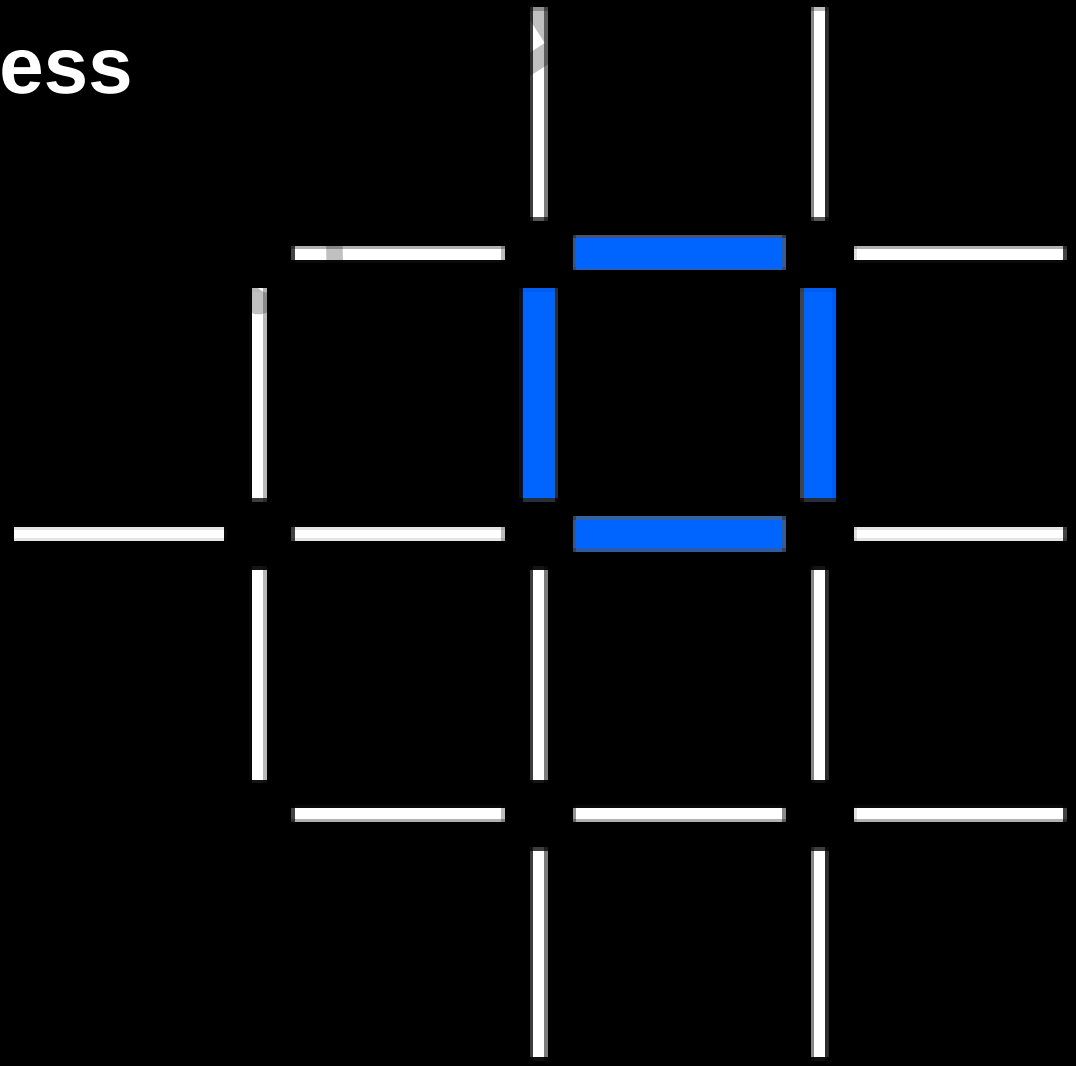
Making Blockchain Real for Business
让区块链真正为商业所用



Dr. Changrui Ren (任常锐)
IBM Research – China

IBM Blockchain PoV

IBM Blockchain Practices

Challenges and Trends

Ñ¸½ÝPDF±à¼Æ÷

The value of blockchain

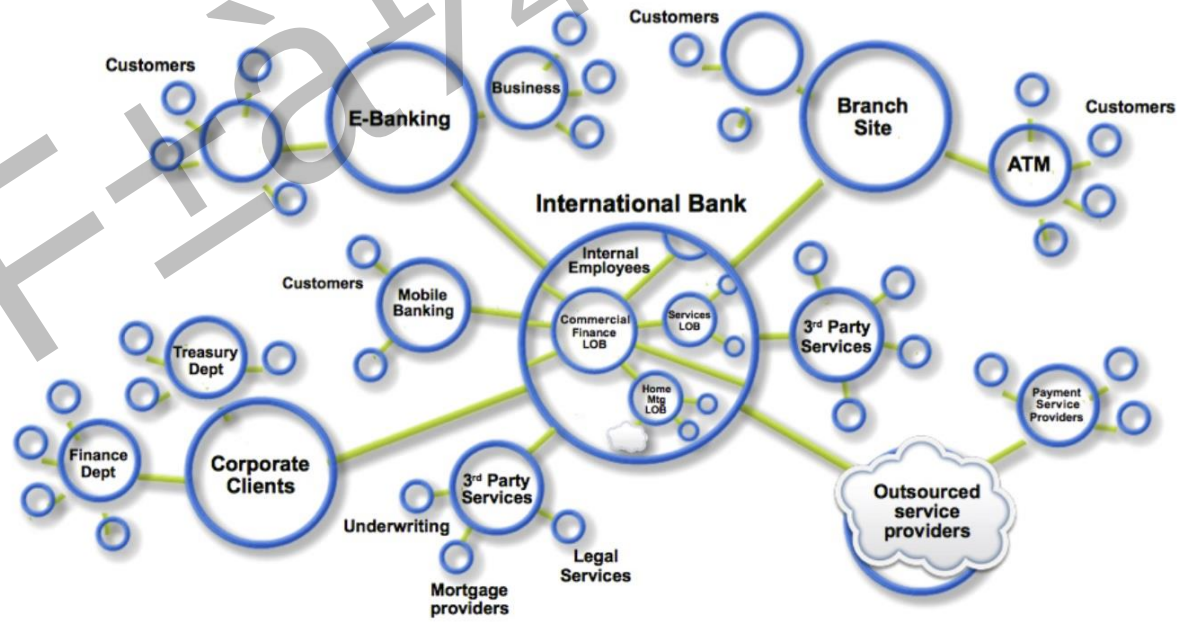
“What the internet did for communications, blockchain will do for trusted transactions.”

— Ginni Rometty, IBM CEO

Ñ¸½ÝPDF±à¼Æ÷

Business networks, wealth and markets

- Business Networks benefit from connectivity
  - Participants are customers, suppliers, banks, partners
  - Cross geography and regulatory boundary
- Wealth is generated by the flow of goods and services across business network in transactions and contracts
- Markets are central to this process:
  - Public (fruit market, car auction), or
  - Private (supply chain financing, bonds)

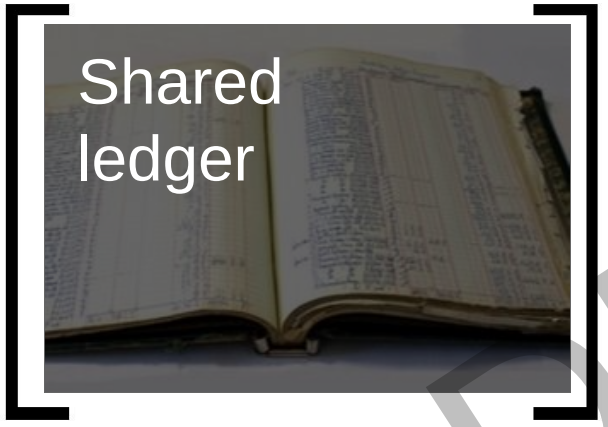


N½YPDF±¼Æ¡

Blockchain for business requires **trust**

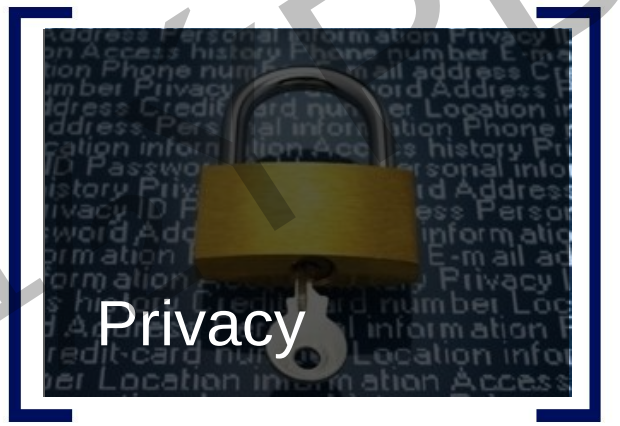
Open, Trusted, Enterprise Ready

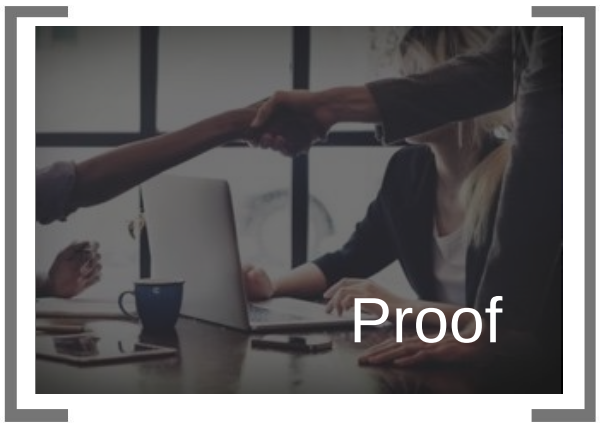
Append-only distributed system of record shared across business network



Business terms executed with transactions

Transactions are secure with appropriate visibility





Transactions are provably endorsed by relevant participants

Hyperledger: A Linux Foundation project

- Linux Foundation Hyperledger
  - A collaborative effort created to advance cross-industry blockchain technologies for business
  - Announced December 2015, now 200+ members (45+ in China)
  - Open source, open standards, open governance
- Hyperledger Fabric
  - An implementation of blockchain technology that is intended as a foundation for developing blockchain applications
  - Key technical features:
  - A shared ledger and smart contracts implemented as “chaincode”
  - Privacy and permission through membership services
  - Modular architecture and flexible hosting options
- V1.1 released March 2018 (V1.0 July 2017, V0.6 Sept.2016)

Ñ¼YPDF±à¼Æ÷

IBM Blockchain Landscape

specialists

Collaborate with specialists teams from ideation all the way to production

Ecosystem

Tap into our diverse ecosystem to develop strategic partnerships and create your competitive advantage

Solutions

Solve critical industry challenges by building and joining new business networks and applications

Platform

Develop, govern and operate enterprise blockchain networks with speed and security

HYPERLEDGER Fabric

A founding, premier member of Hyperledger, IBM is committed to open source, standards & governance

N½YPDF±a¼Æ¡

Experience of hundreds of engagements and multiple active networks

Trade Finance	Pre and Post Trade	Complex Risk Coverage
Digital Trade Chain, NATIXIS, TRAFIGURA, MIZUHO	DTCC, CLS Fundamental to FX, Bolsa Comercio Santiago, JPX	AIG, Standard Chartered

Identity/ Know your customer (KYC)	Unlisted Securities/ Private Equity Funds	Loyalty Program
SECURE KEY, DIACC, Crédit Mutuel ARKEA	NORTHERN TRUST, BORSA ITALIANA, SBI GROUP SBI証券	UnionPay 銀联

Medicated Health Data Exchange	Fraud/ Compliance Registry	Distributed Energy/ Carbon Credit
FDA	دبي الذكية SMART DUBAI	TenneT, ENERGY BLOCKCHAIN LABS

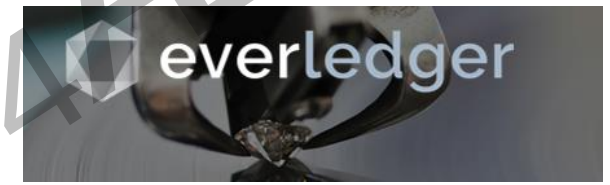
Supply Chain	Food Safety	Provenance/ Traceability
MÆRSK, PSA The World's Port of Call	Walmart, Driscoll's, Tyson, McLANE, Dole, Kroger, Nestlé, Unilever, gsf golden state foods	everledger

N1½YPDF1a/4E1

Trends & Challenges

What?

- Track diamonds across supply chain from mine to retail



How?

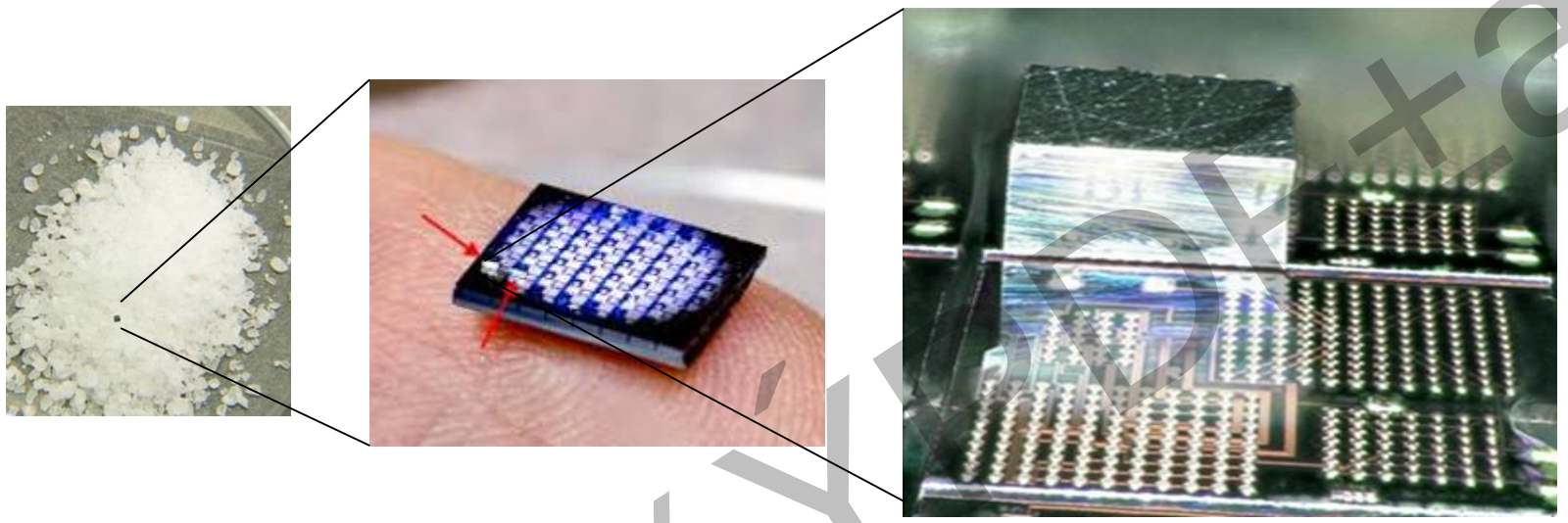
- Shared ledger for storing digital certification with supporting material

Benefits

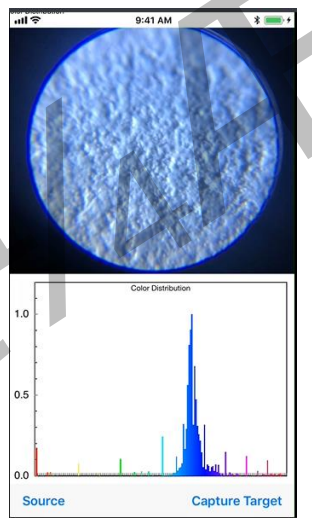
- Protect against the occurrence of fraud, theft, trafficking and black markets
- Assist in the identification and reduction of synthetic stones being labelled as authentic
- Increase speed of transparency for cross border transactions for insurance companies, banks and claimants

Ñ½YPDF±à¼Ê¡

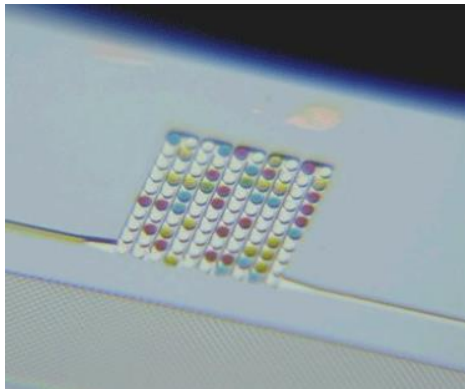
Crypto anchors: linking physical and digital



World's Smallest Computer



Verifier



Edible Ink

Ñ¸½ÝPDF±à¼ÆÈ¡

Thank
You