HYPERLEDGER
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS

IntellectEU Demo

Smart Correspondent Banking
About IntellectEU

- Custom integration capabilities in **Fintech innovation** and **Blockchain technology**;
- Administer **integration** between large financial networks, middleware, and applications;
- Provide turnkey development, testing and deployment of **Blockchain Proof of Concepts**

**SWIFT** Integration Partner since 2013
Service Partner since 2009
Solution Partner since 2007

**Founding member of Linux Foundation’s Hyperledger Project** since early 2016

- **10+** years of financial integration experience
- **20+** countries worldwide
- **200+** implemented integration projects
A collaborative effort created to advance blockchain technology by identifying and addressing important features for a cross-industry open standard for distributed ledgers that can transform the way business transactions are conducted globally.

Introducing Hyperledger
Hyperledger: Conceptual Definitions

**Transaction** is a request to the blockchain to execute a function on the ledger. The function is implemented by a **chaincode**.

**Chaincode** is an application-level code (a.k.a. **smart contract**) stored on the ledger as a part of a transaction. Chaincode runs transactions that may modify the world state.

**World State** is the collection of variables containing the results of executed transactions. It contains key-values pairs stored on the ledger.

**Ledger** is a sequence of cryptographically linked blocks, containing transactions and the current **world state**.
Smart Correspondent Banking Strategy

- Preserve existing banking ecosystem, but optimize some of its processes
- Get Blockchain benefits today, rather than tomorrow
Correspondent Banking: Traditional Three Party payment

3. Custom code magic that executes nostro to vostro Funds Transfer and generates MT103 for Step 4.
Smart Correspondent Banking: Concept Definition

- A Smart Contract is the *Financial Product* served by Bank C to facilitate correspondent banking operations between Bank A and Bank B

A *MT103* received from Bank A triggers the execution of a chaincode (acting as a Smart Contract) which

- validates whether bank A’s nostro account can be debited and respective bank B’s vostro can be credited
- executes Nostro to Vostro funds transfer
- generates MT103 to Bank B (optionally)
Smart Correspondent Banking: Concept definition

By Blockchain nature: A smart contract can automate business processes in a trusted way by allowing all stakeholders to process and validate contractual rules as a group (under permissioned model).
Review & Validate the Smart Contract, monitor the transaction executions at all processing stages

Execute the chaincode as a Smart Contract between banks A, B, C to implement Bank A to B funds transfer
Goals

• Make correspondent banking transparent and traceable: chaincode and its execution gets viewed & monitored by all parties (under permission model)

• Minimize technical complexity in correspondent banking solutions: exclude middleware and back-office custom code: rely on smart contracts as a single standard.

• Reach semi-peer-to-peer funds transfer eco-system
Hyperledger Services

Hyperledger APIs, SDKs, CLI

IDENTITY
- Identity Services
  - Ledger Identities
  - Resource Identities

POLICY
- Policy Services
  - Configuration
  - Access Control
  - Privacy

BLOCKCHAIN
- Blockchain Services
  - Consensus Manager
  - Distributed Ledger
  - P2P Protocol
  - Ledger Storage

TRANSACTIONS

SMART CONTRACTS
- Smart Contract Services
  - Secure Container
  - Registry
  - Life Cycle

Event Stream

Hyperledger Services

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