

# Blockchain @ Infosys



Blockchain FS POCs

Infosys®

# Pre-Trade and Post-Trade Reconciliation DTCC



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## Scope

Blockchain based solution that can facilitate reduction of reconciliation delays in the trading process; both pre-trade and post-trade

## Pain Points

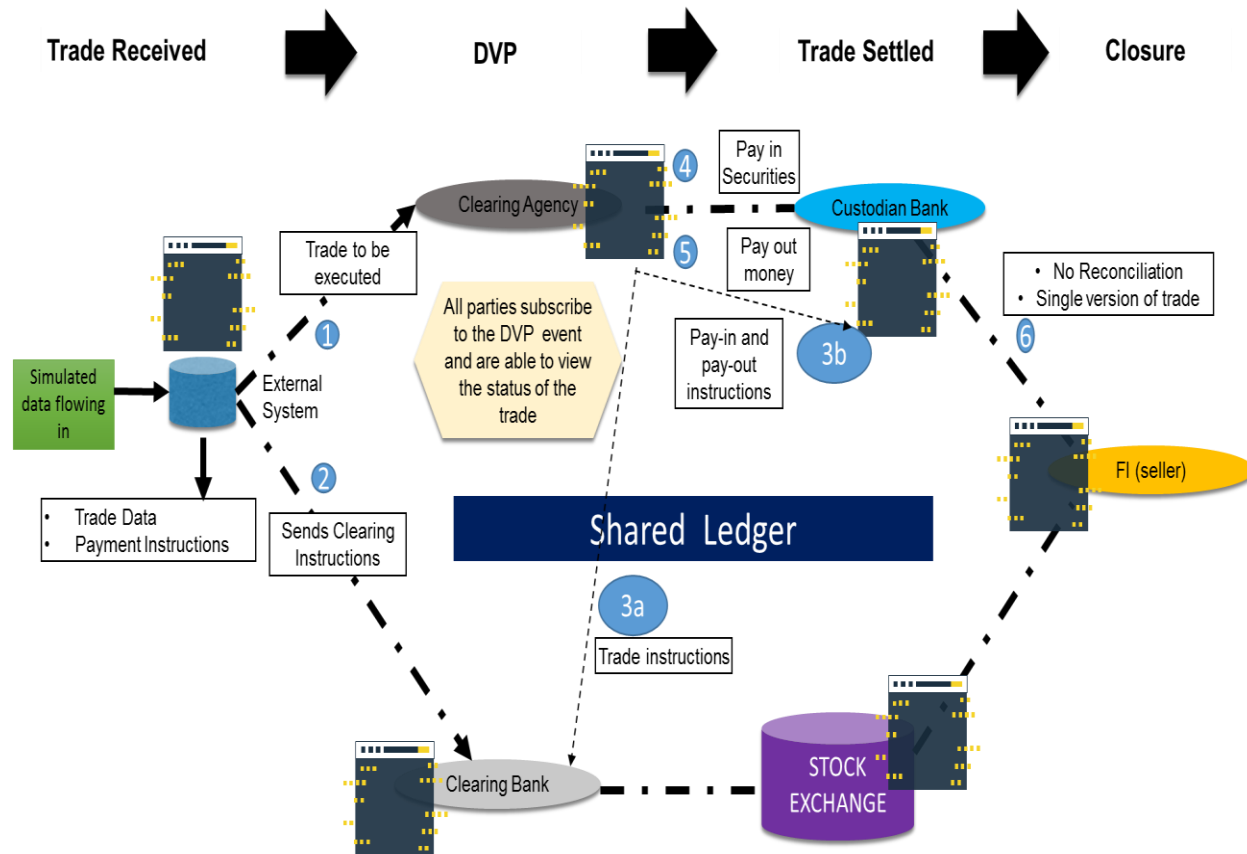
- High Trade feed Volumes
- Reconciliation at multiple stages
- Transaction Failures (Amount debited against trade failures)
- Multiple copies of Trade info across parties, cash and Securities discrepancy
- Auditing of multiple ledgers

## Business Value

- CB, FI and the Brokers will be able to see a single version of the order available in the ledger
- A standard template with order details can be viewed by all the three parties avoiding any data mismatch or incompatible formats
- Zero Reconciliation leads to zero disputes

## Highlights

- Post-Trade Reconciliation can be completely eliminated
- Real time and transparent view into the trading process for all stakeholders
- Eliminates the open trades and customer & primer broker reconciliations



# Cross Border Payments

## Scope

International payments which are further categorized into Cross-currency and Cross-border payments.

## Pain Points

- no single clearing agent for international money transfer.
- Cost, Risk, time addition as transaction goes through series of hops i.e. domestic, central and correspondent banks.
- FX conversion fees and currency reserve management costs for banks.

## Business Value

- No need of involving any third party as nodes provides the consensus
- Elimination of error handling through real time tracking of transactions
- Safe, Secure and authentic transaction processing, Reduction in Cost per transaction, Lower administrative costs

## Highlights

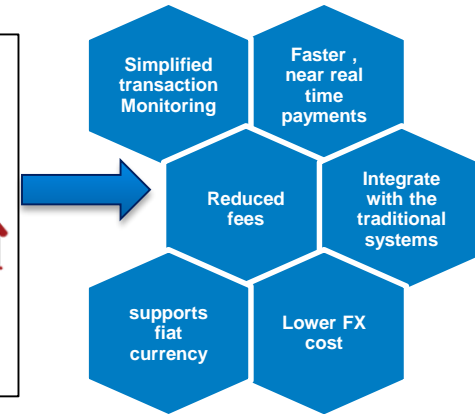
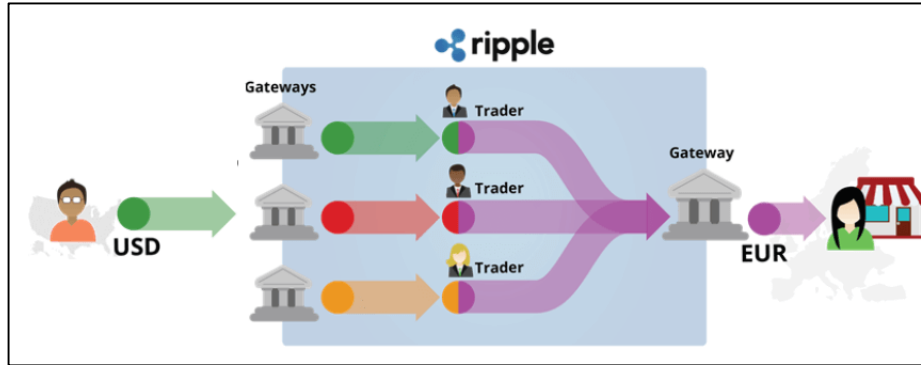
- Provides a single shared ledger and enables p2p transaction settlement through a distributed architecture.
- Ripple works with the existing ecosystem – it requires banks to act as gateways and market makers to provide FX conversion service.
- Supports fiat currency.

Bank of America

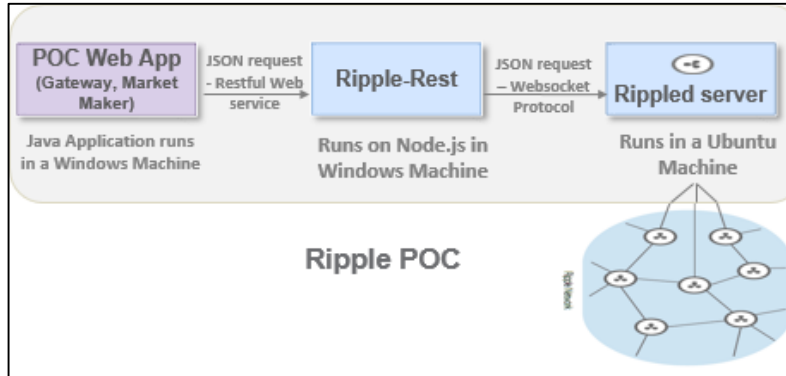


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## HOW IT WORKS



## Cross border payments through Ripple

Creation of wallets in Ripple

Trust lines among Ripple Gateways and Ripple Market makers

Market maker order to buy and sell currencies

Domestic : USD to USD money transfer between accounts

Cross border : USD to EUR money transfer

# Equities Master Reference Data

**DTCC**



## Scope

Master data to be available for all the involved parties(vendors) in real-time

## Pain Points

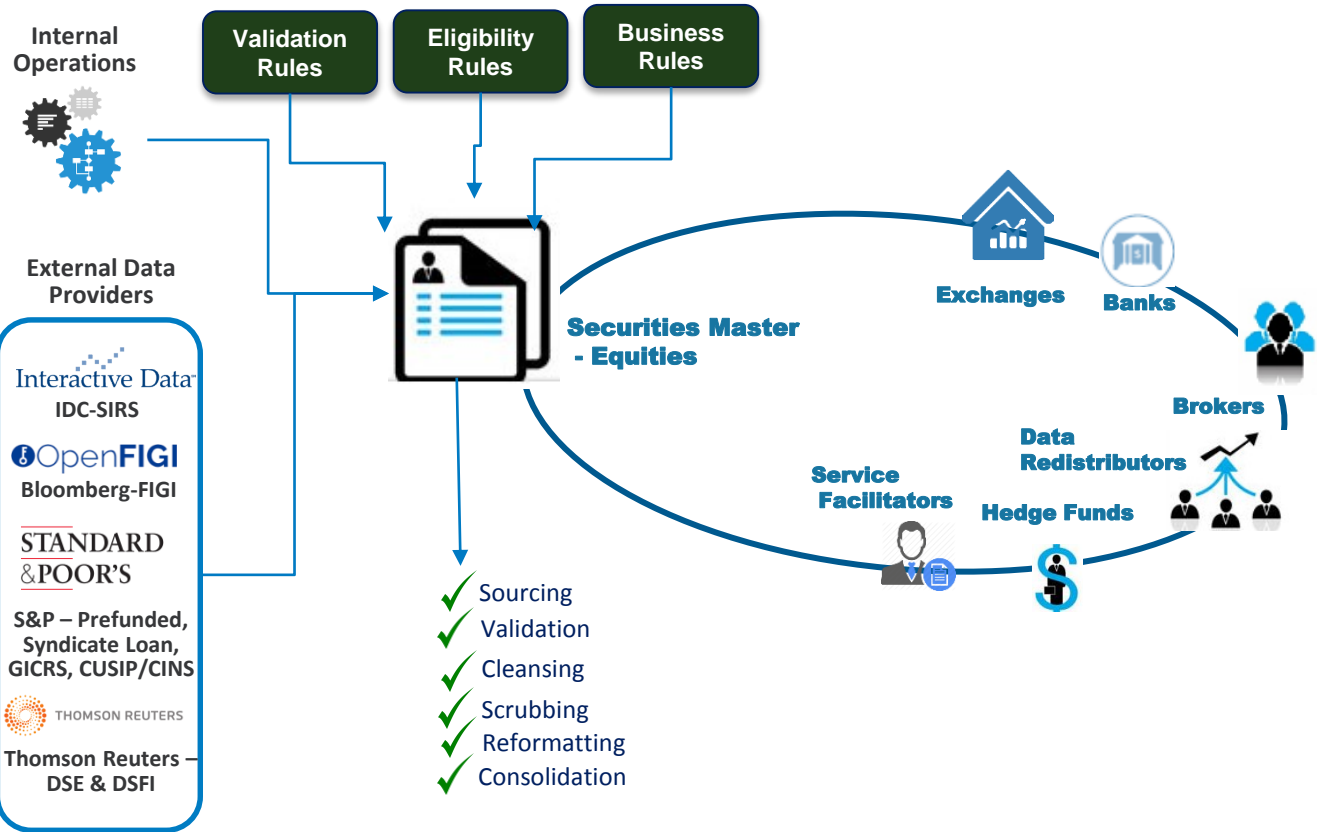
- Multiple local copies of data at each departmental level
- Reliance on Legacy Systems
- Lack of Automation

## Business Value

- The data is put on a Block chain which can then be accessed from the Block chain by the subscribers connected to the network.
- Aggregated and enriched data is filtered on prioritization rule and published on the block chain network
- Data once put on the block chain will represent a single source of truth which can not be modified.

## Highlights

- Trust - Block chains can authorize and reach into a consensus for the data submitted by various vendors thereby platform providing the trust
- Audit - data is stored in a shared database and updated with most recent data, facilitating the audit process by providing all the historical records
- Auto Validation - Validations can be done by predefined smart contracts, eliminating manual validation of the trade data, thus saving huge burden of the process



# Letter of Credit

## Scope

Letter of credit is a guarantee of credit to seller from buyer, a facility offered under trade finance

## Pain Points

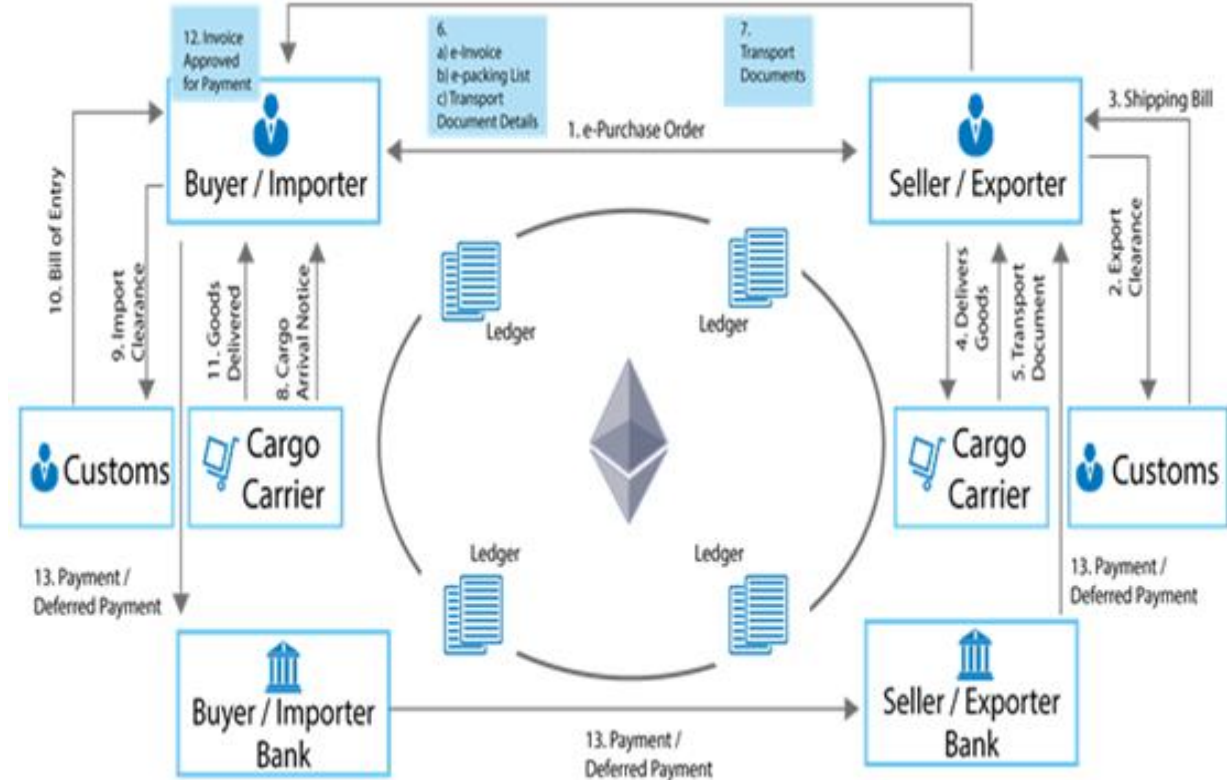
LOC is largely physical documents based process. It has number of inefficiencies such as lack of transparency in trade, risk of submitting counterfeit documents, delays in physical document travel and overhead costs in terms of trade messaging.

## Business Value

Blockchain can bring all trade participants on single network and make entire trade transparent and authenticate. It can also reduce delays in document exchange and reduce overall trade messaging costs.

## Highlights

- Can be integrated with existing trade finance systems
- Can quickly access pending action view and historical trade view
- Security through cryptography and hashing
- Support for document sharing





# Enterprise Data Sharing

## Scope

The scope of case study is to explore the ability of Blockchain to capture audit data, exchange data between Bank's business units and smart contract implementation. Audit use case will be for storing amounts (i.e. cash availability, room to buy) returned from an external source

## Pain Points

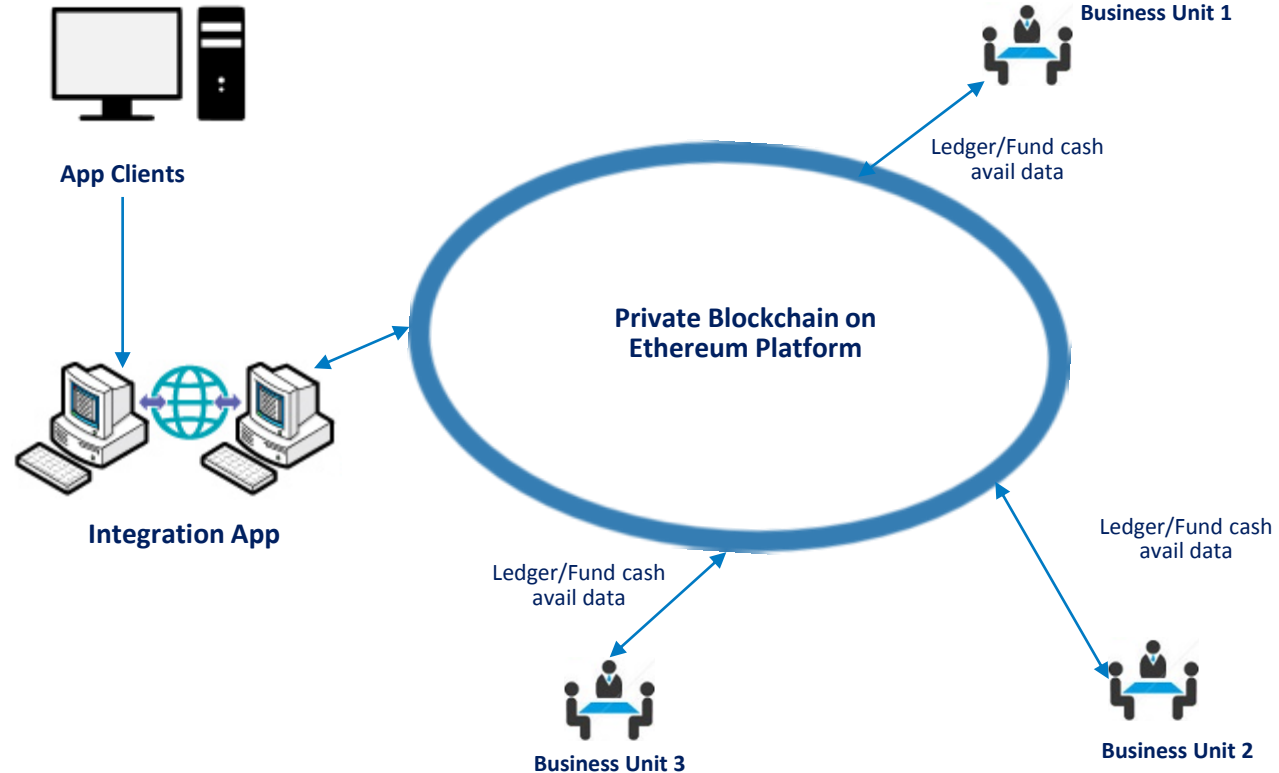
- Tampered data
- Multiple business units are not able to update the cash available for a fund concurrently

## Business Value

- Operational and capital efficient gains
- Enables real time availability of cash data
- Ensures Transparency & Security
- Accelerated turn around time

## Highlights

- Ability to implement operationally stable and supportable solutions
- Reduce need for reconciliation jobs
- Eliminate need for Audits, Ensures Transparency & Security
- Stores a tamper proof version of data for audit purpose



# Securities Lending

## Scope

Hedge fund companies and mutual funds borrow securities from prospective lenders like pension funds or insurance companies in order to short them in the market. This use case describes security lending process on the blockchain

## Pain Points

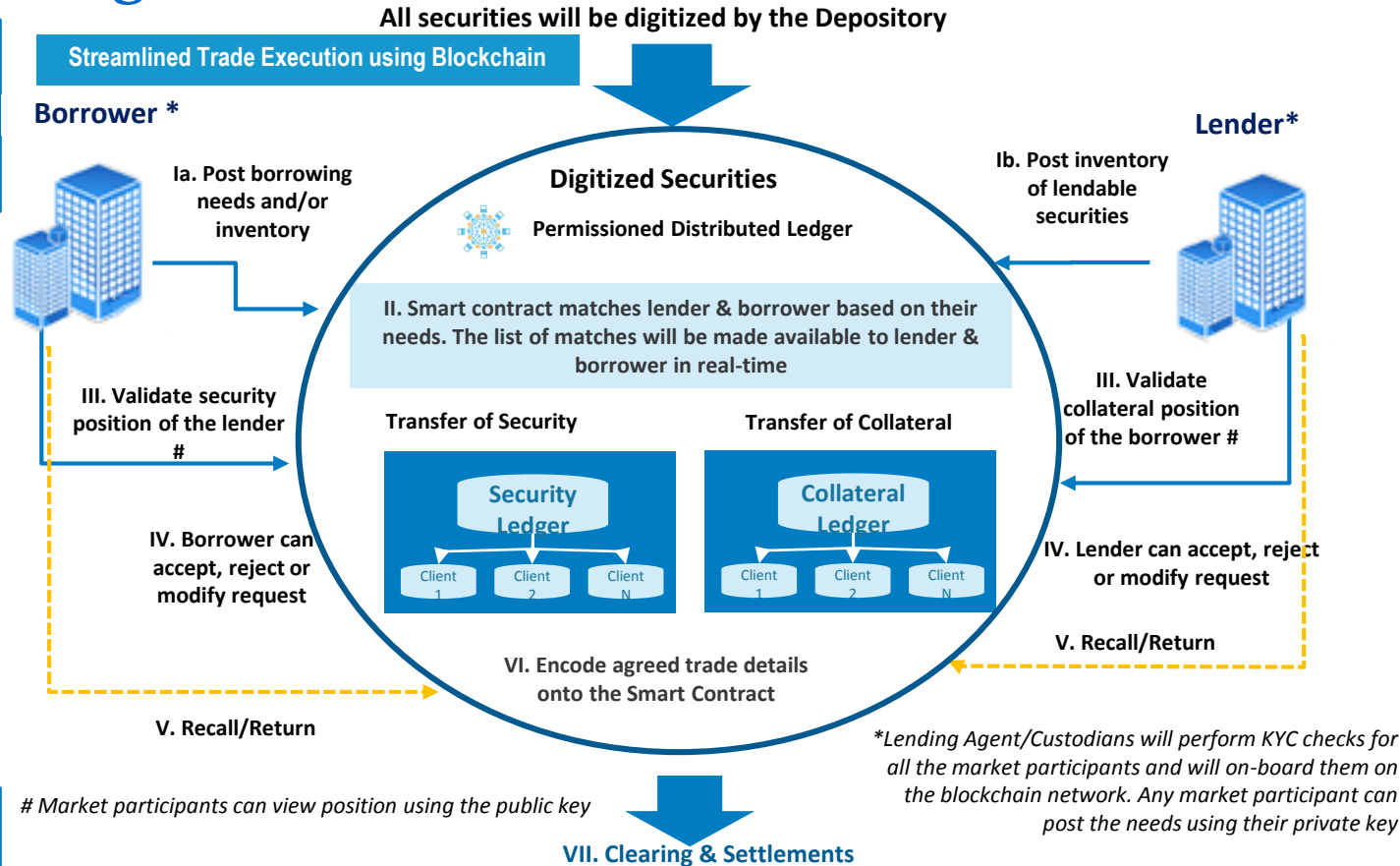
In the current scenario, there are multiple parties including, prime broker, lending agents, lenders, borrowers are part of the process. Lots of documentation is involved between these parties. Borrowers don't know which lender is prospective lender and what are the number of securities available for lending. Lack of transparency, make it tedious.

## Business Value

Using blockchain technology to bring lenders and borrowers on common platform thereby increasing the transparency in the process. Blockchain would also be used to locate prospective lenders and share the contracts easily.

## Highlights

- Reduced BO costs
- Reliability & Simplified processing
- Faster Clearing and Settlement
- Efficient collateral and margin management



# Mortgage Based Securities

## Scope

Mortgage-backed security (MBS) is a type of asset-backed security that is secured by a mortgage or collection of mortgages. Distributed ledger technology can be leverage to manage the data flows from a mortgage servicer to the finance team, and from the finance team to operations and the note custodian.

## Pain Points

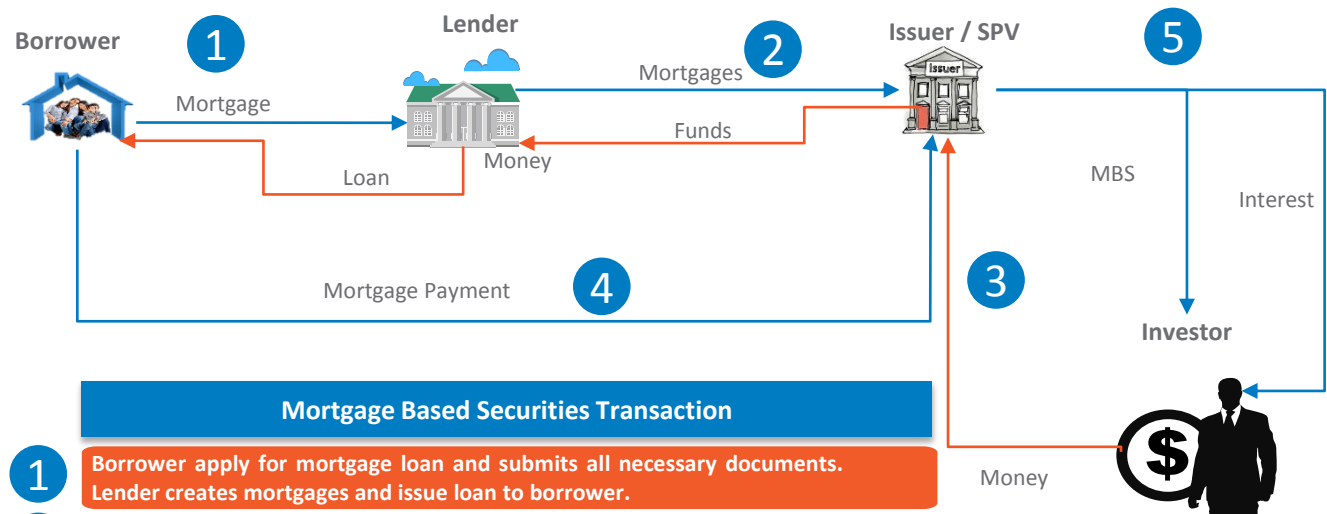
- Slow, Manual and Complex
- Lots of documentation
- High Operation Cost
- Regulatory, Security and Fraud issues

## Business Value

Using blockchain technology to bring lenders and borrowers on common platform thereby increasing the transparency in the process. Blockchain would also be used to locate prospective lenders and share the contracts easily.

## Highlights

- Faster execution, Improved efficiency
- Reduced cost, Faster clearing and settlement
- Secure, Immutable, Transparent



## Mortgage Based Securities Transaction

- 1** Borrower apply for mortgage loan and submits all necessary documents. Lender creates mortgages and issue loan to borrower.
- 2** Lender sells the mortgages to Special Purpose Entity/Vehicle and collects fund to create more mortgage products.
- 3** SPVs/Issuers creates a mortgage pool having similar characteristics ( interest rates , maturities etc.) and converts these pools to securities (MBS) and sells in open market
- 4** Borrower makes monthly mortgage payment to Issuer.
- 5** Issuer keeps a fee and passes the left of principal and interest payment to investor



Thank You

