Blockchain & Smart Contracts And Systemic Considerations

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Papers:

- The Governance of Blockchain Financial Networks
  https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2875487
- Securities, Intermediation and the Blockchain – an inevitable choice between Liquidity and Legal Certainty?
  https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2697718
- Integrating Global Blockchain Securities Holding with the Law – Policy Considerations and Principles
  https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2792639

DLT Networks

- DLT networks 1st generation (blockchain – Bitcoin style)
- DLT networks 2nd generation (blockchain plus smart contracts - Etherium)
- DLT networks nth generation (cherry-picking certain features, adding new features)

Characteristics & intended consequences

- Distributed ledger
  - Disintermediation
  - Loss of account relationship
  - Loss of point of entry for law and regulation
  - State-remoteness
- Increased data depth
  - Comprehensive data
  - Smart contracts
- Immutability of record and process
  - Certainty of execution of transfers and smart contracts
  - Certainty of acquisition

- **Will there be 'real' blockchain networks?**

Smart contracts

- Not about automation, efficiency or speed
- Certainty of execution
- Absoluteness of the code and immutability of the execution and record
- Provisions to care for all sorts of scenarios
- Possible degree of granularity of alternatives
- Fetching input form: 'oracles', other data-sources, organisations (regulator?), humans ?
- Degree of granularity and variety of input sources inversely proportional to the motivation (absolute certainty)
- Alignment smart contracts – automation

- **Will there be 'real' smart contracts?**

Systemic considerations
1 - Regulation

- Resilience?
- Herding, Flash crashes?
- Regulatory moratoria?
- Shadow banking?
- Internal governance & Access?
- Anonymity and de-localisation?

Systemic considerations
2 - Commercial law

- Third party effects of network code ('internal rules')?
- Disintegration from property/insolvency law?
- 'Finality' ?
- Effects on risk management and bank capital?

Outlook?

FIN

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BACKGROUND SLIDES

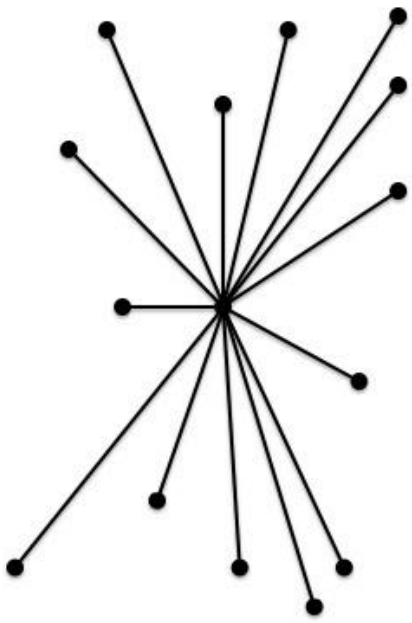


Fig. 1: Centralised network

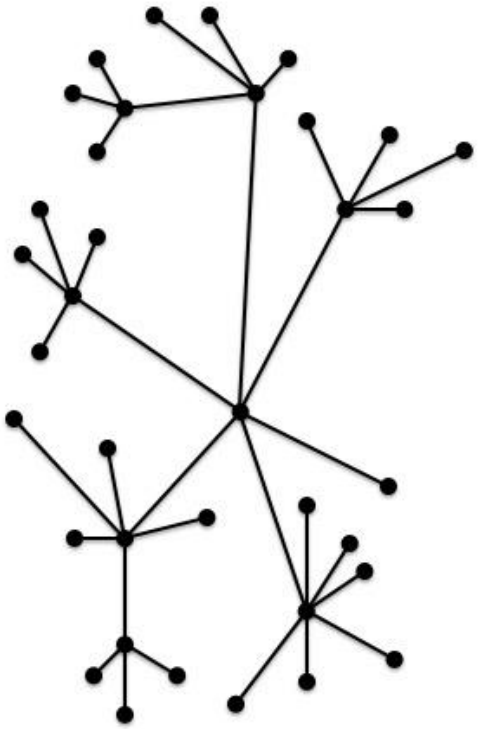


Fig. 2: Decentralised network

Fig.1-3 based on P Baran, On Distributed Communications Networks, (1964) 1

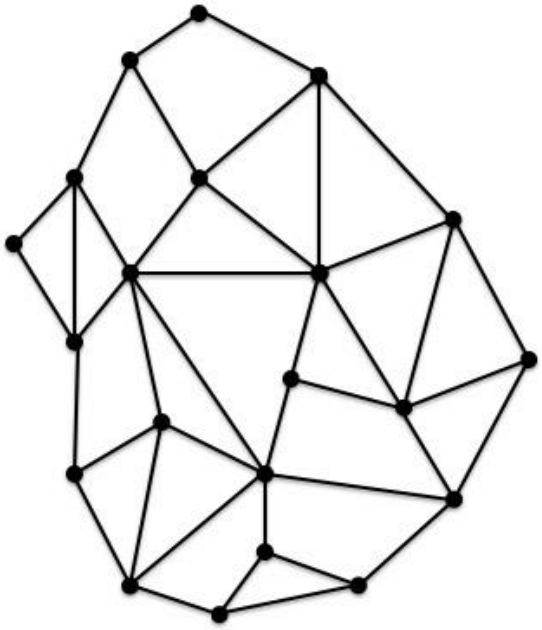


Fig. 3: Distributed network

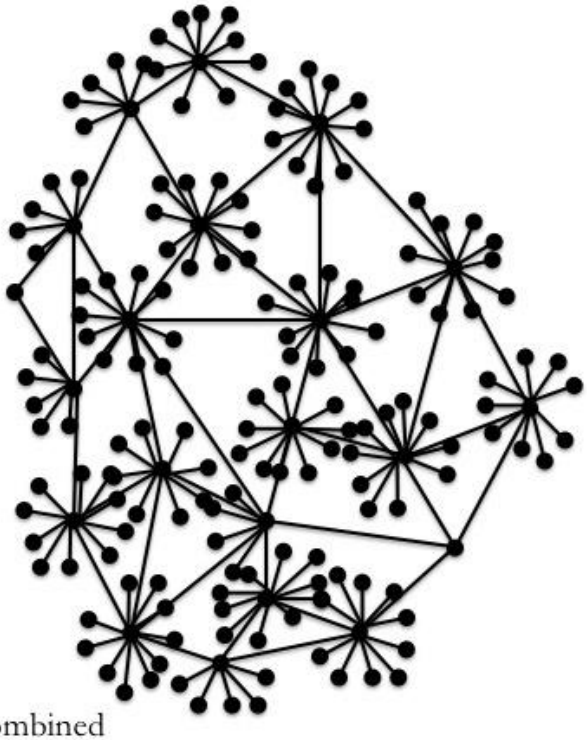
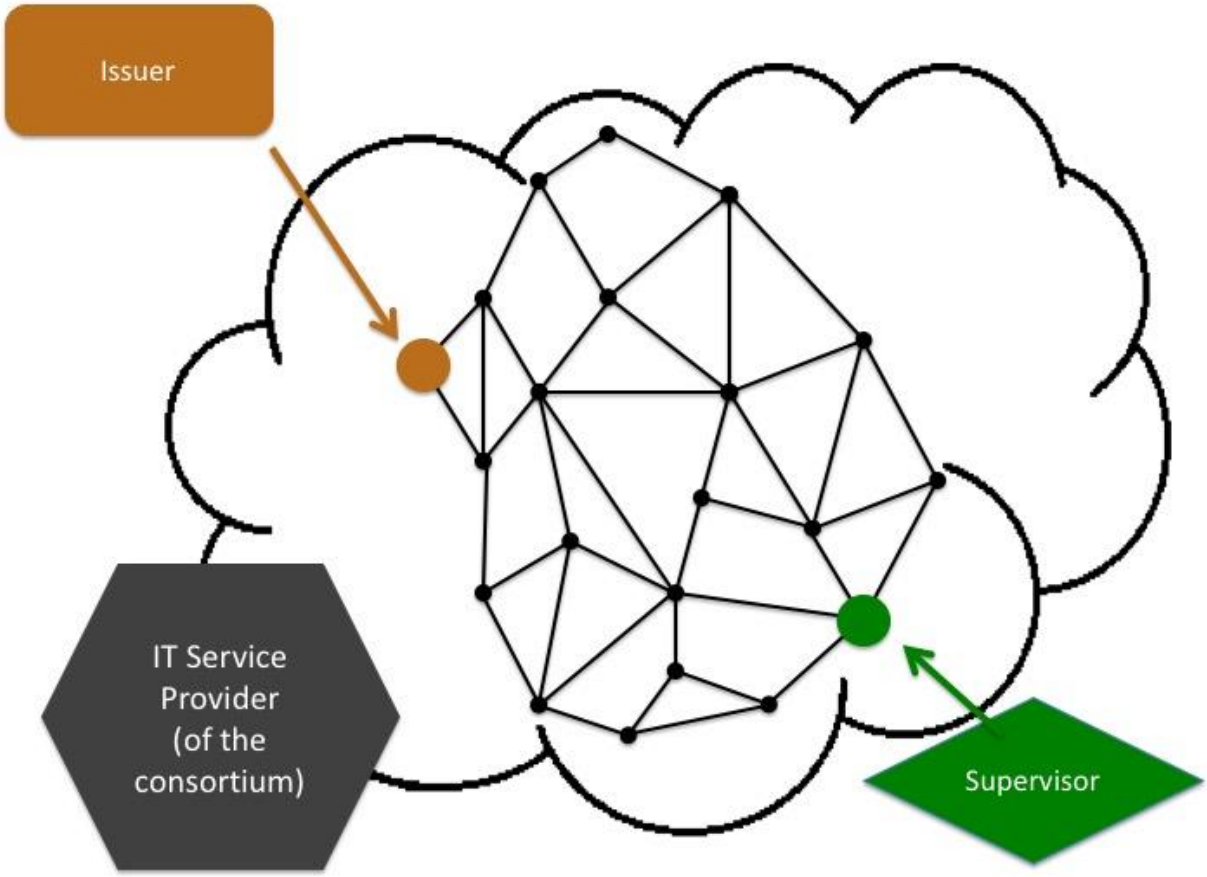
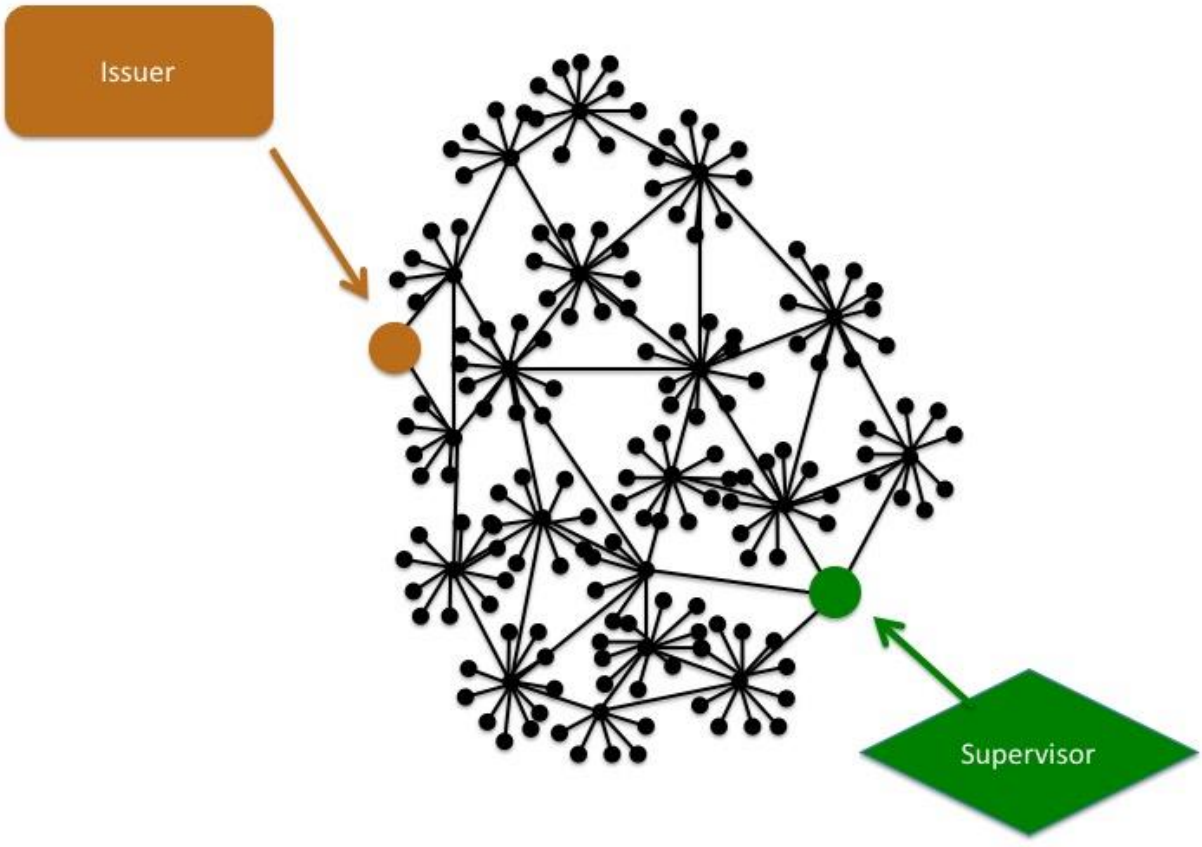


Fig. 4: Distributed network combined with the decentralised network (nodes act as intermediaries for clients)

Platform
Provider


Issuer
IT Service Provider (of the consortium)
Supervisor


Issuer
Supervisor

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