Interoperability challenges

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Ecosystem Overview

**Komgo**
KYC facilitation product & LoC across energy, agriculture & metals
Built on Quorum

**VAKT**
Post trade management for commodities trading
Built on Quorum

**Marco Polo**
End-to-end open account trade finance project
Built on corda

**VIAigon**
Digitization of Letter of Credit
Built on corda

**we.trade**
Provide access to a simple user-interface, leveraging innovative Smart Contract
Built on Hyperledger

**MINEHUB**
Consortium to digitize the mining and metals sector
Built on Hyperledger

**B3i**
Platform handling reinsurance contracts on a state-of-the-art distributed ledger
Built on Hyperledger
Challenges

- Regulation
- Interoperability
- Privacy
- Scalability
Defines as being able to process $O(n) > O(c)$ transactions

System where each participant has limited access to resources $O(n)$ resources

System being secured against attackers with up to $O(n)$ resources

Until now, distributed ledgers can only at most have two of the following three properties

**Trilemma**
Interoperability is the ability of different information systems, devices or applications to connect and exchange together.

Current DLT platforms are siloed.

Why does Interoperability matter?
Three types of Interoperability

1: Distributed ledger to legacy system interoperability
2: Dapp to Dapp interoperability
3: Distributed ledger to distributed ledger interoperability
Kinds of Interoperability

3 possible solutions to achieve interoperability between distributed ledgers

Notary schemes
Notaries execute an action on ledger A when a specific event takes place on ledger B

Relay schemes
A smart contract act upon events from another ledger

Hash locking
Operations on ledger A and ledger B have the same trigger
Properties to discriminate kinds of interoperability

1. **What kind of interoperability I need?**
   - Third party dependency
   - Reach
   - Scope
   - Scalability

2. **On the technical side, what solution do I chose?**
   - Update function
   - Cost
   - Native token
   - Semantic
   - Syntactic
   - Technology development

3. **Do external factors influence my solution?**
   - Regulation
   - Functionalities offered
Challenges towards interoperability of solutions

- Architectural landscape (including interoperability)
- Unknown costs of infrastructure
- Zone-spend attack
Thank you