

# Decentralized Collaborative Web

The BACKFEED recipe for decentralized organisations



Matan Field

# Blockchain-ography

Block Chain	Value System	Gist	Decentralized	Example Use cases	Stage
1.0	Hard-coded Objective	Tracking System	Ledger	Trustless cash, diamonds, art, shipments	Early product
2.0	Soft-coded Objective	Smart Contracts	Execution	Self-executing accounting, banking, games, IoT, contracts	Prototype
3.0	Emergent Subjective	Collective Intelligence	Governance	Decentralized collab, curation, insurance, investment	Research

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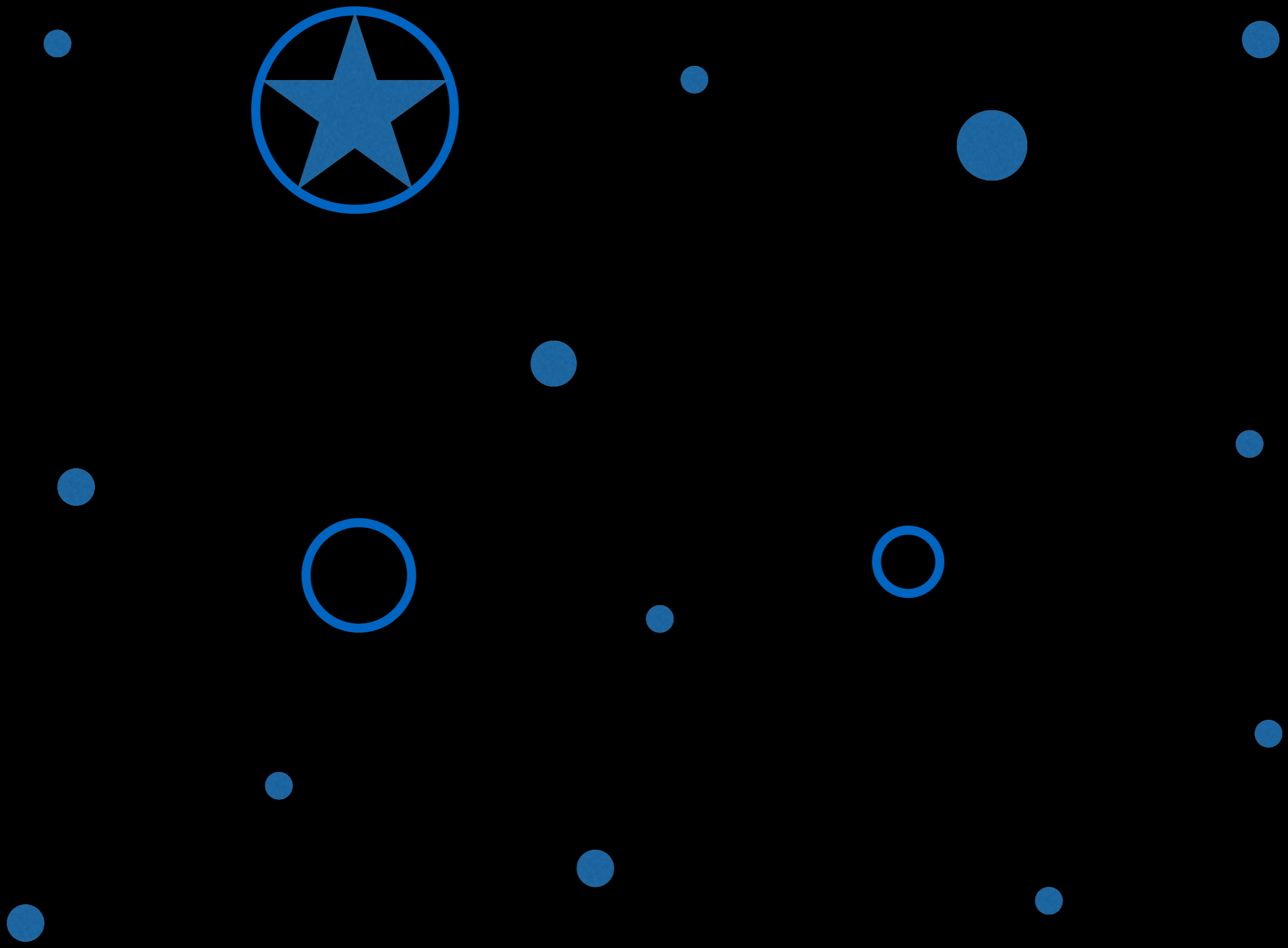
# Backfeed protocol

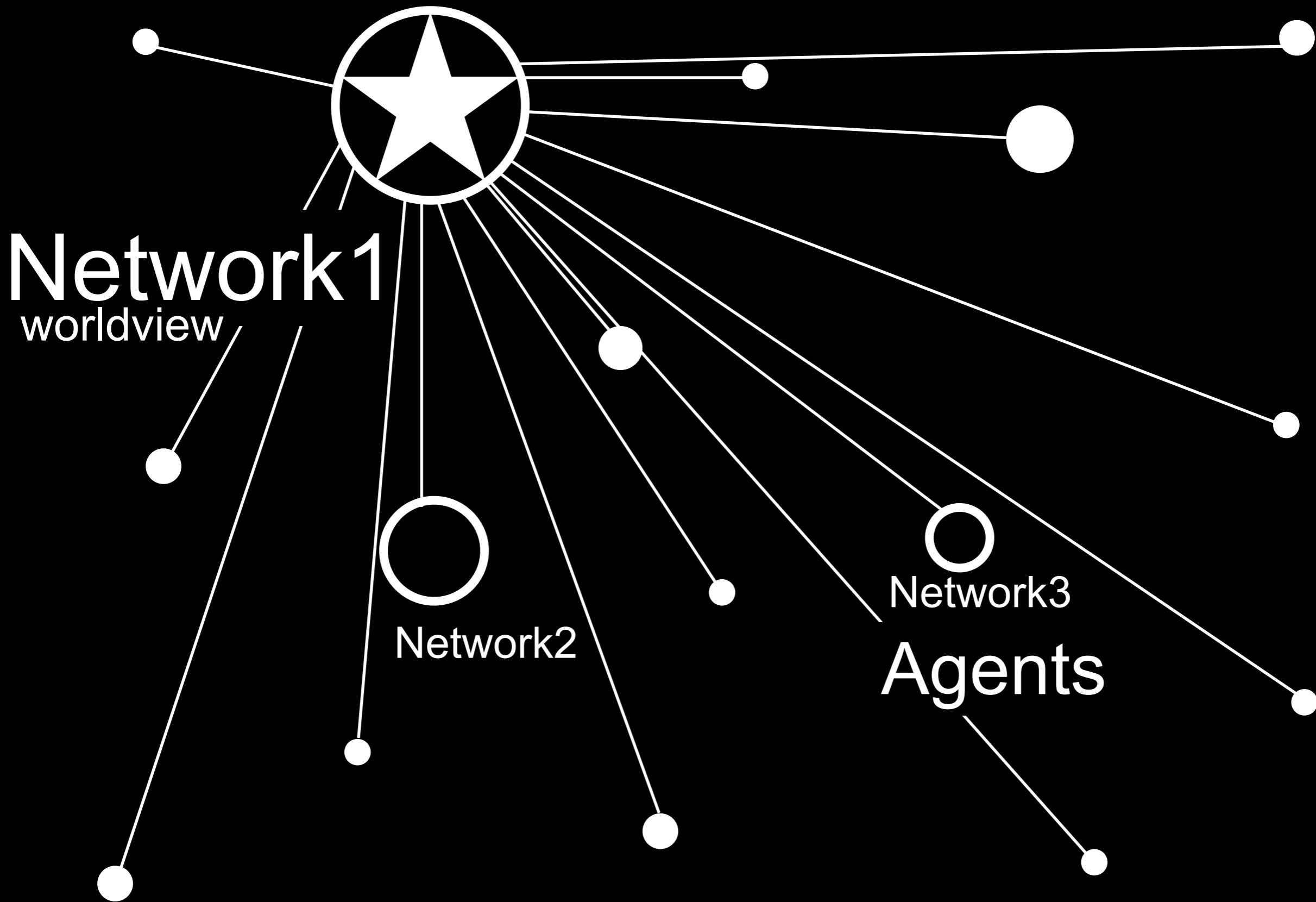
Inter-objective	Inter-networks Relations		
	Inter Reputation	Reserve Funds	Inter curation
Objective	Network Consensus		
	Reputation	Tokens (invest/mine/work)	Curation
Subjective	P2P view and flow of content		
	Trust	IOU	Curation

In the following illustrations let's keep in mind a **decentralized collaboration**,

although a similar protocol can be used for:

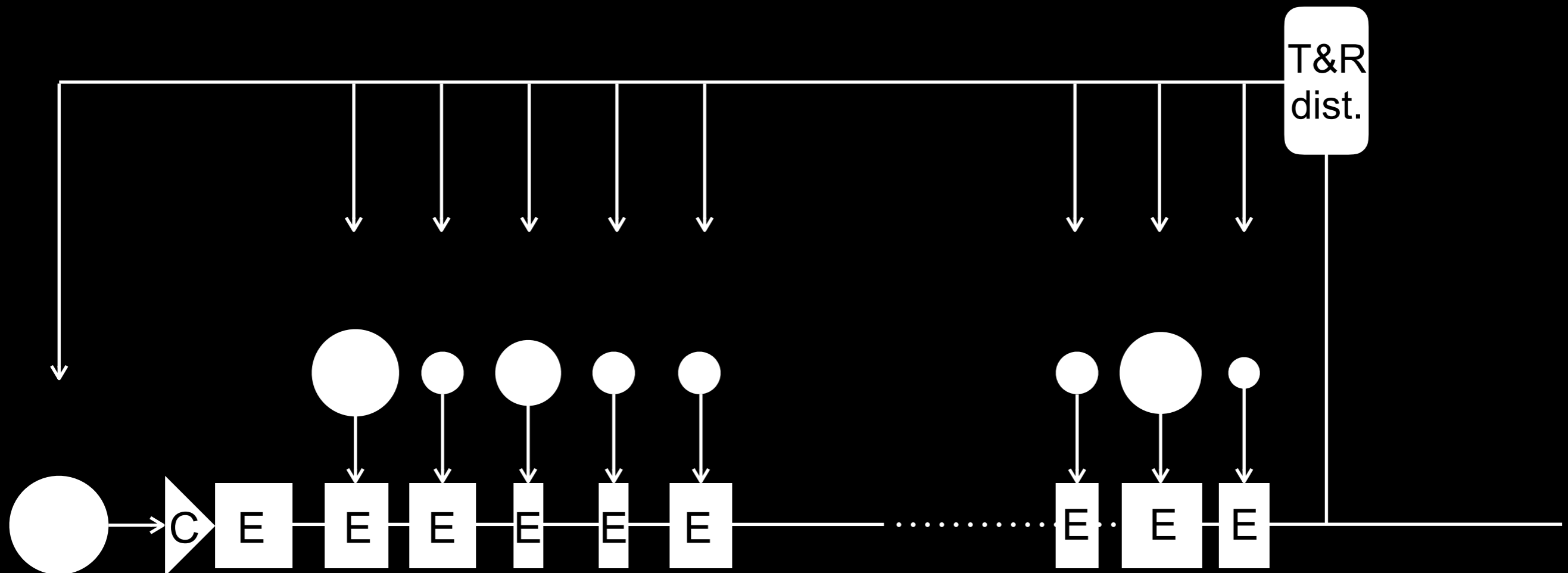
- decentralized insurance
- decentralized investment fund
- decentralized content curation and distribution
- decentralized objects curation (e.g. Yelp)





# Objective layer

intra-network dynamics

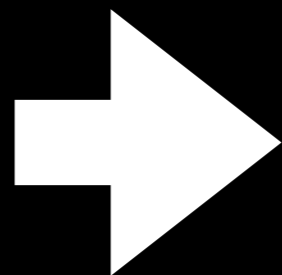




# Objective layer

intra-network dynamics

- **Reputation-weighted voting** for tokens and reputation distribution **per contribution**
- **Reputation-weighted median** issuance of tokens & reputation to contributor (i.e. at majority threshold)
- **Reputation flow** from non-voters, late voters and misaligned voters **to early aligned voters**

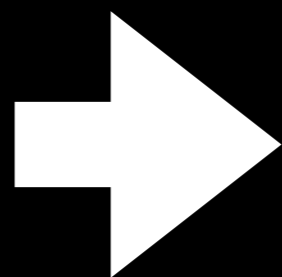


BACKFEED loop

# Objective layer

intra-network dynamics

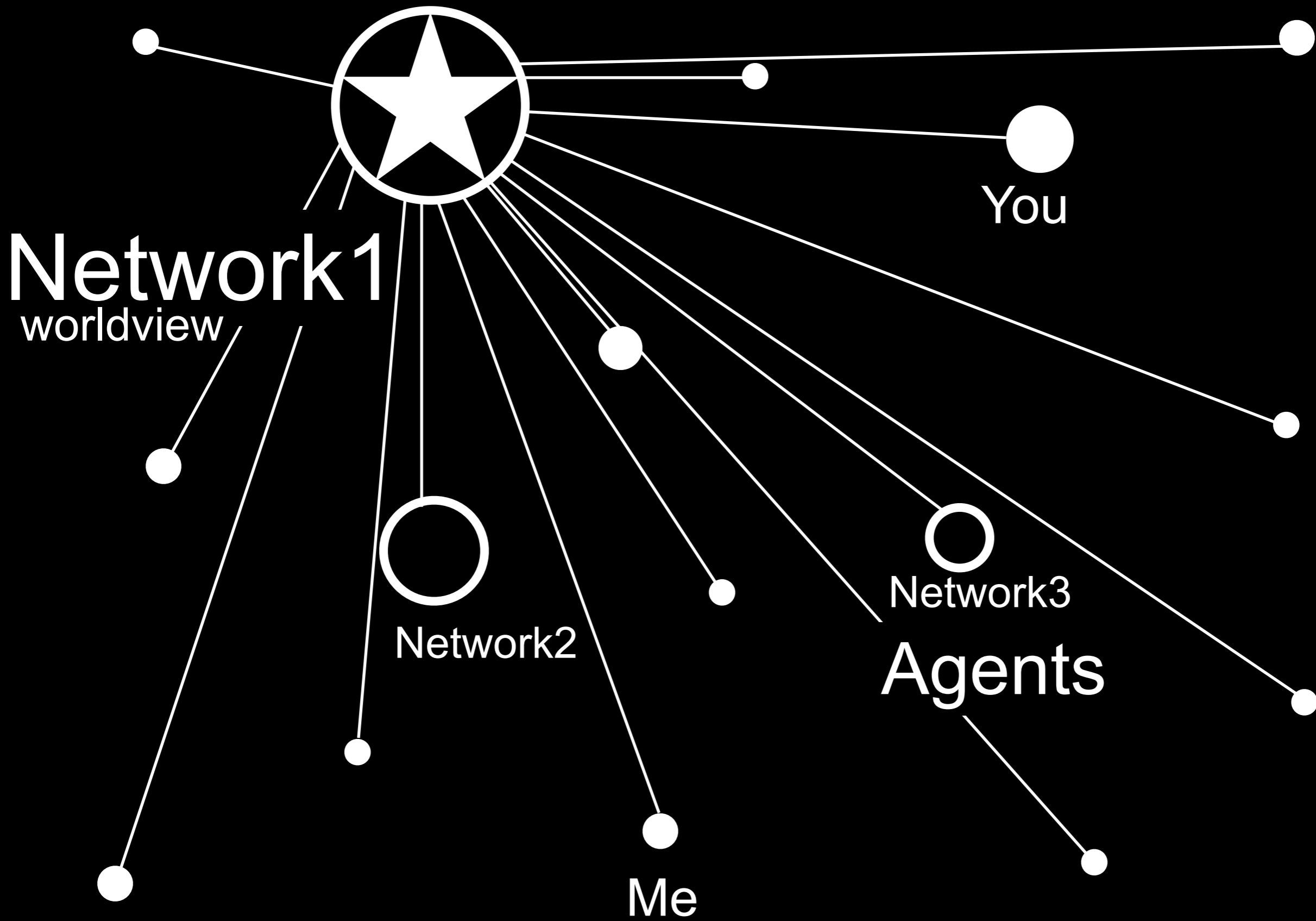
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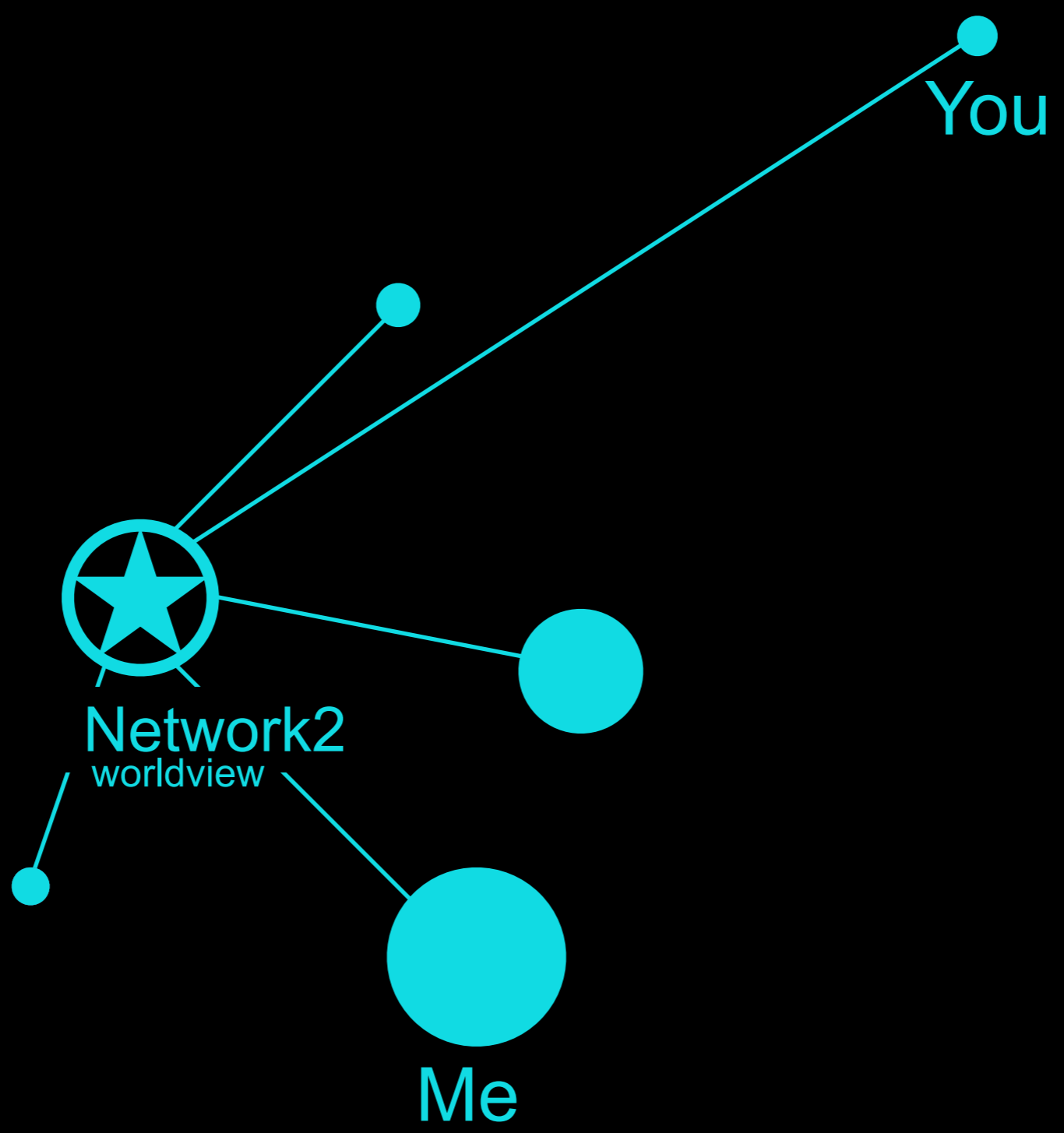


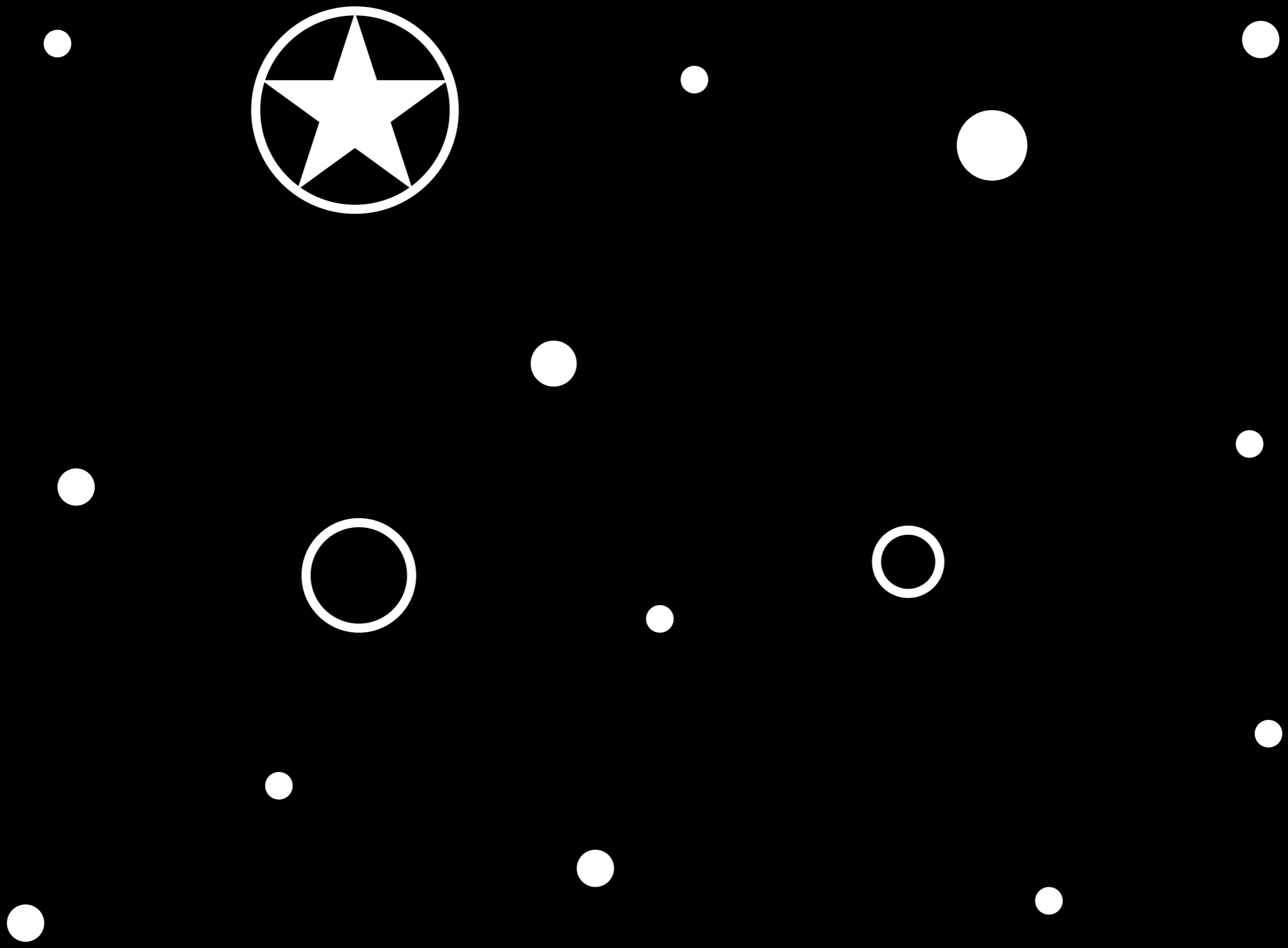
BACKFEED loop

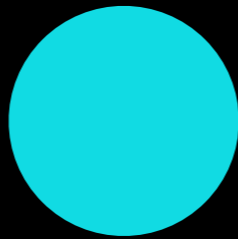
Growing alignment... and incentive to fork

Inter-objective layer:  
**multiple value systems**







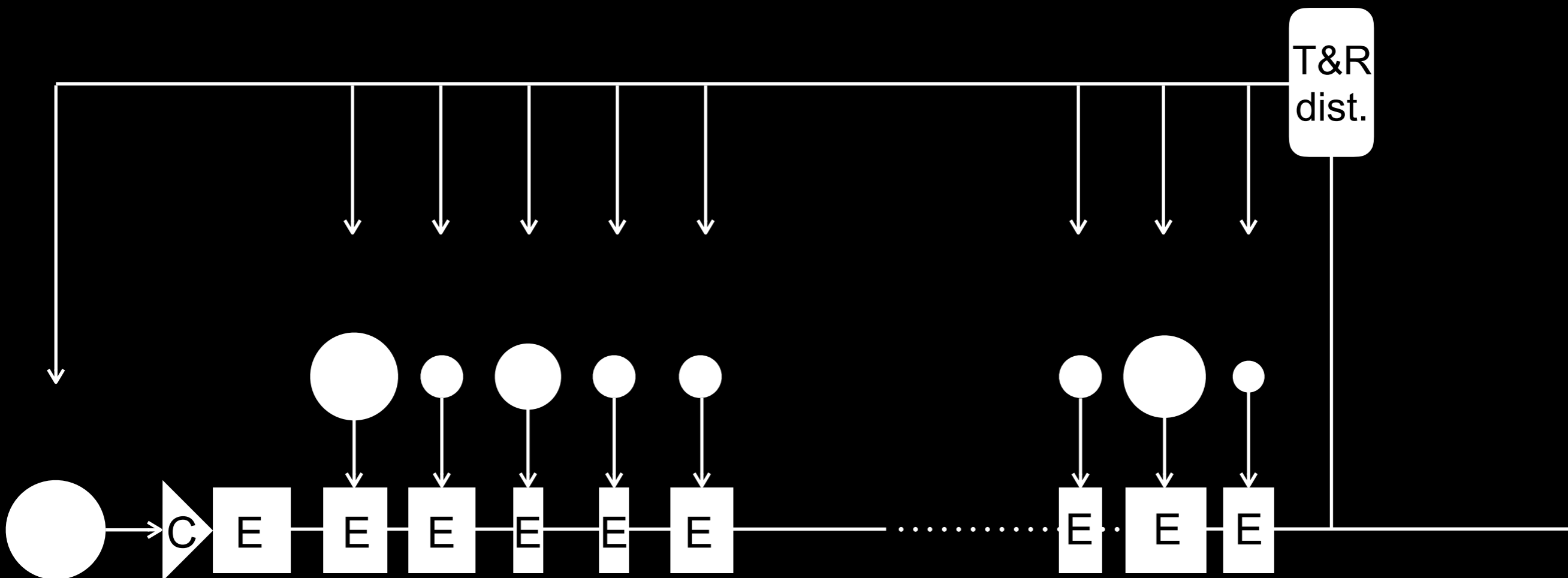


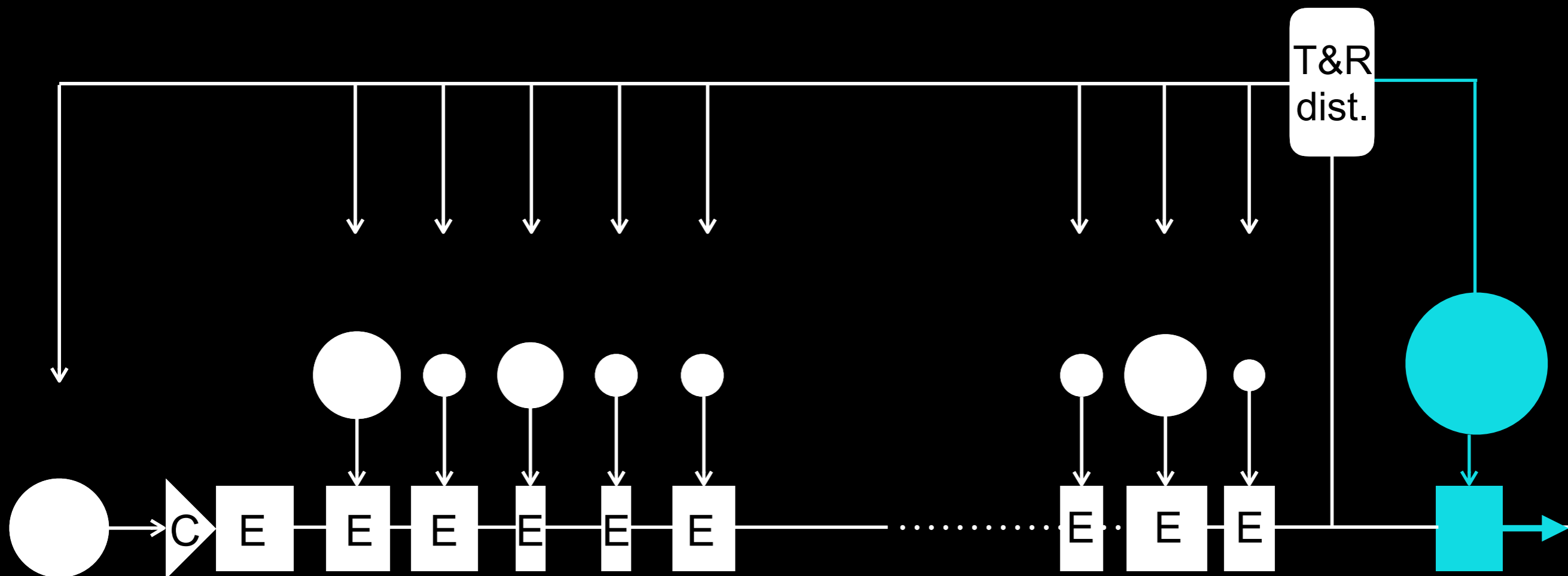
# Inter-objective layer:

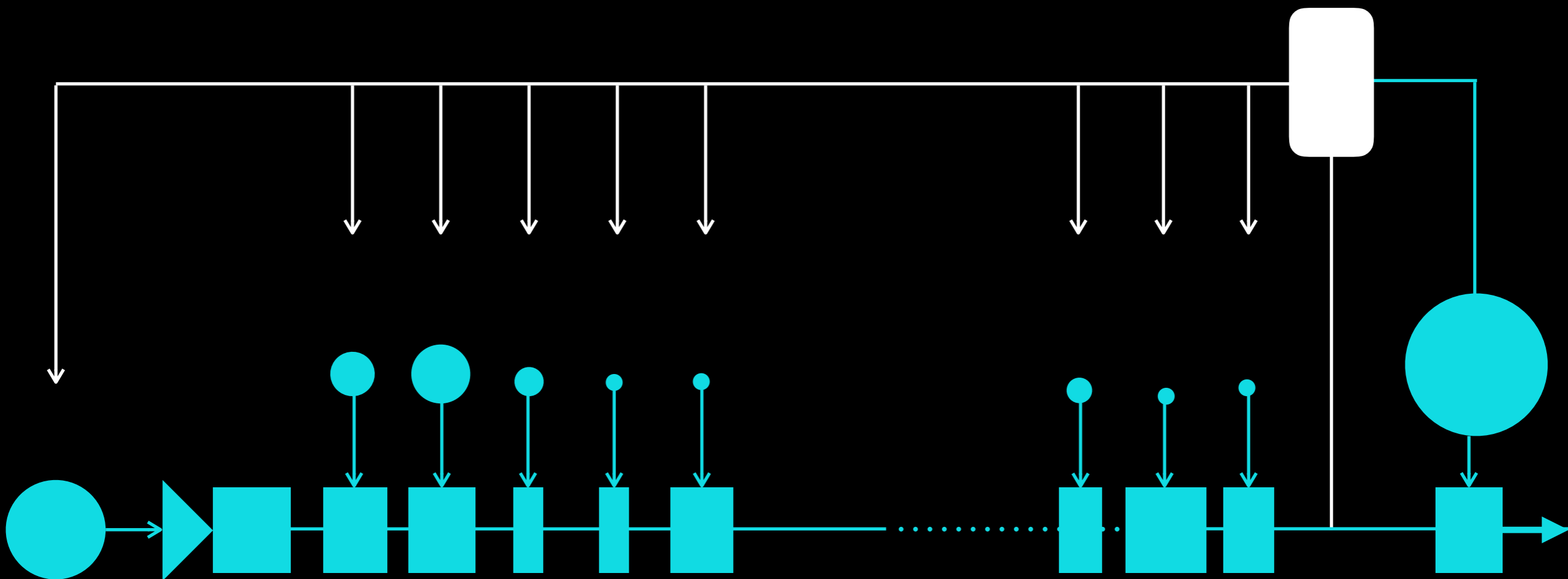
## The network as an agent

- **Multiple value system** and their relationships (complementary, competing or mother-daughter)
- **Network as an agent**: the aggregated internal contributions and evaluations trigger the network's external contribution and evaluation posted into other networks
- **Federal governance** and economic relationships (token redemption) between networks

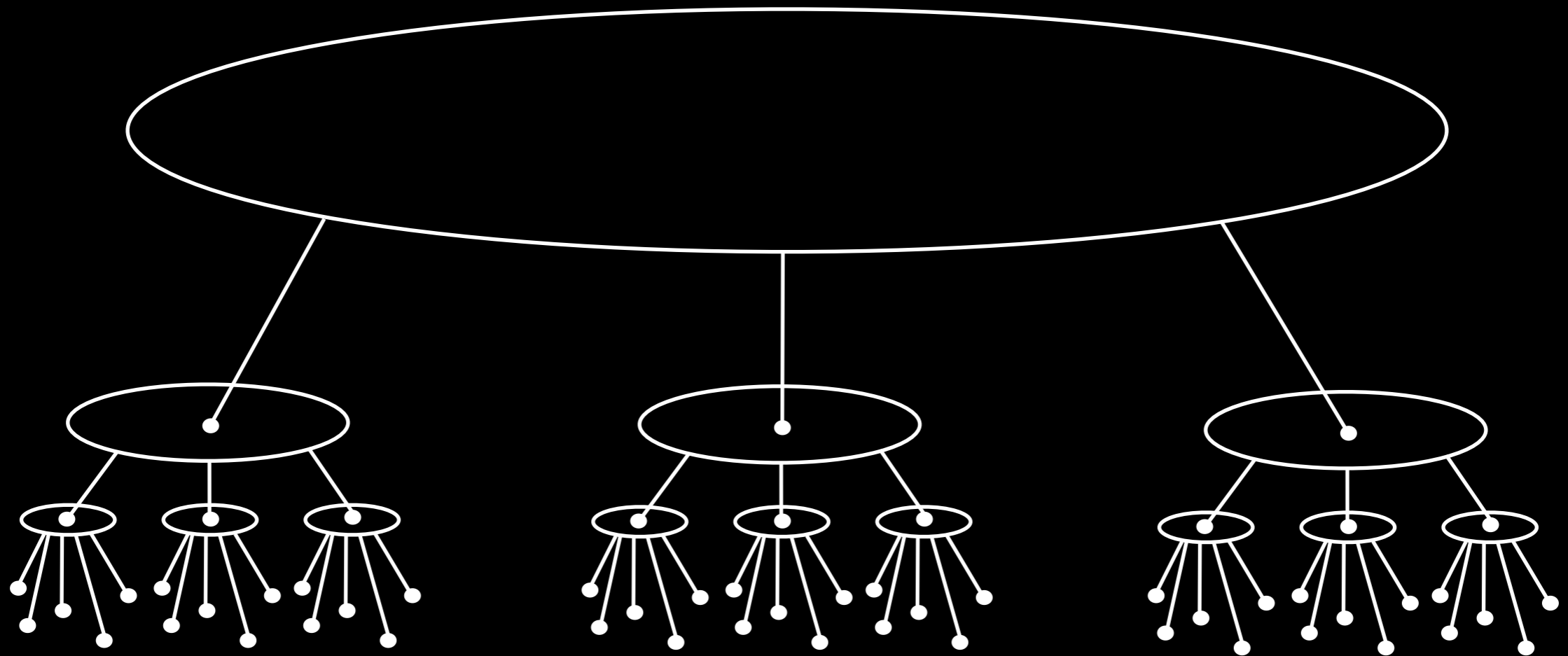




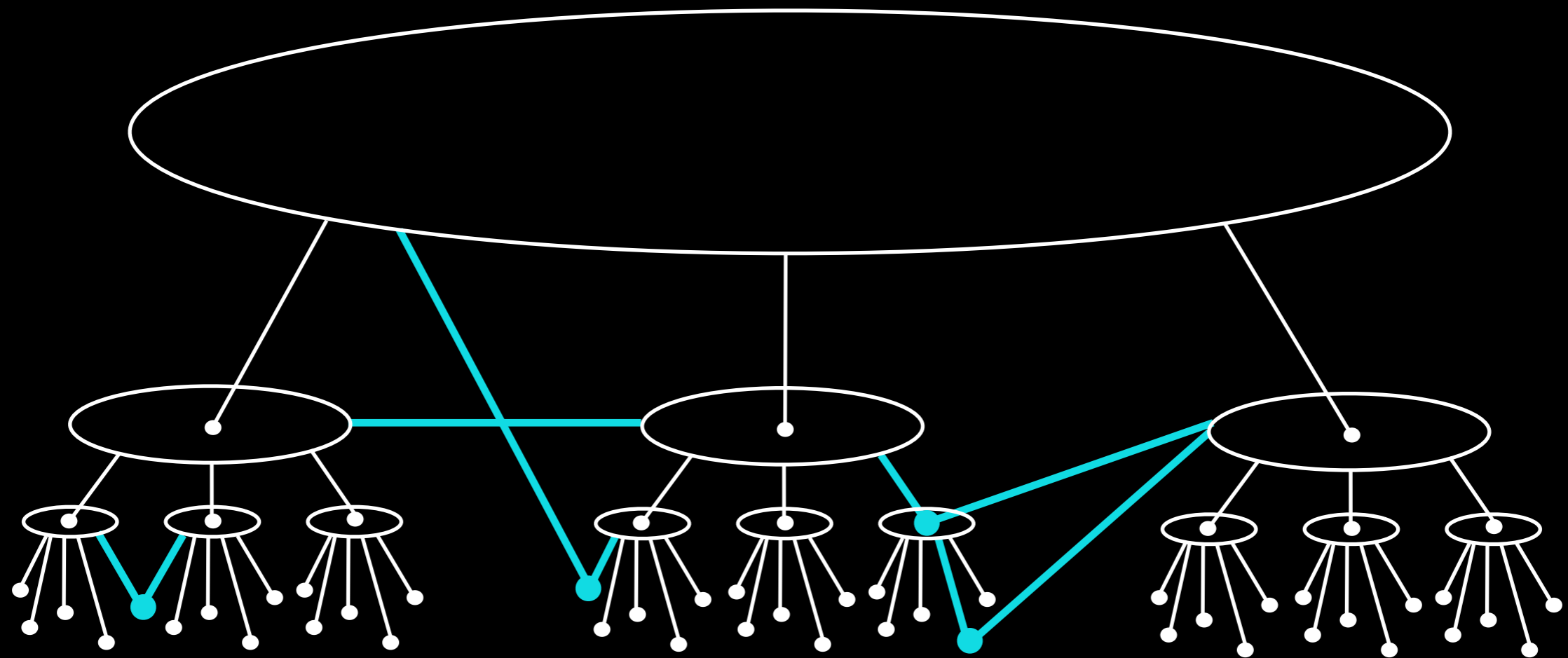




# Network Topology



# Network Topology



# Solving the governance scalability problem

- (Semi-)compositional network topology
- Delegated voting system
- Non-voters' leaking reputation

# Subjective Layer

- P2P flow of information
- Based on P2P trust scores, reputation and past endorsements
- Decentralized Social Media

# Blockchain implementation

## **P2P layer (e.g. IPFS) + votes packaging:**

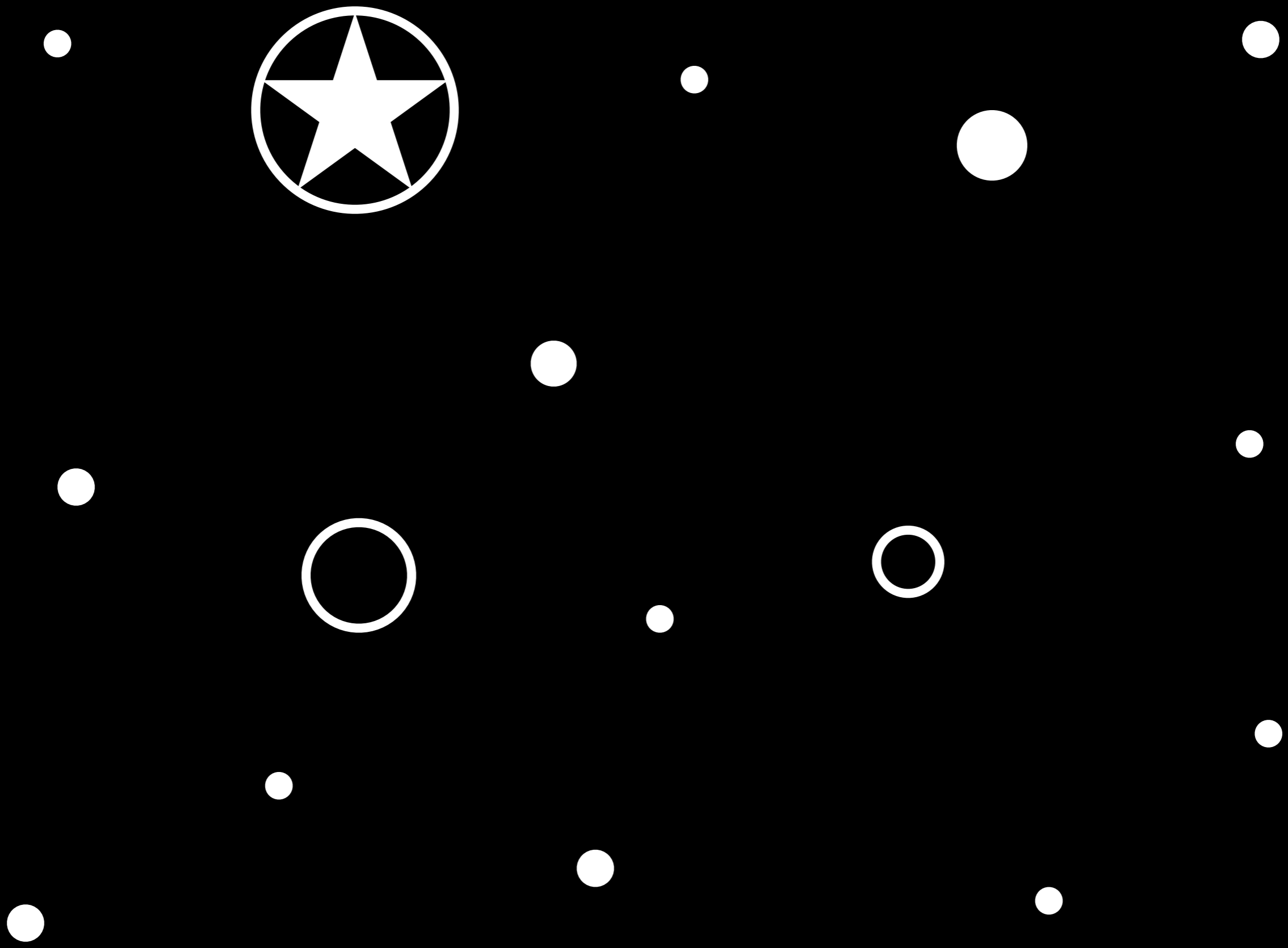
- > Envelopes of signed messages (contribution seed + evaluations)
- > Post to blockchain upon threshold, converge parallel “realities” to a single one
- > After state-change post, reputable agents locally compute change and sign SC

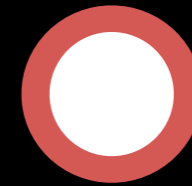


## **Blockchain:**

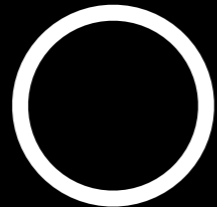
- > State (reputation and token balances, established curation/votes)
- > Reputation-weighted multi-sig contract to change the state
- > State-change protocol (hash)

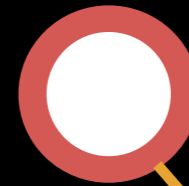
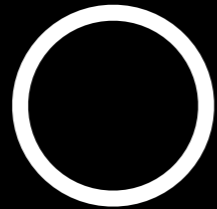




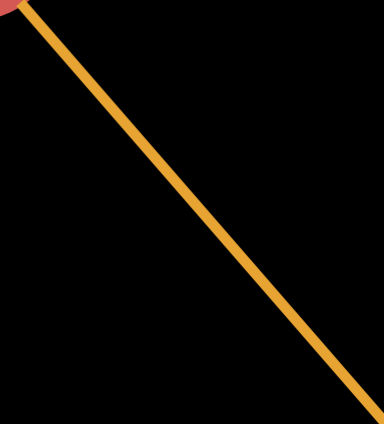


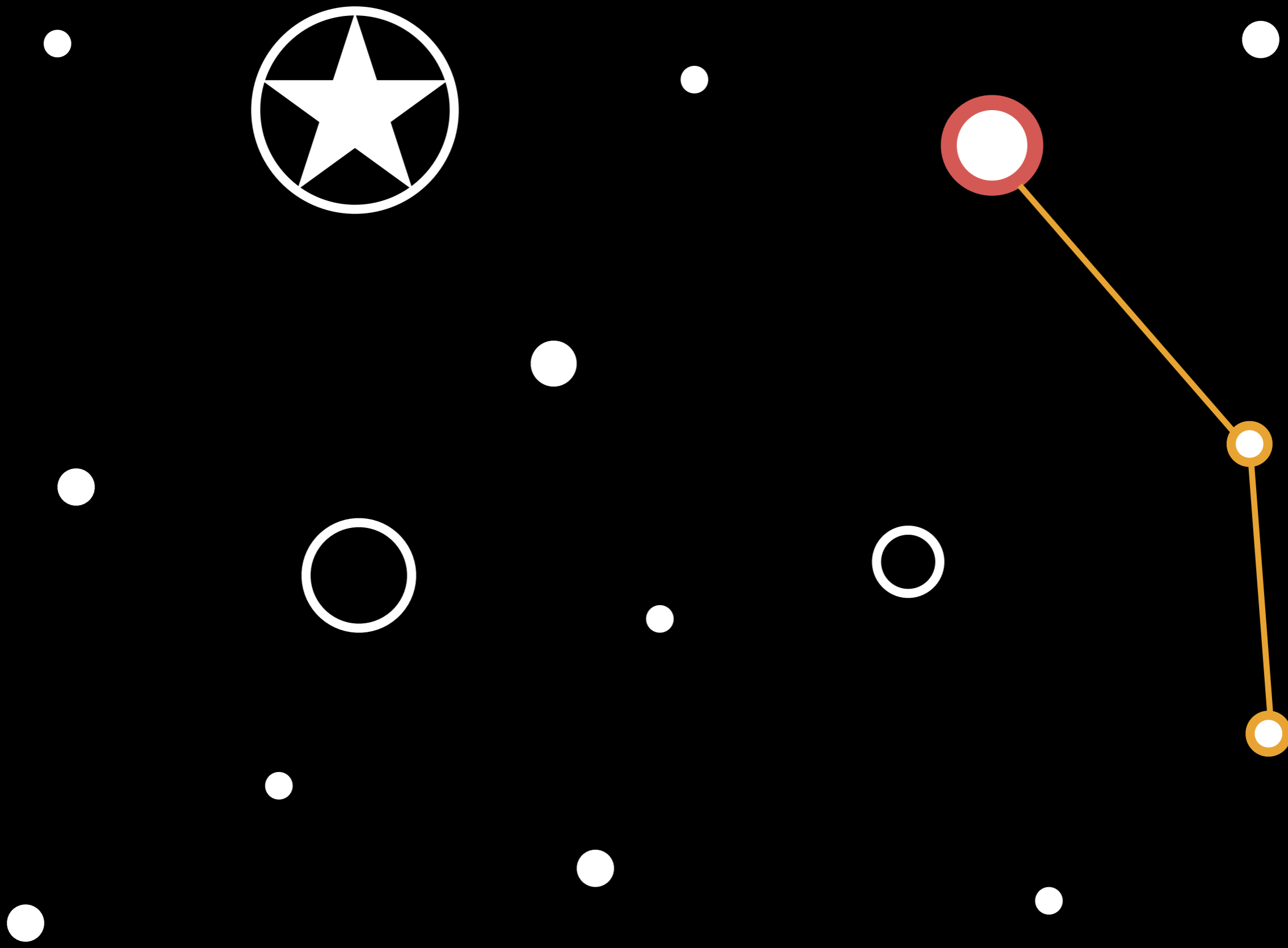
**Signed  
Contribution**

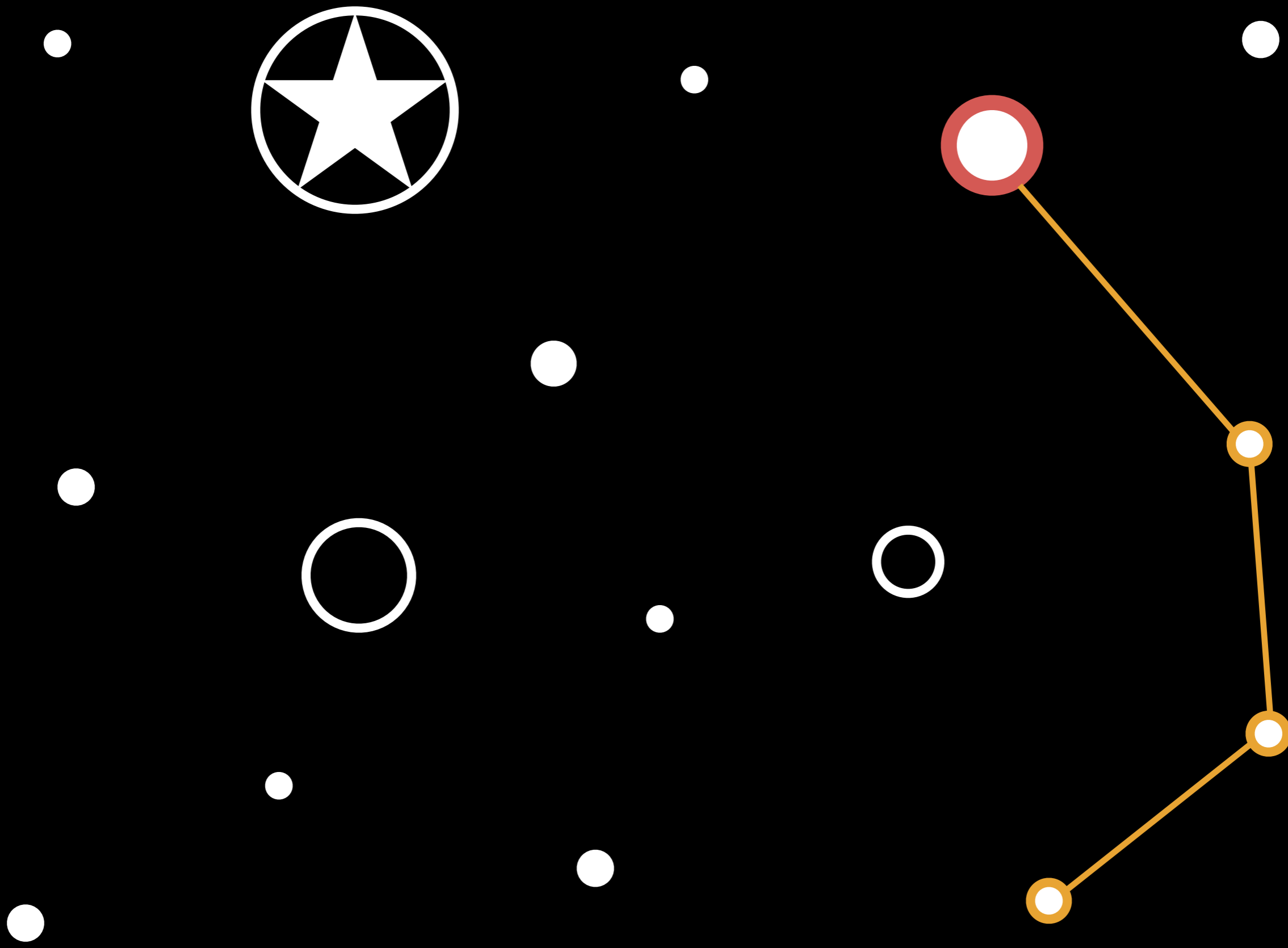


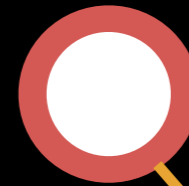


**Signed  
Evaluation**

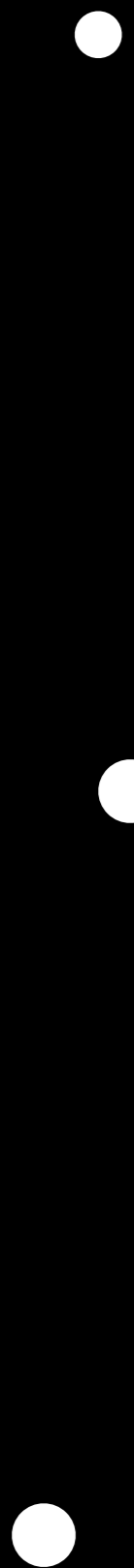


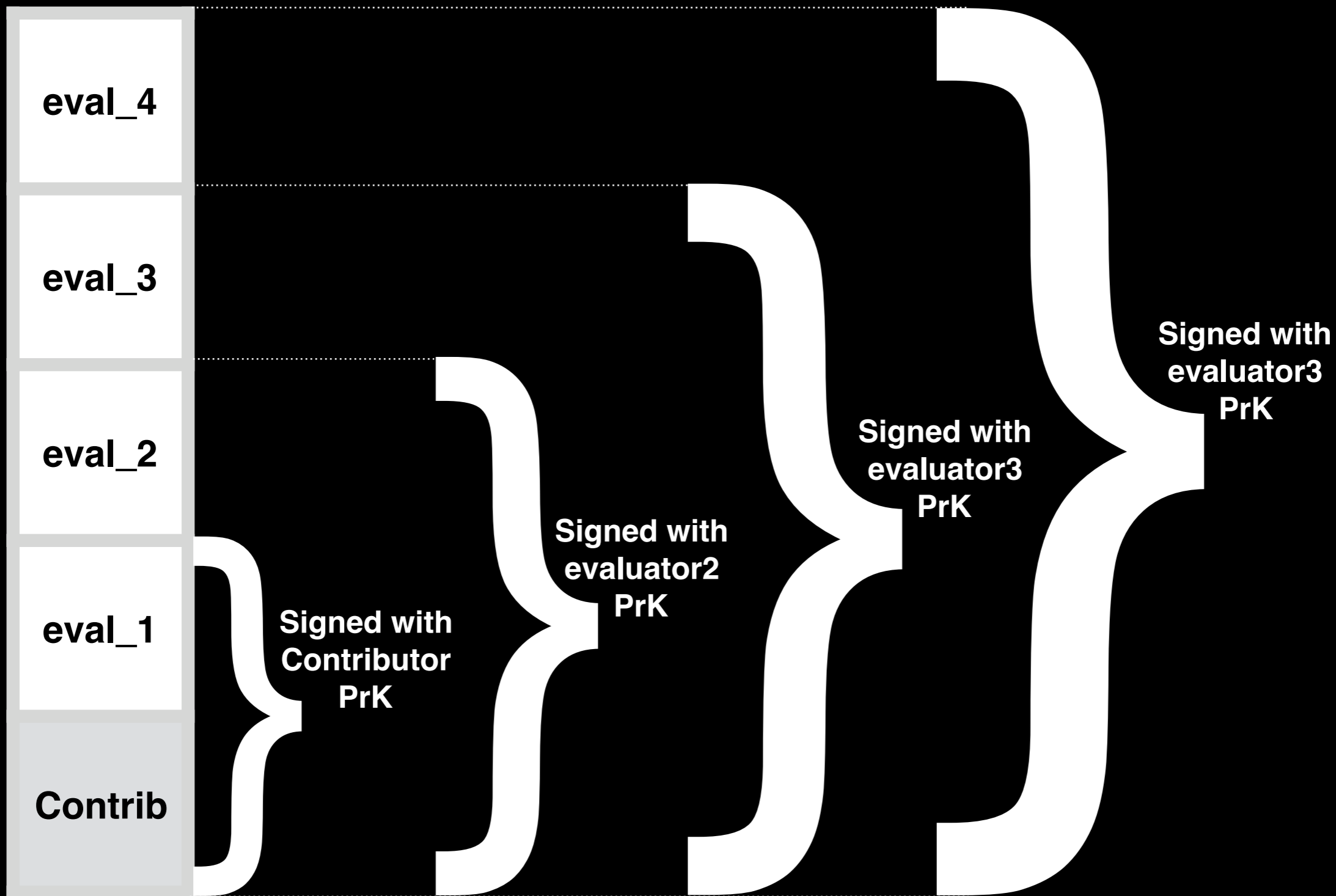


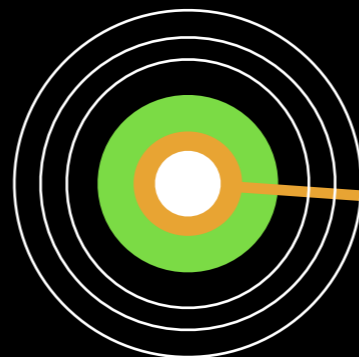
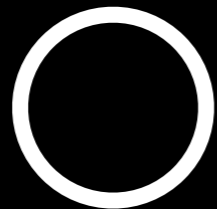
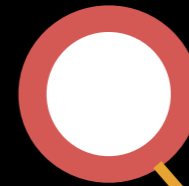




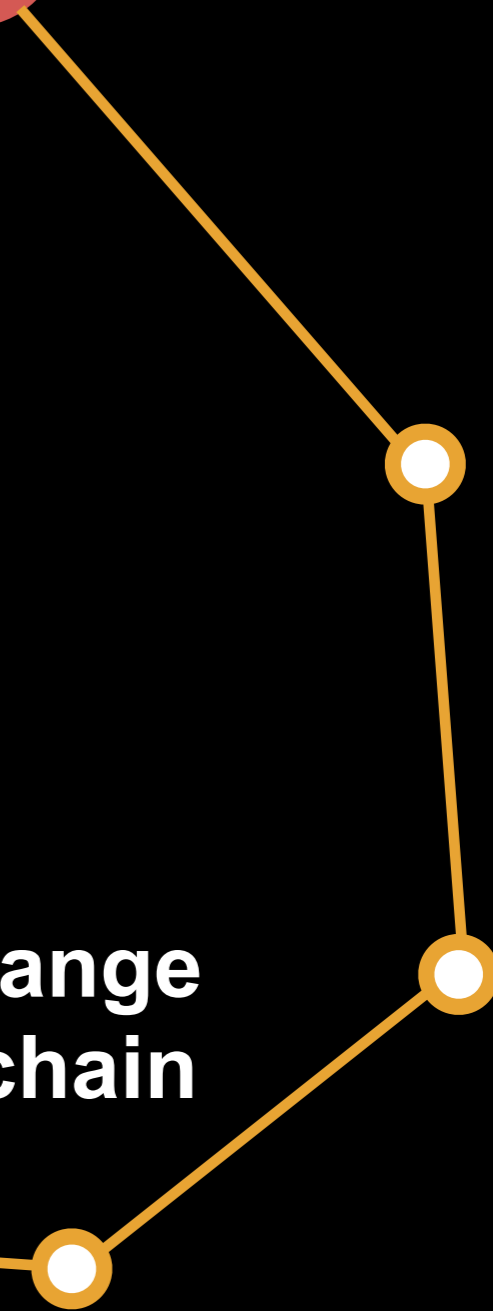
**Rep Majority  
Consensus**







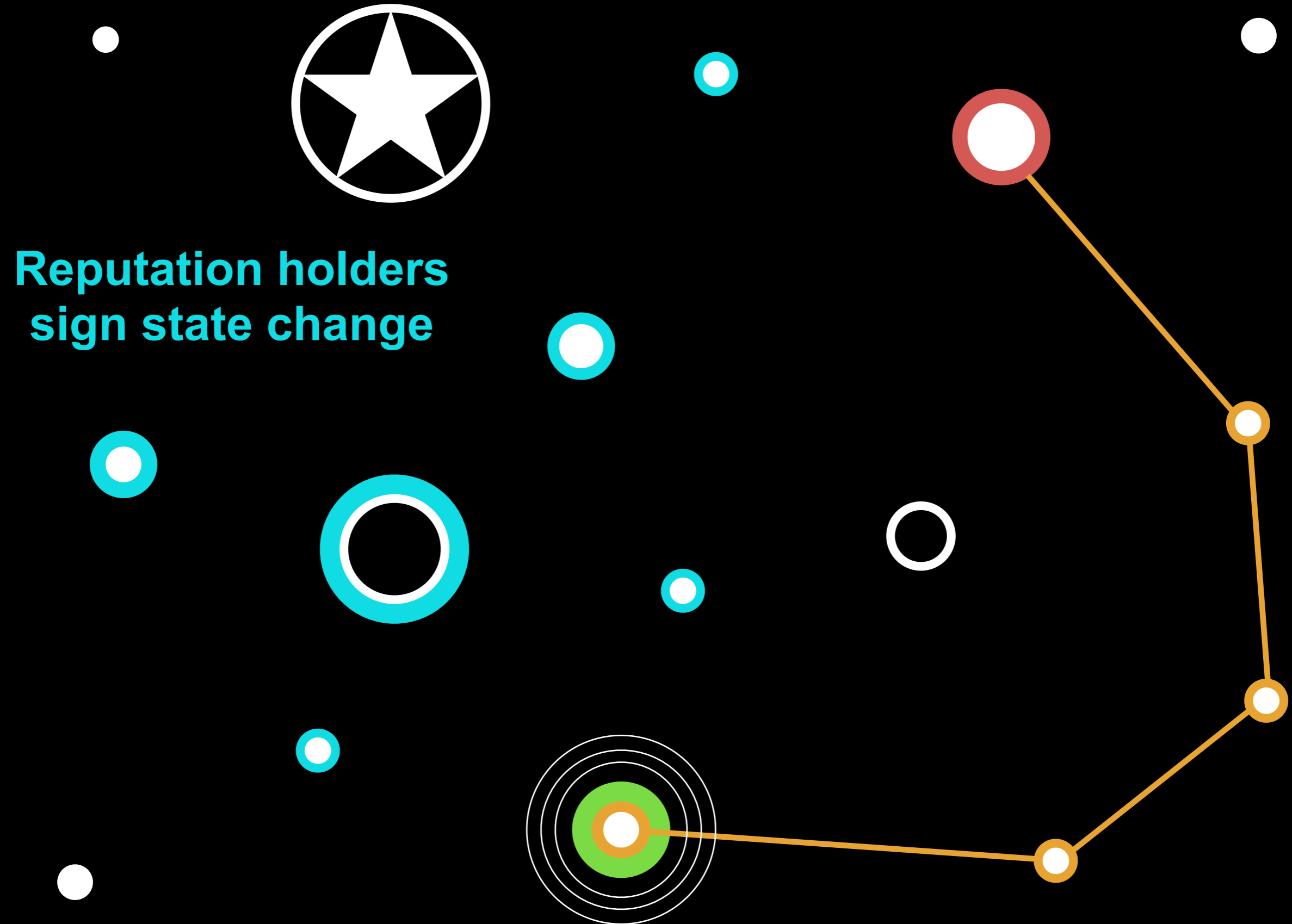
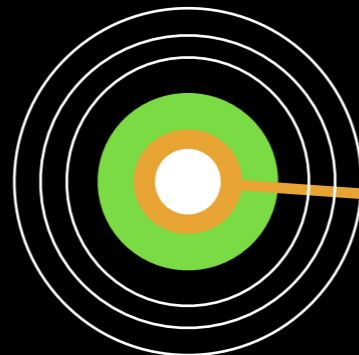
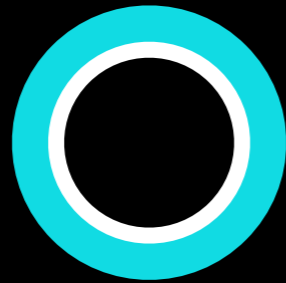
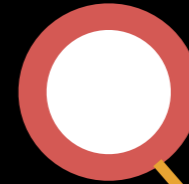
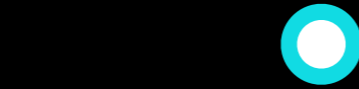
**Post state-change  
on the blockchain**







**Reputation holders  
sign state change**



# Timeline

- **Devcon2**: BACKFEED goes non-profit!
- **19-23 October**: Protocol Workshop  
([matan@backfeed.cc](mailto:matan@backfeed.cc))
- **12/2016**: complete protocol specifications
- **03/2017**: Alpha-stage live DAO