The Power and Possibilities of Blockchain for the Enterprise

5 July 2018
Industry Problem: What I See is NOT What You See

TODAY

Supplier
- Do work
- Record Work
- Apply Credit
- Generate invoice
- Post Invoice

Customer
- Pay Bill
- Acknowledge work
- Confirm credit
- Key in accounts payable
- Receive Invoice

TOMORROW

Supplier
- Do work
- Apply Credit
- Post Invoice

Customer
- Pay Bill
- Record Work
- Confirm credit
- Generate invoice
- Key in accounts payable
- Receive Invoice

Shared Truth
- Shared business logic
- Shared data
- Shared network
Meet Corda

The only blockchain platform built specifically for business
Development led by an ecosystem >100 members

Regulators:
20+ Regulators and Central bank members including;
• HKMA
• AMF Montreal
• Abu Dhabi Global Markets

Partners:
100+ partners which includes system integrators & advisory, independent software vendors, Infrastructure/technology partners and network service providers
<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tr>
<td>Immutability</td>
<td>Records stored in a cryptographic manner assures lineage and evidence of tampering.</td>
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<td>Mutual verification</td>
<td>Shared facts are agreed upon by a variety of consensus mechanisms.</td>
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<td>Security &amp; Privacy</td>
<td>Transaction information is propagated only to relevant nodes to ensure strict data privacy, whilst maintaining the assurance of validity and uniqueness.</td>
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<td>Easy Integration</td>
<td>Re-use existing developer skills and make integration with bank systems easy and safe. Contracts can be coded in modern, standard languages like Java.</td>
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<td>Consistent Shared Facts on Ledger</td>
<td>Records of shared facts including financial agreements are consistent across entities, only with those party to the transactions.</td>
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<td>Smart Contracts</td>
<td>Business Logic is encapsulated and executes in a deterministic, tamper evident manner.</td>
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<td>Interoperability</td>
<td>Corda retains this privacy but allows any node to transact without creating islands of assets or liquidity issues.</td>
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<td>Transparency</td>
<td>Consensus achieved at individual deal level, rather than system level. Supports a variety of consensus mechanisms.</td>
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**Privacy**

**FINANCIAL-GRADE PRIVACY**

- Corda is a point-to-point system - a fundamental architectural difference to other systems
- Only Corda enables privacy with transactions only shared with parties relevant to the transaction
- This ensures transaction tear-offs and confidential identities
Business Networks

TECHNOLOGY TO POWER A GLOBAL NETWORK

• Only Corda can enable a global network of interoperable nodes while still supporting private business networks

• One node can participate in many networks. The networks can set policies and enforce membership creating permissioned networks inside an interoperable network
Consensus as a service

CONSENSUS AT AN INDIVIDUAL LEVEL

• Only Corda separates the trust mechanism from the node allowing a pluggable consensus service which we call a notary

• Consensus algorithms can be chosen at the transaction level, not the blockchain level
Public vs Permissioned Blockchains

Ledgers

Distributed Ledgers

Blockchains

Crypto-currencies
Project Ubin

Digital Singaporean Dollar Prototype for interbank domestic payments - **Prototype**

**Accelerator – Digital Cash**

**Vision**
To put the Singaporean dollar on a distributed ledger for the first time, building a prototype domestic payments for inter-bank obligations (backed by central bank deposits), a DLT platform and internal capability for MAS/market participants in Singapore.

**Objectives**
The eventual goal is to developing simpler to use and more efficient alternatives to today’s systems based on digital central bank issued tokens.

**Benefits**
- Improved domestic securities transactions, offering Delivery-vs-Payment (DvP) settlement in cases where it is not already available
- Significantly improved cross-border payments (Payment-vs-Payment) and securities transactions (DvP)
Project HQLA^X

**Vision**
A collateral lending solution for sourcing or providing High Quality Liquid Assets (HQLA) on R3’s Corda

**Objectives**
To build an exchange that improves HQLA upgrade / downgrades by utilizing distributed ledger technology for the tokenization of baskets of securities that allows for quick, legal transfer of HQLA and re-hypothecation

**Benefits**
- Enables market participants to source or provide HQLA more efficiently
- Improves transparency
- More cost effective than current tri-party repo options
The potential benefits of blockchain in enterprise sectors are significant.
The benefits of blockchain are real; this year we are rapidly progressing towards deployments of production solutions.
Finastra and R3 Partnership

Fusion LenderComm digitizes communication with lenders – driving efficiencies in the process, saving agents time and money, and eliminating operational risk.

Highly secure nodes on the Fusion LenderComm network maintain all transaction history. This gives every lender a personal view of deals they participate in and a time-stamped audit trail.

Developed in close collaboration with some of the world’s top global banks including BNP Paribas, BNY Mellon, NSBC, ING and State Street, Fusion LenderComm is a platform for the syndicated lending community which is underpinned by Corda, R3’s powerful distributed ledger technology.

Fusion LenderComm, powered by Corda:

- Seamless collaboration between agent and lenders
- Fully automated, secure communication with lenders
- Real-time data
- Cloud-based technology for quick and easy adoption
Corda is a cross-industry blockchain, built for enterprise and is in production delivering real value for customers
www.corda.net
www.r3.com/ecosystem
niki.ariyasinghe@r3.com

Thank you