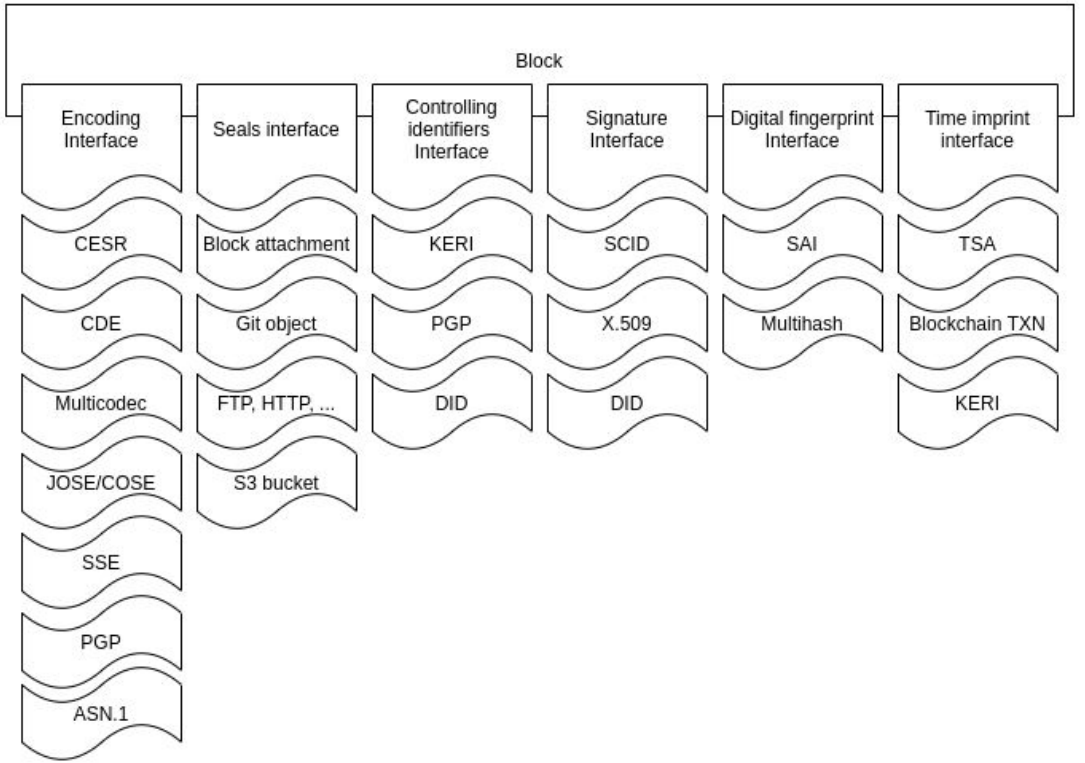
- **Ownership Transferability**

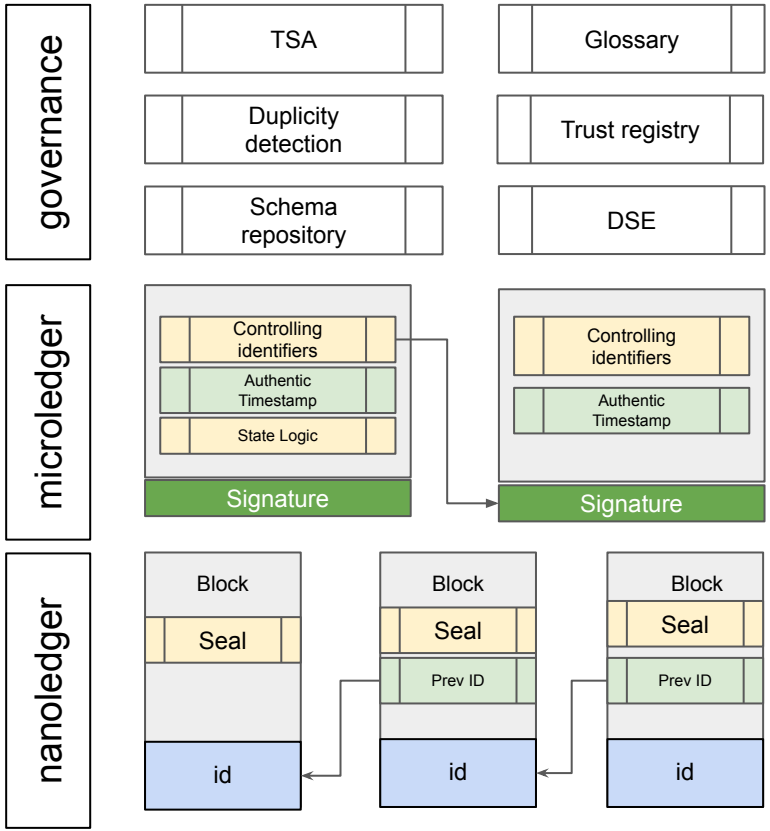
A current custodian (or a set of custodians for multisig) *MAY* transfer the ownership of Microledger to one or more next custodians.

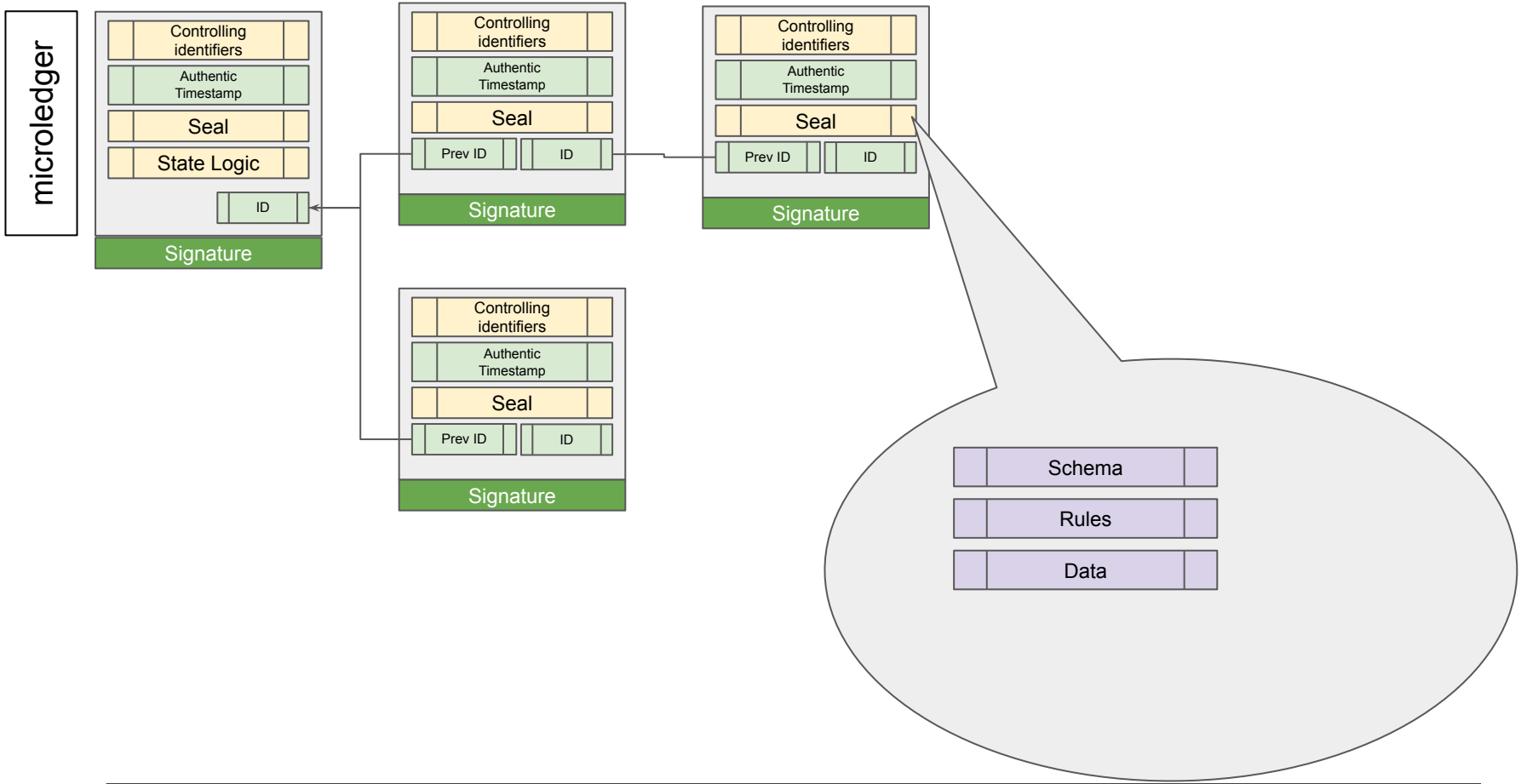
During the course of its lifetime a Microledger does not have an owner at all times. Ownership, under the form of Custodians, is optional and defined per block, in the `Controlling Identifiers` section. So by design Ownership is block scoped and control authority is limited to a given block.



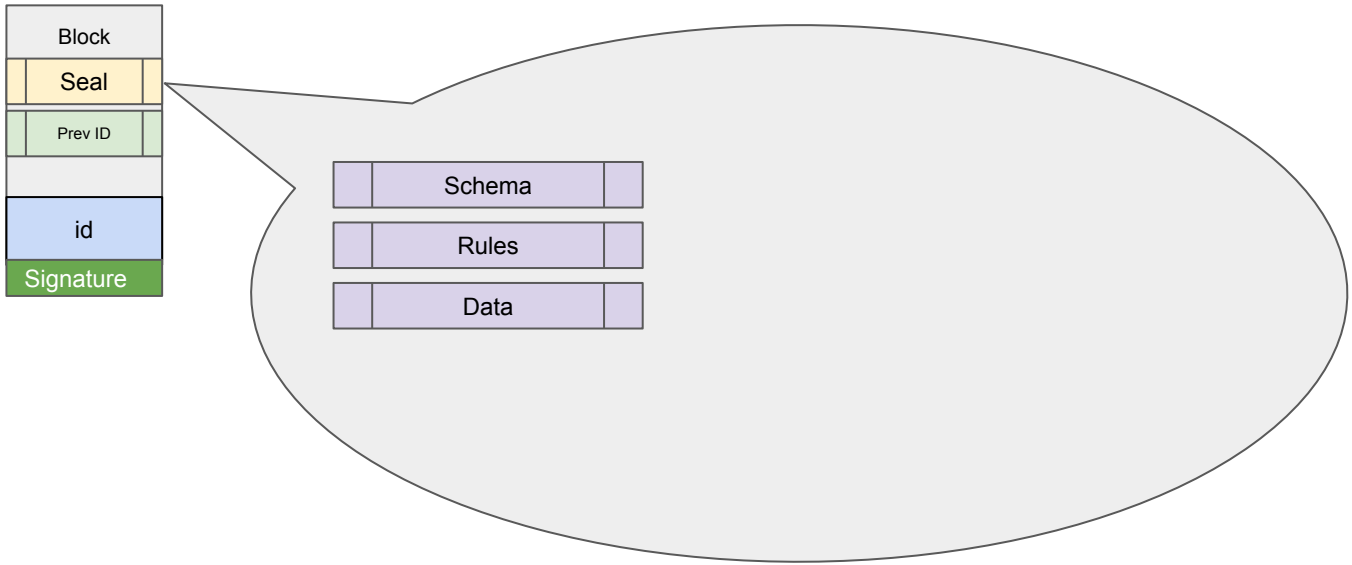
- **Plugable**







Seal allows to anchor any arbitrary data



References:

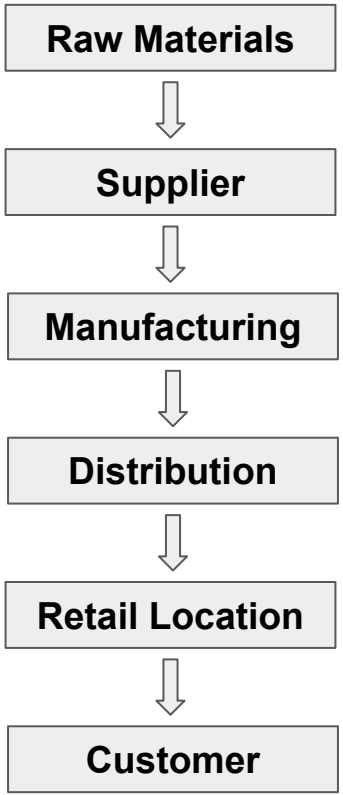
Microledger specification:
https://github.com/the-human-colossus-foundation/microledger-spec/blob/main/microledger.md

Microledger implementation:
https://github.com/THCLab/microledger

ACDC:
https://wiki.trustoverip.org/display/HOME/ACDC+%28Authentic+Chained+Data+Container%29+Task+Force

Data is like electricity it has value when it flows.

Supply Chain - Overview



Supply Chain - Benefits

1. Manage demand
2. Carry the right amount of inventory
3. Deal with disruptions
4. Keep costs to a minimum and meets customer demand in the most effective way possible
5. Feedback loop on every step of the chain

Supply Chain and why you need Blockchain

- Time-stamping, tracking, and automating transactions, so that events can be audited in real time
- Minimizing the involvement of intermediaries such as bankers, insurers, and brokers
- Setting up a wide range of self-executing contracts to automate repetitive processes such as billing and shipping
- Establishing proof of quality, provenance, payment, and performance to minimize counterfeiting and fraud
- Making it easier, faster, and cheaper to onboard new vendors and partners by assigning digital IDs

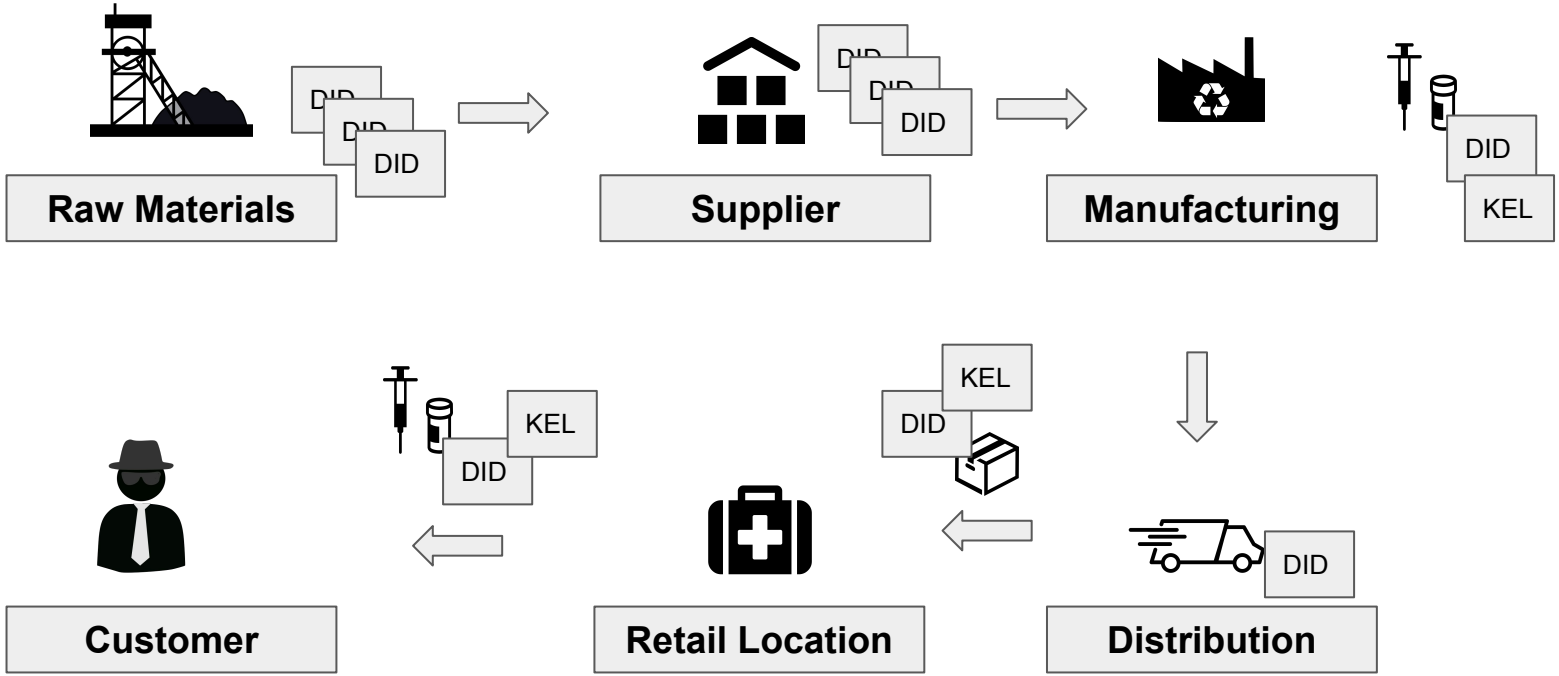
Supply Chain and why you DON'T want Blockchain

- Lack of Interoperability - *my ledger vs someone else ledger*, how to bridge it and navigate
- Problem with Governance Framework - who decided who can join?
- Scaling
- Privacy

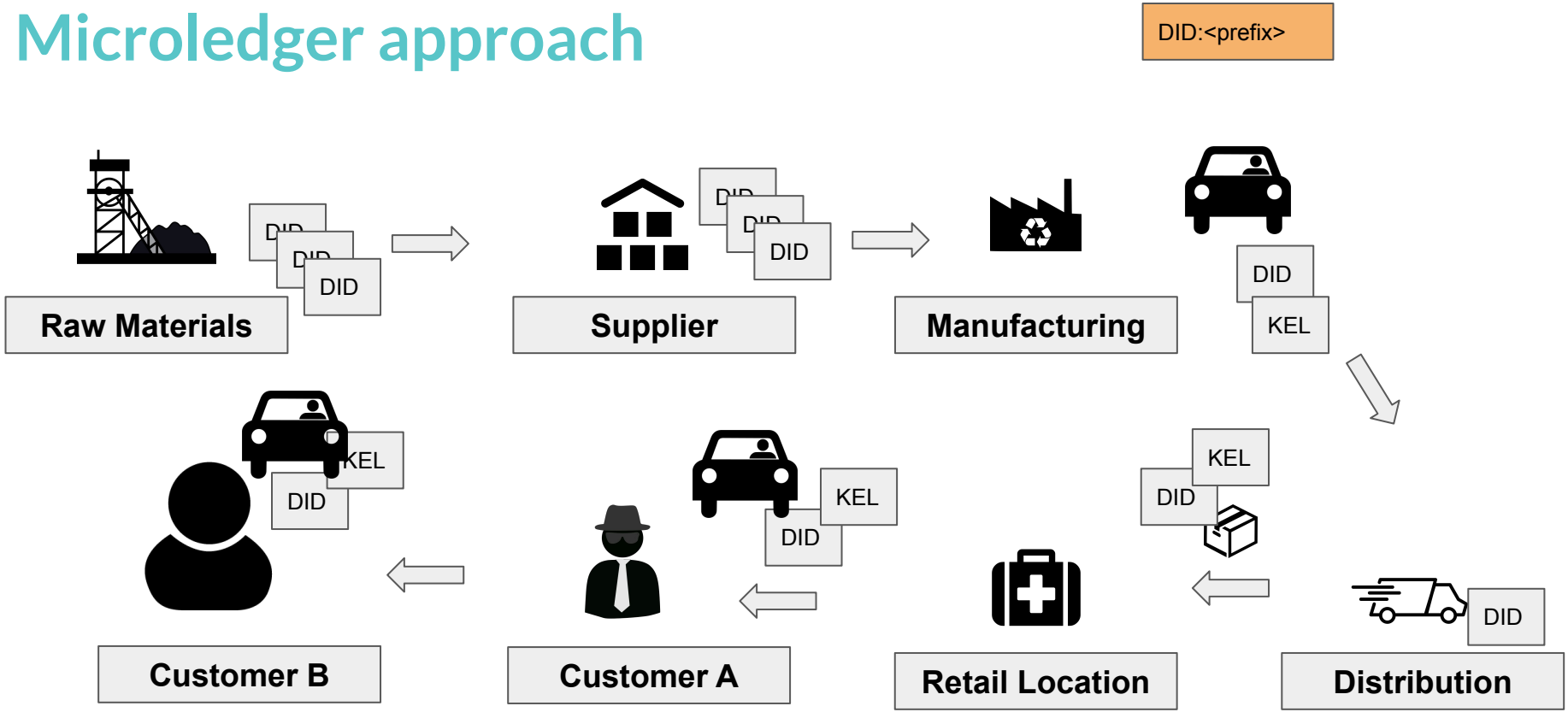
Microledger approach - KERI

Keep in mind that this is not valid DID according to the current DID Spec

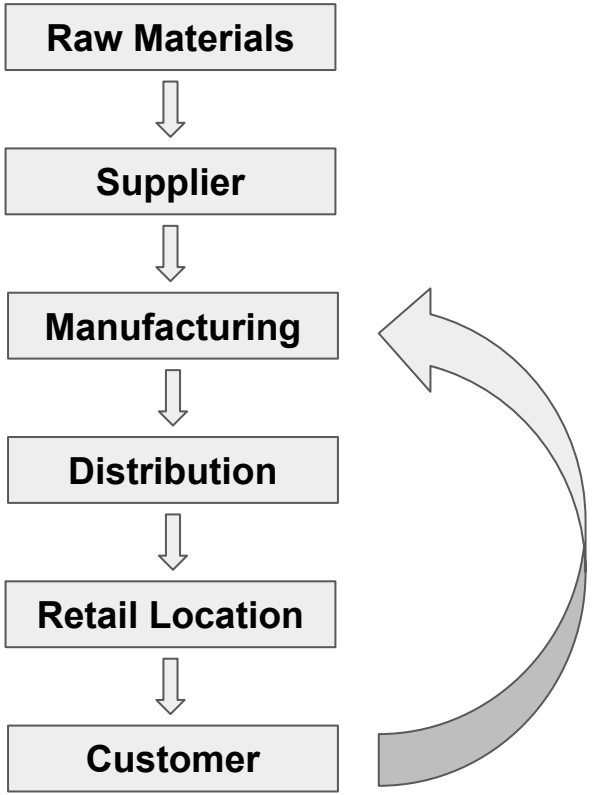
DID:<prefix>



Microledger approach



Supply Chain - Overview



Demand Driven Economy

1. Manage demand
2. Carry the right amount of inventory
3. Deal with disruptions
4. Keep costs to a minimum and meet customer demand in the most effective way possible
5. Feedback loop on every step of the chain

Supply Chain Program

At Human Colossus Foundation, we have established a "Supply Chain Harmonization Program" to attract global partners from different industries (logistics, agri-food supply/farmers, cooling systems, distribution centers, etc.) as a neutral ground and testing bed for supply chain digital infrastructure for anyone to use.

Why?

To create demand driven economy and sustainable supply chain supported by digital infrastructure in **decentralized** way.

What?

Create digital decentralized infrastructure which can be integrated into existing supply chains across all sectors and entities.

How?

User Interface & Business Logic
TDA - Trusted Digital Assistant

Identification and Authorization
Microledger/Authentic Chained Data Containers
Key Event Receipt Infrastructure

Data Harmonization
Overlays Capture Architecture

Decentralized persistence layer
Decentralized Storage Protocol (e.g. **DefraDB**)

Supply Chain Harmonization Program structure

- ***Decentralized Technologies*** *responsible for the development of core components for supply chains,*
- ***Supply Chain Applications*** *is the bridge to enterprise integration with a focus on specific use cases to be developed outside the neutral and non-profit framework of the Foundation*
- ***Ecosystem Development*** *defines the DDE for supply chain strategy roadmap and runs the program management office responsible to ensure the program delivery.*

Supply Chain Harmonization Program Organisation

a foundation within a foundation

Neutrality & Longevity by design

Program must remain compliant with the rules governing a swiss based non-profit foundation with international activities

- ***Steering Co*** *Cooperative governing authority of the program. Strategy, Development Roadmap*
- ***Wealth & Asset Co*** *Program endowment & Project portfolio funding.*
- ***Neutral Oversight.*** Legal Counsel, Auditor, Financial control
- ***Decentralised Program Management office.*** *Responsible to ensure the program delivery (staffed by program participants)*

Questions?

Contact:
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