DisLedger® – Distributed Concurrence Ledgers

Blockchain

- Provenance records
- All data is public on the network
- Example: Aircraft maintenance records. Every part and repair is recorded for the life of the aircraft. Vendors, airlines, and safety regulators all need full access to the data. 1-60 minute latency is acceptable.

DisLedger®

- High speed transactions
- Each counterparty has its own ledger so totally private
- Example: Payment system. Thousands of transactions per second. Regulations require data to be kept private so account information and PII isn't exposed. Subsecond speed is required.

There are two classes of Distributed Ledger Technology: DisLedger and Blockchain.

Blockchain is suited for long term, transparent systems like land title registries.

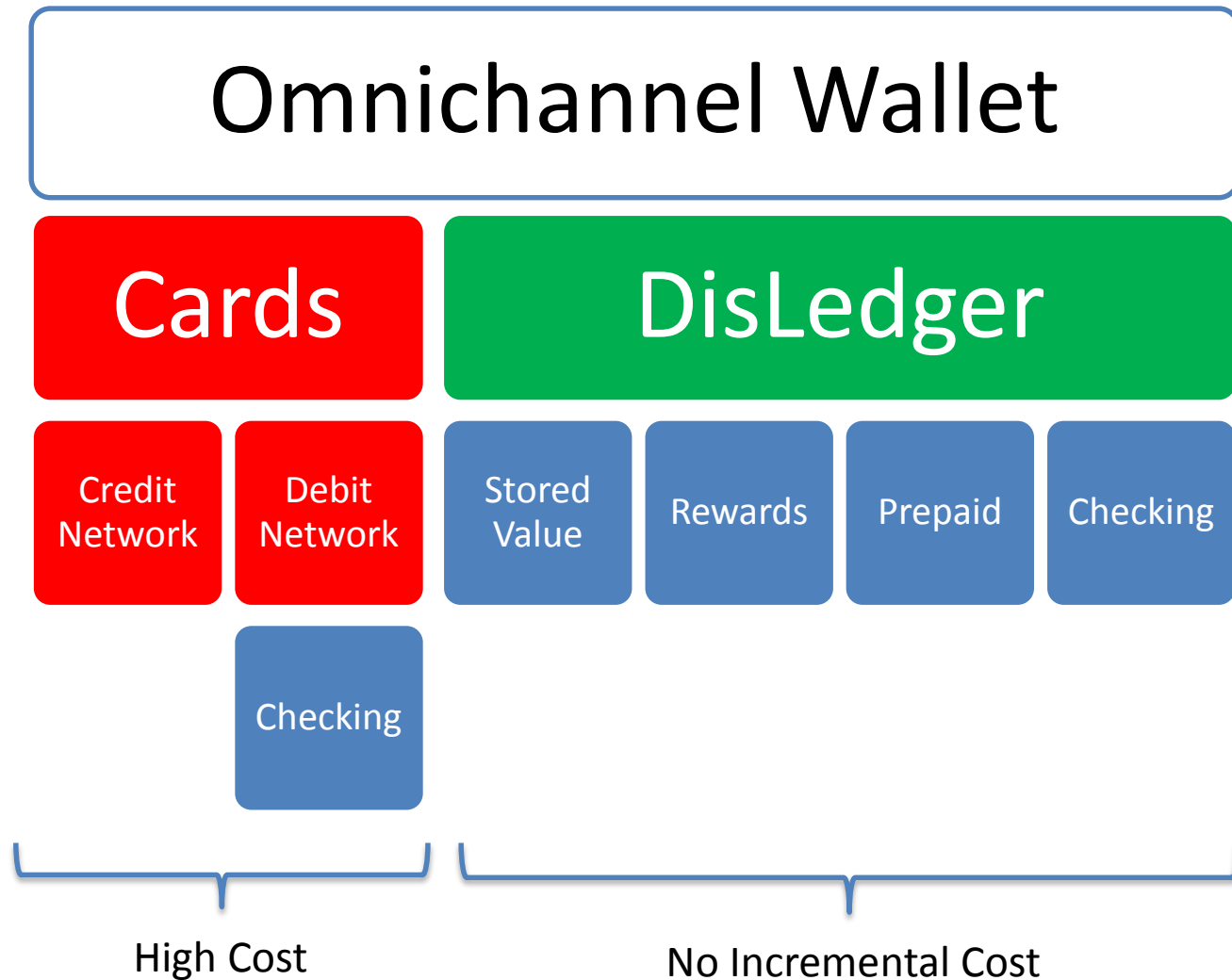**DisLedger is for high volume transactions like capital markets clearing and payments.**

DisLedger® - Fast, Secure Transactions

- The Intellectual Property for DisLedger® - Distributed Concurrence Ledgers is patent pending.

- DisLedger is a fast, scalable distributed ledger that handles hundreds of thousands of transactions per second with complete privacy.

- It provides the real-time, definitive, final settlement that blockchain cannot.

- There is no delay caused by a blockchain consensus network which allows DisLedger to process hundreds of thousands of transactions per second.

- There is no mining, so zero incremental cost per transaction.

- There is no cryptocurrency, so no alt-asset risk (Bitcoin, Ether, XRP, etc.)
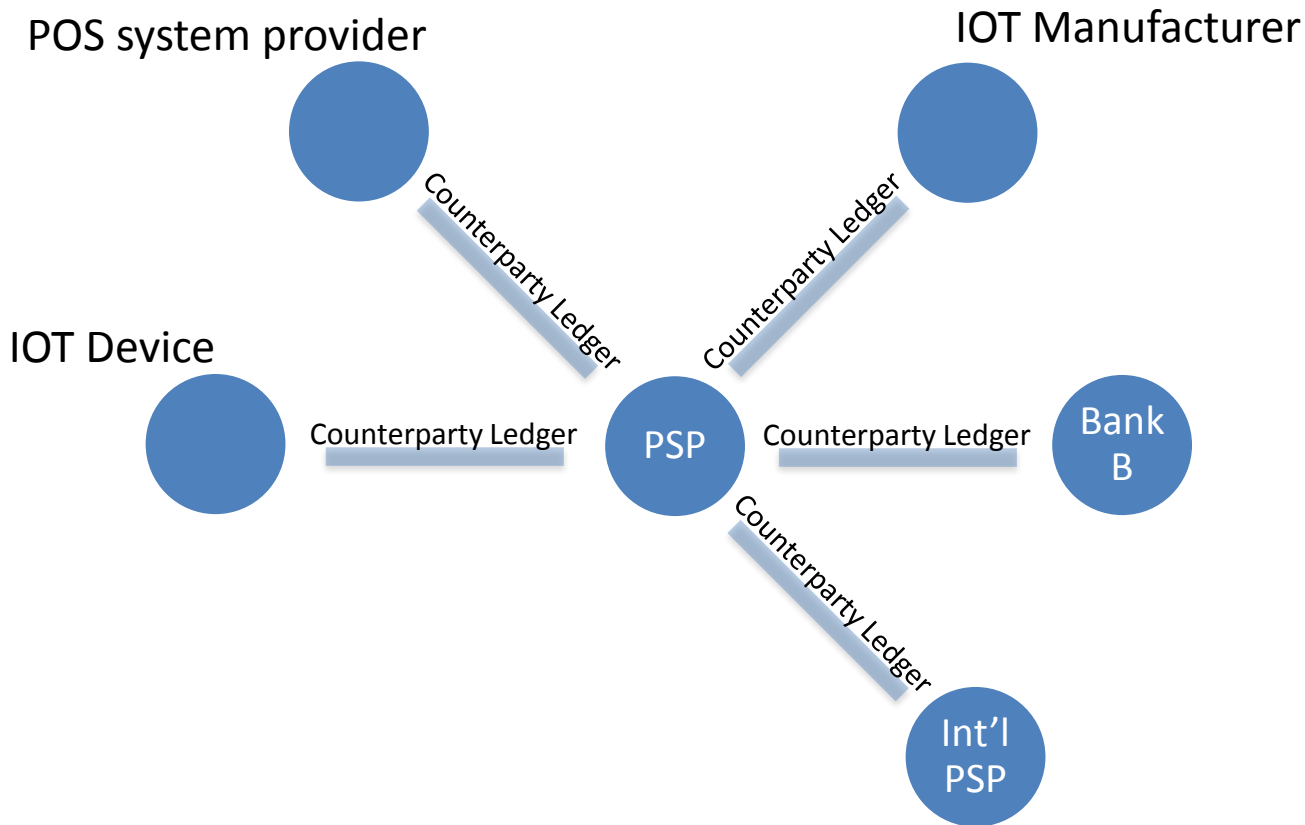
DisLedger® for a Scalable Payment Rail

- Scales to hundreds of thousands of transactions per second for large P2P, B2B, or IOT systems.

- Eliminates the credit/debit card and ties directly to the store of value, rewards program, or bank account.

- Zero incremental cost per transaction for low value and micropayments in IOT systems.

- Real-time, 24/7/365, immediate settlement of any currency or asset type.

Future Payment Rail for Retail Wallets

Omnichannel Wallet

Cards

DisLedger

Credit Network	Debit Network

Stored Value	Rewards	Prepaid	Checking

Checking

High Cost

No Incremental Cost

DisLedger technology can support retail payments, but due to competition in the retail card market we focus on IOT micropayments in the U.S.

DisLedger® - Payment Rail for IOT

POS system provider

IOT Manufacturer

IOT Device

Counterparty Ledger

Counterparty Ledger

Counterparty Ledger

PSP

Counterparty Ledger
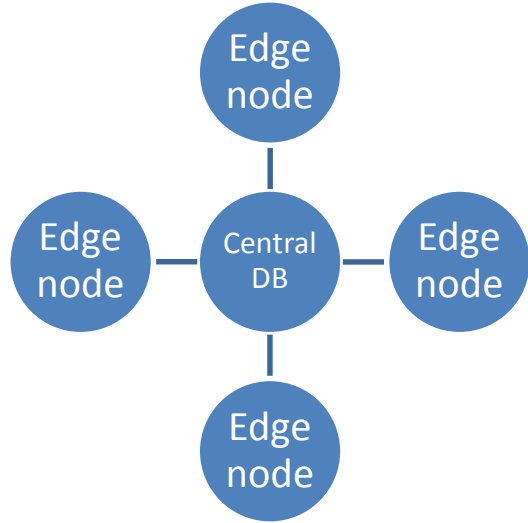
Bank B

Counterparty Ledger

Int'l PSP

In U.S.A., Payment Service Provider may be an existing national bank, consortium of national banks, IOT focused SPNB, or unchartered fintech company.

Internationally, the PSP may be a bank, regulated PSP, or card clearing company depending on jurisdiction.
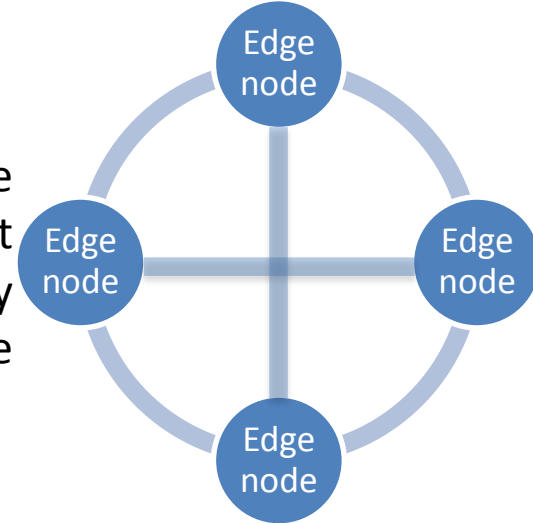
DisLedger® Technical Information

DisLedger® vs. Blockchain Architecture
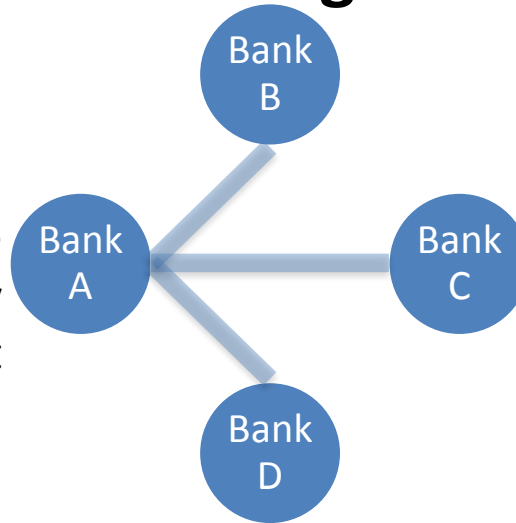
Traditional Database

Edge node

Edge node

Central DB

Edge node

Edge node

Blockchain

Edge node

Edge node

Edge node

Edge node

All data is copied to every node
Massively inefficient
No data privacy
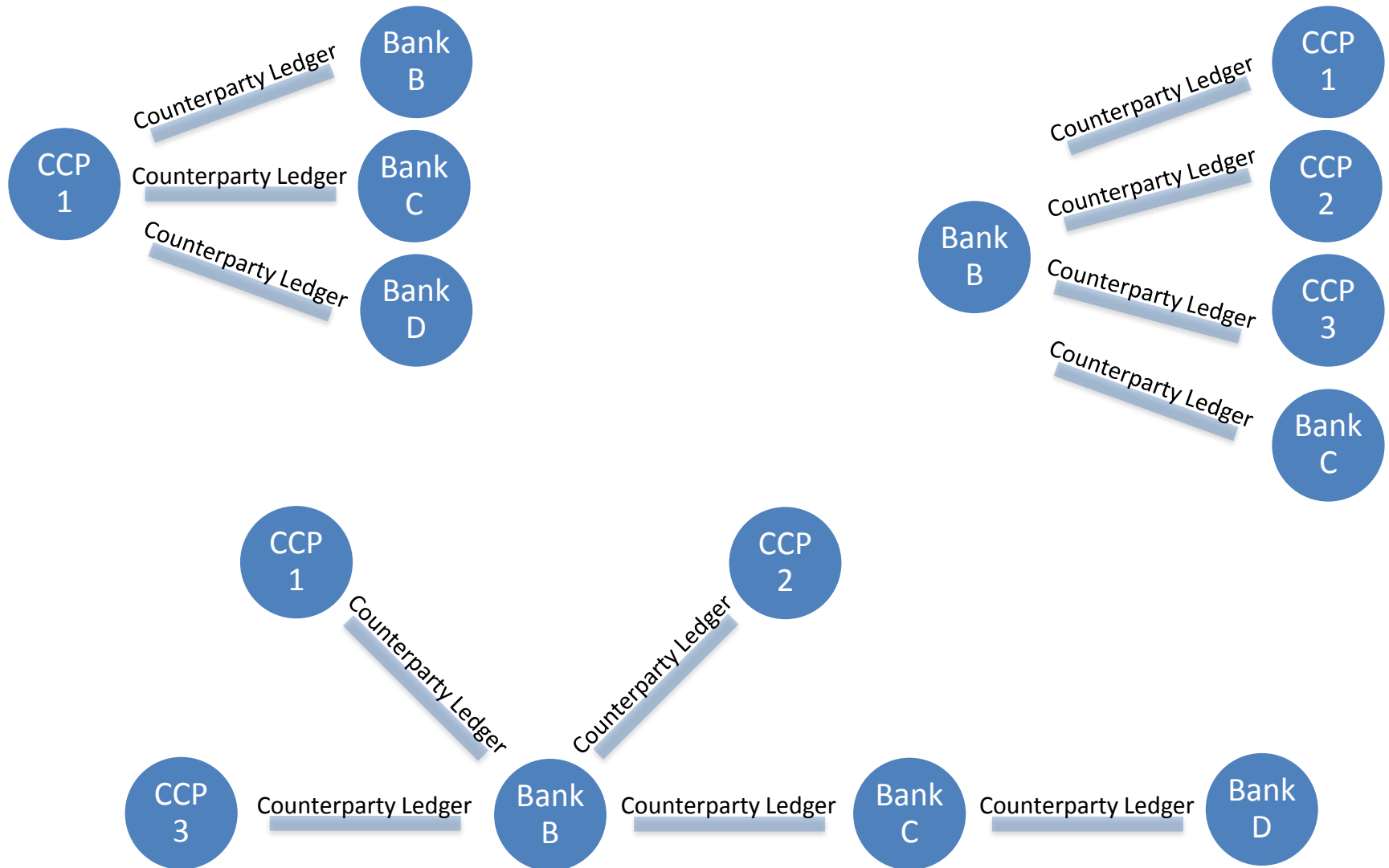Slow and cannot scale

DisLedger
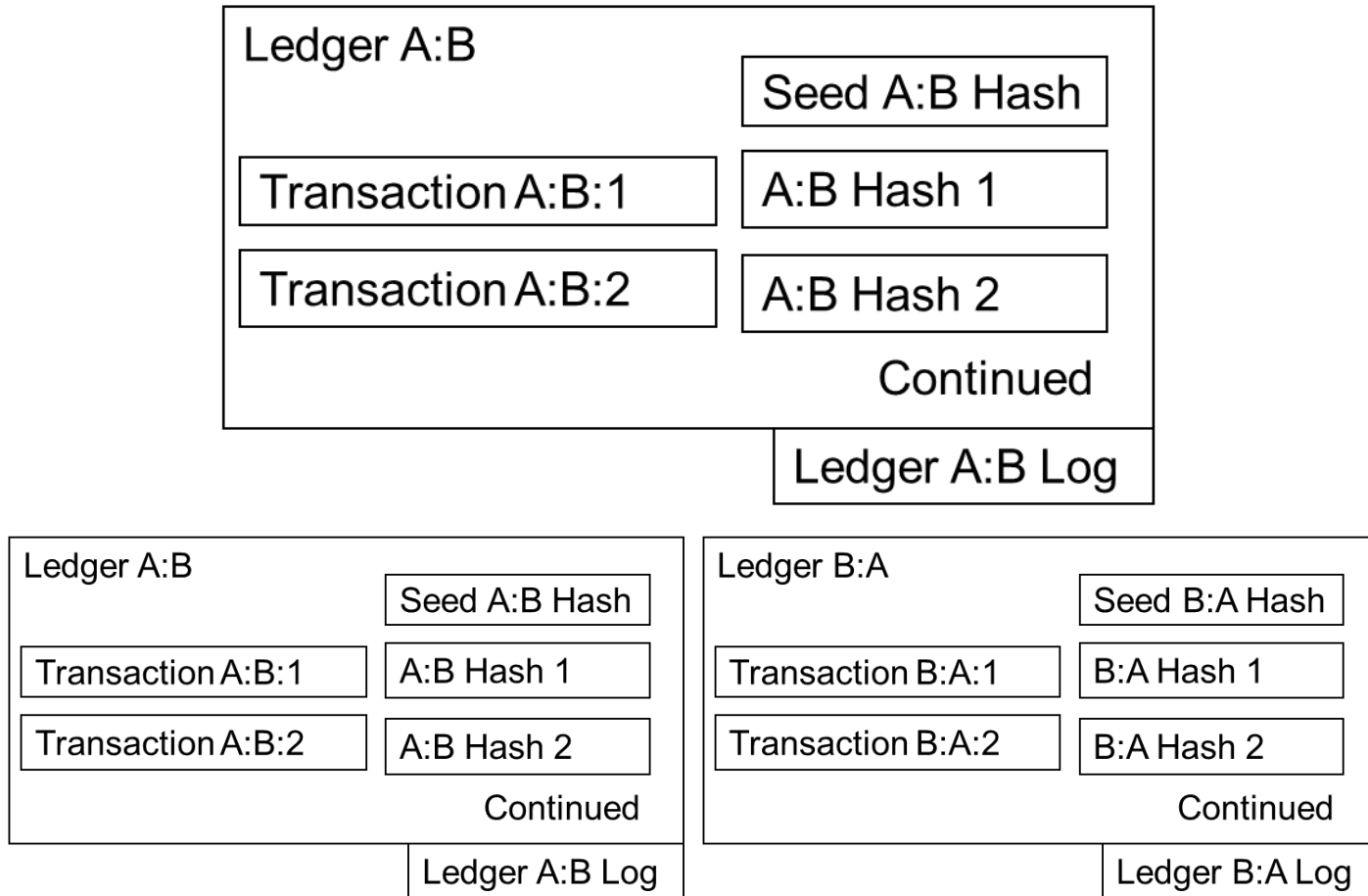
Bank B

Bank A

Bank C

Bank D

Counterparties share only their data
No waste
Total privacy
Very Fast
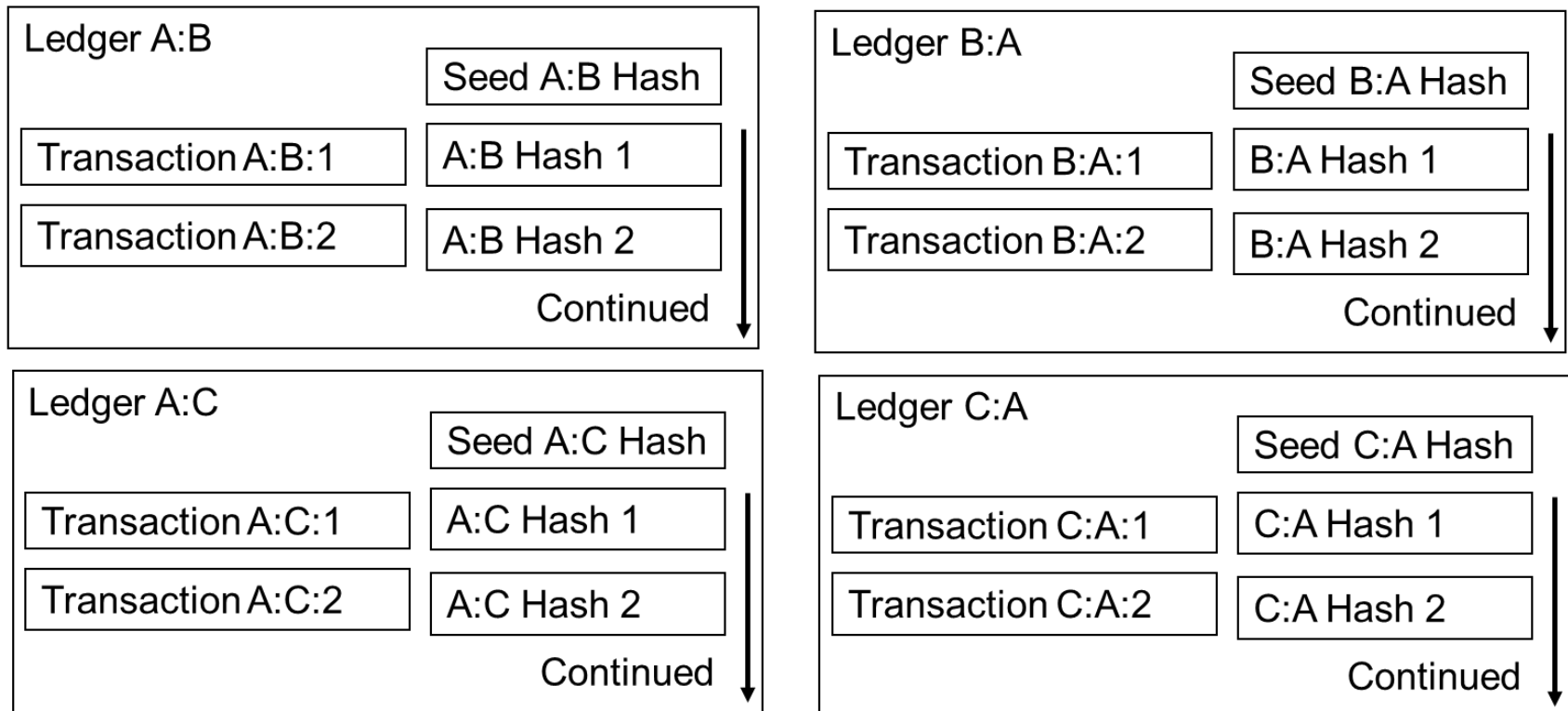Scales well

DisLedger® Distribution Architecture

DisLedger® Counterparty Ledgers

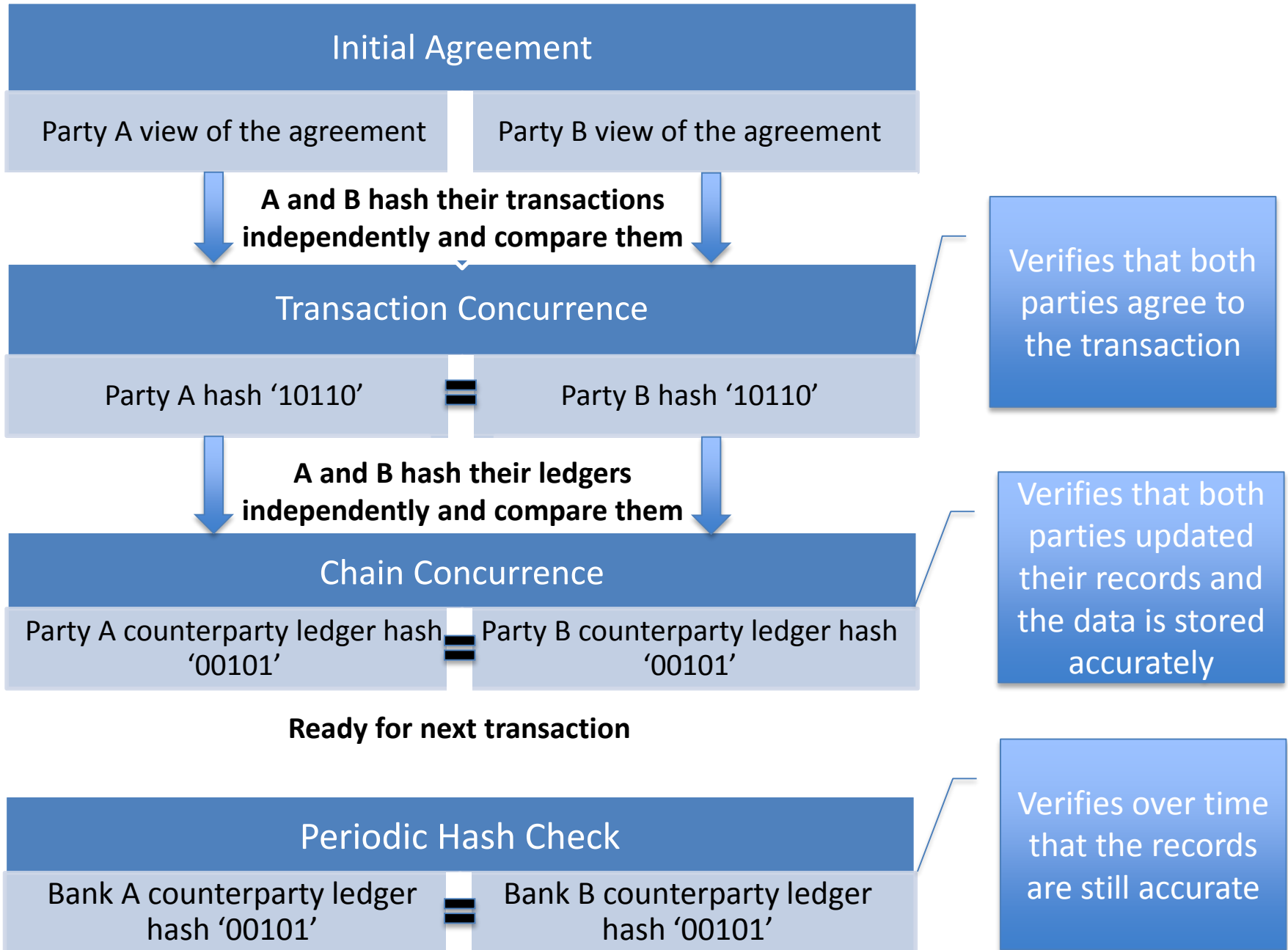The Counterparty Ledger that Bank A holds against Bank B (Ledger A:B) is the exact same as that held by Bank B against Bank A (Ledger B:A). The chain of hashes of each transaction creates the immutable record.

DisLedger® Counterparty Ledgers

The banks have a Counterparty Ledger for each bank with which they transact. Each Counterparty Ledger is separate and no information is leaked about the transactions or the deal flow.

DisLedger® Flowchart

Initial Agreement

| Party A view of the agreement | Party B view of the agreement |

A and B hash their transactions independently and compare them

Transaction Concurrence

| Party A hash '10110' | **=** | Party B hash '10110' |

Verifies that both parties agree to the transaction

A and B hash their ledgers independently and compare them

Chain Concurrence

| Party A counterparty ledger hash '00101' | **=** | Party B counterparty ledger hash '00101' |

Verifies that both parties updated their records and the data is stored accurately

Ready for next transaction

Periodic Hash Check

| Bank A counterparty ledger hash '00101' | **=** | Bank B counterparty ledger hash '00101' |

Verifies over time that the records are still accurate

DisLedger®

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