

Blockchain for Logistics

35. Deutscher Logistik-Kongress

Berlin


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UNIVERSITY OF COPENHAGEN





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Areas of interest

- Programming language technology
- Theoretical computer science (algorithms, semantics, logic)
- Blockchain technology
- Contract management
- Financial technology
- Enterprise systems

Related background

- European Blockchain Consortium (ebcc.eu)
- Steering committee chair, Innovation network for Finance IT (CFIR.dk)
- Principal investigator, Functional technology for high-performance architectures (FUTHARK)

Academic background, affiliations, guest positions



Why blockchain?

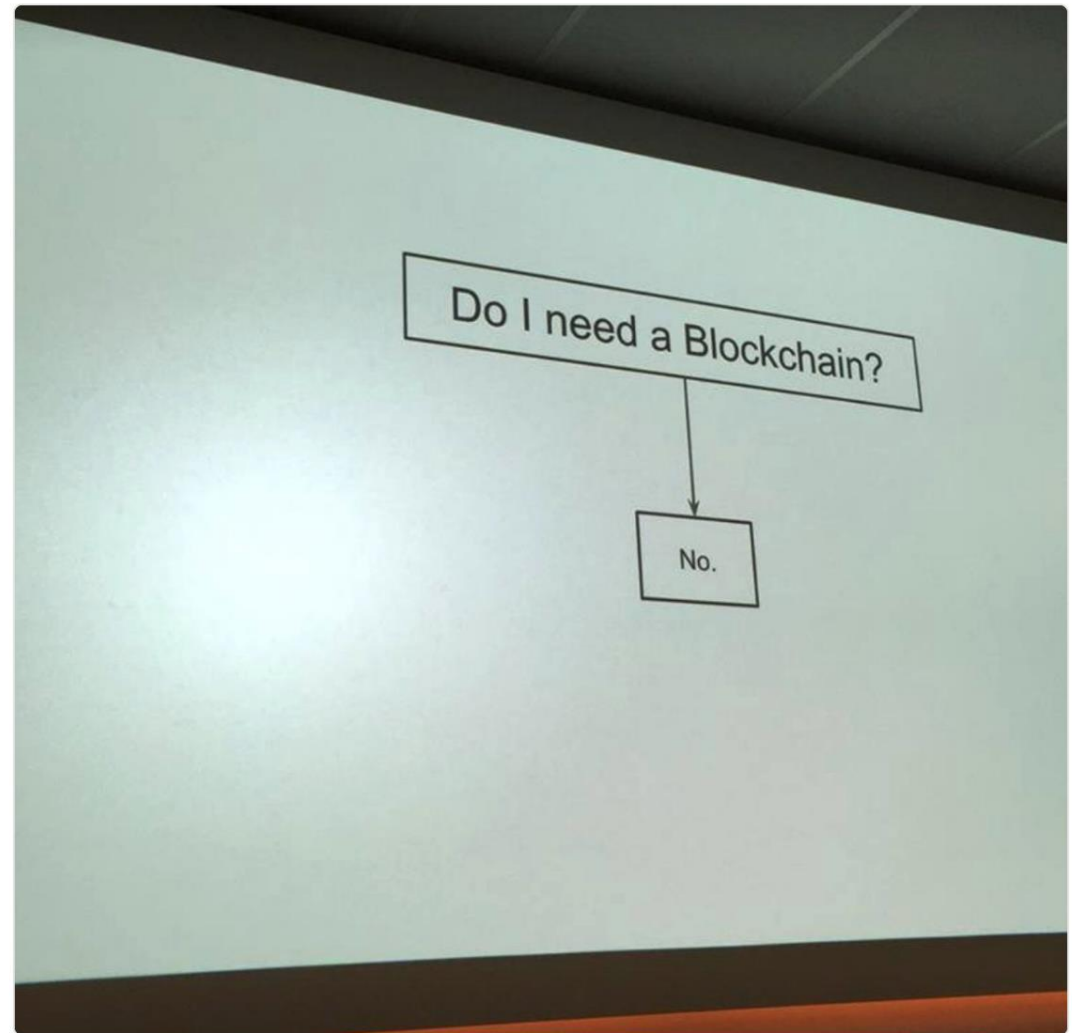


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Simple flowchart:



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What is a blockchain/distributed ledger system?



What is a blockchain/distributed ledger system?

Any **peer-to-peer** decentralized system

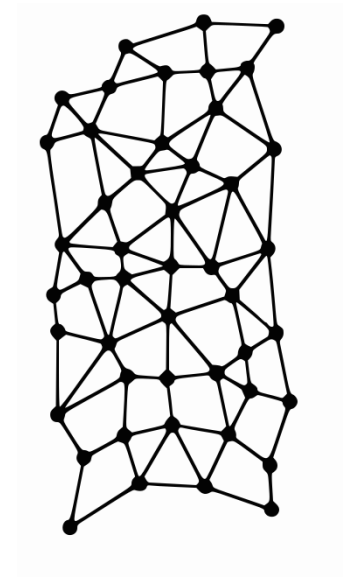
- storing a **single, consistent tamper-proof record of events**
- admitting only **appending** of new events
- enforcing a fixed or user-defined **protocol (contract)** for appending new events
- Guaranteeing **unique ownership** of resources (no double spending)
- with **no trusted** or **privileged** parties
- based on **cryptographic** principles



What is a *modern* blockchain/distributed ledger system?

A computer system characterized by

- organizational and technical **decentralization**;
- **tamper-proof recording** of (real-world) events and their **evidence**;
- digital **resource management**:
 - digital *storage, transfer*, transportation, transformation of money, goods and services
 - guaranteed forge-proof
 - guaranteed consistent information across all principals (suppliers, partners, customers, regulators, etc.)



Blockchain/distributed ledger systems as digital twins

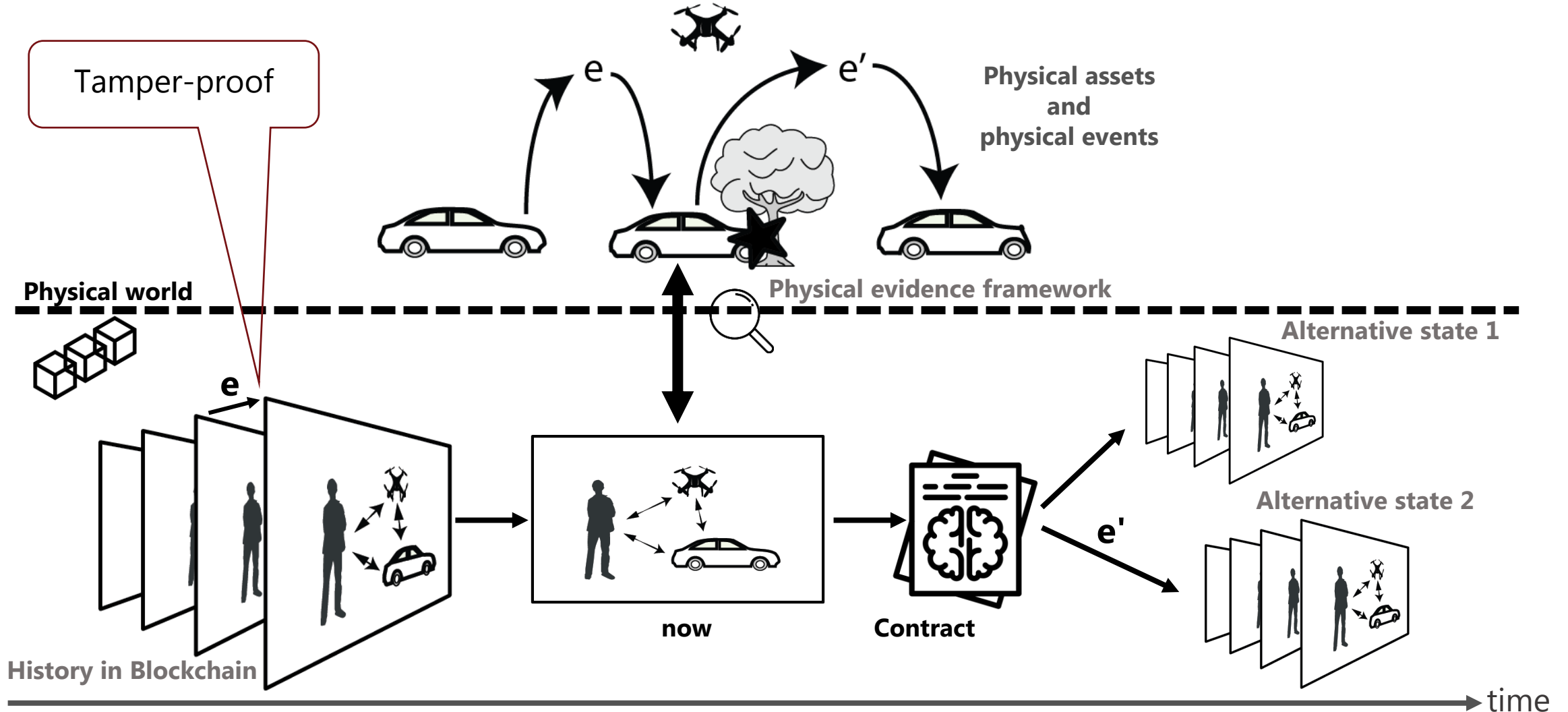
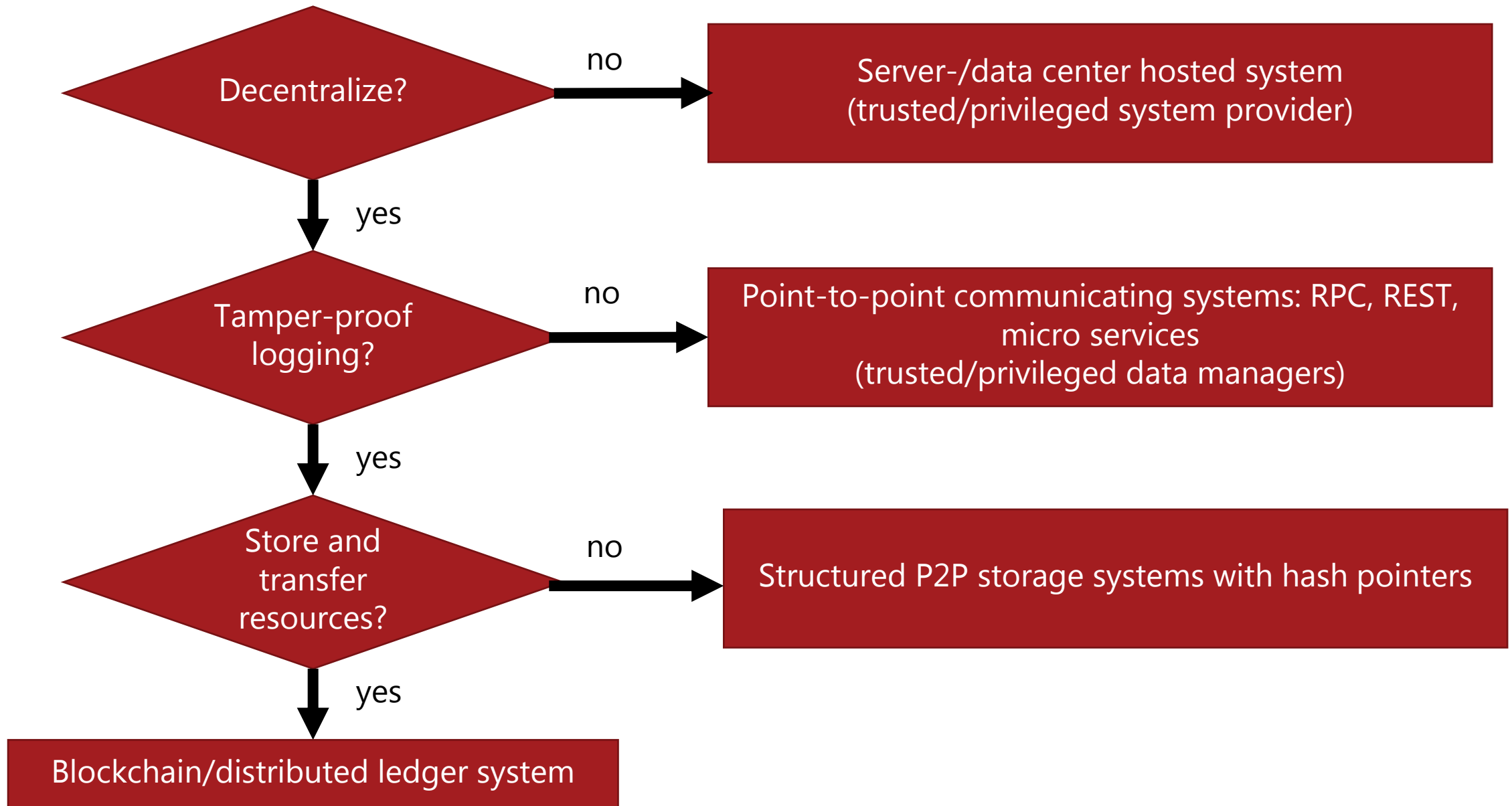


Illustration by Dr. Boris Döder

Why blockchain?



Blockchain @Deutscher Logistik-Kongress '18

- 09:35-10:00 Florian Seffert,
Supply Blockchains – Automatisierung auf einer neuen Ebene
- 10:05-10:30 Dirk Slama,
Hinter dem Hype: Blockchain & IoT in der Logistik
- 10:35-11:00 Andreas Freund,
Das dezentrale Netzwerk für die Transportlogistik
- 11:05-11:30 **Sie**, Florian Seffert, Dirk Slama, Andreas Freund, Fritz H.,
Diskussion