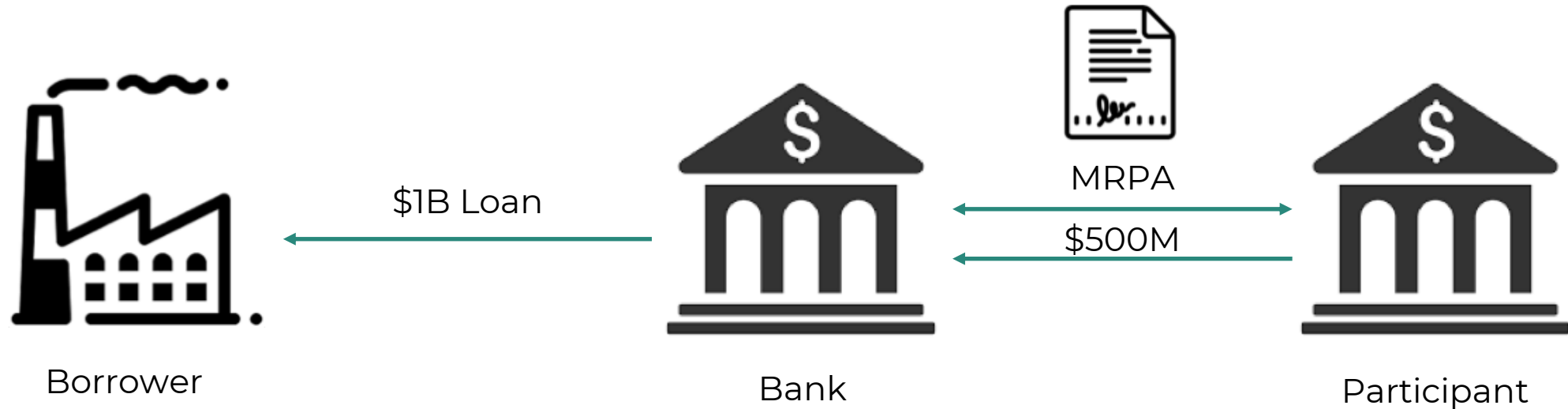# Inter-bank Risk Participation Network
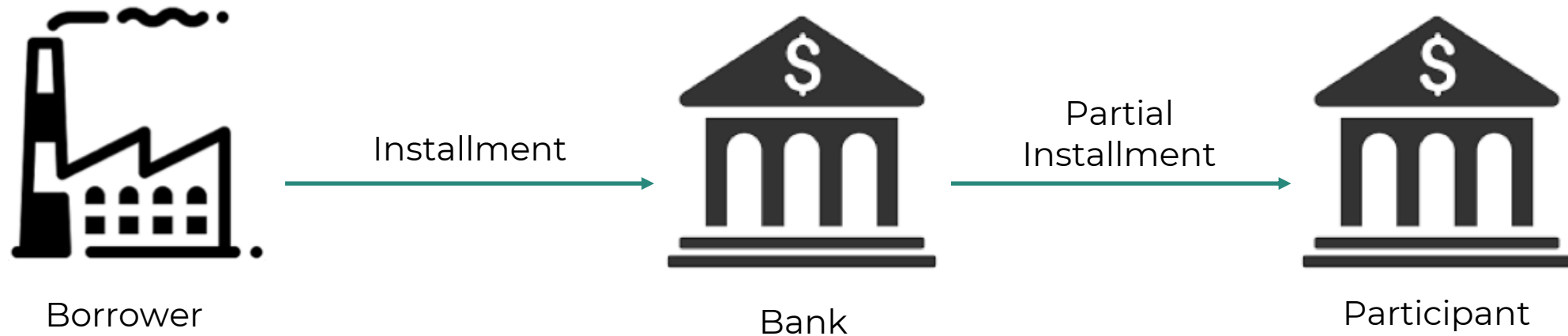
Risk Participation

Bank sells its exposure to an obligation to another financial institution.

Risk participation using a Master Risk Participation Agreement (MRPA) allows banks to reduce their exposure to delinquencies, foreclosures, bankruptcies and company failures.
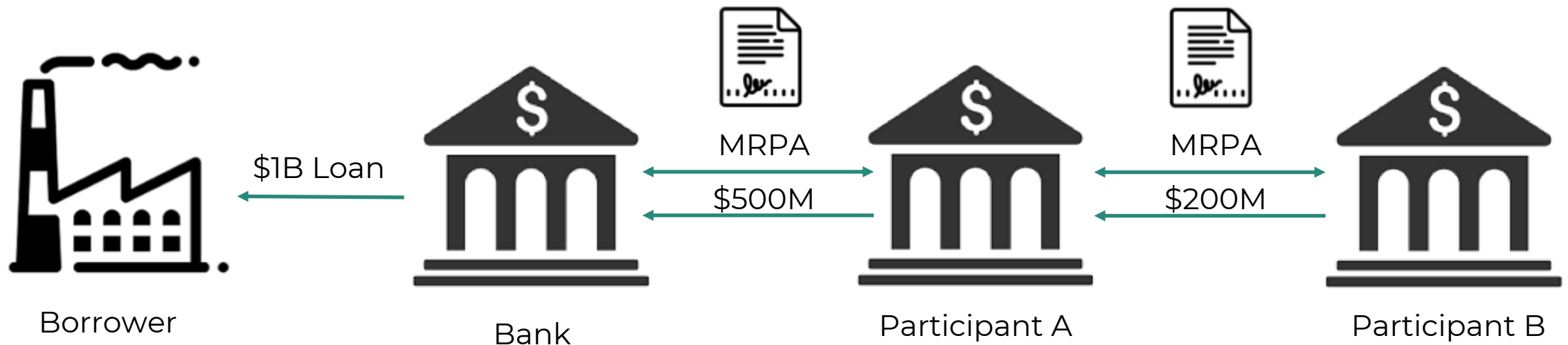
Risk Participation

Partial installments are transferred to participant as agreed in the MRPA.
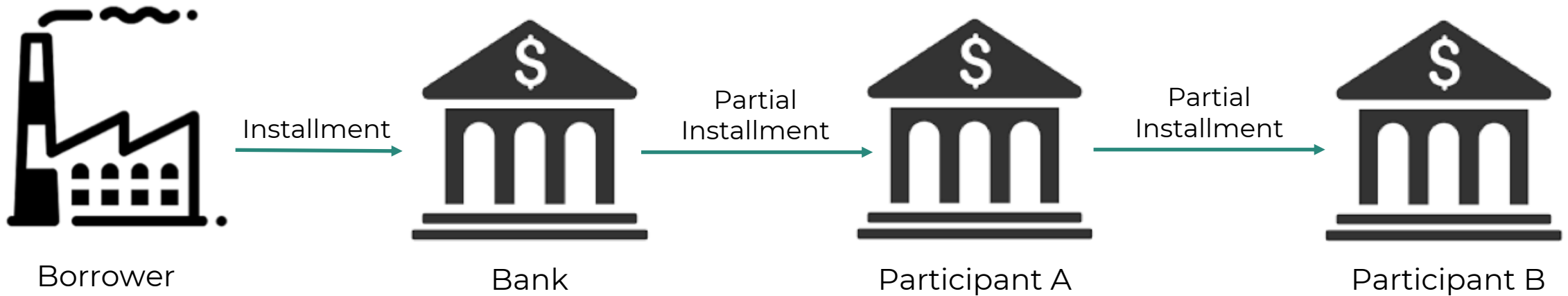
Risk Participation Chain

A participant could sell its exposure to another participant

Chaining adds additional risk.

Risk Participation Chain

Partial installments are transferred down the chain.
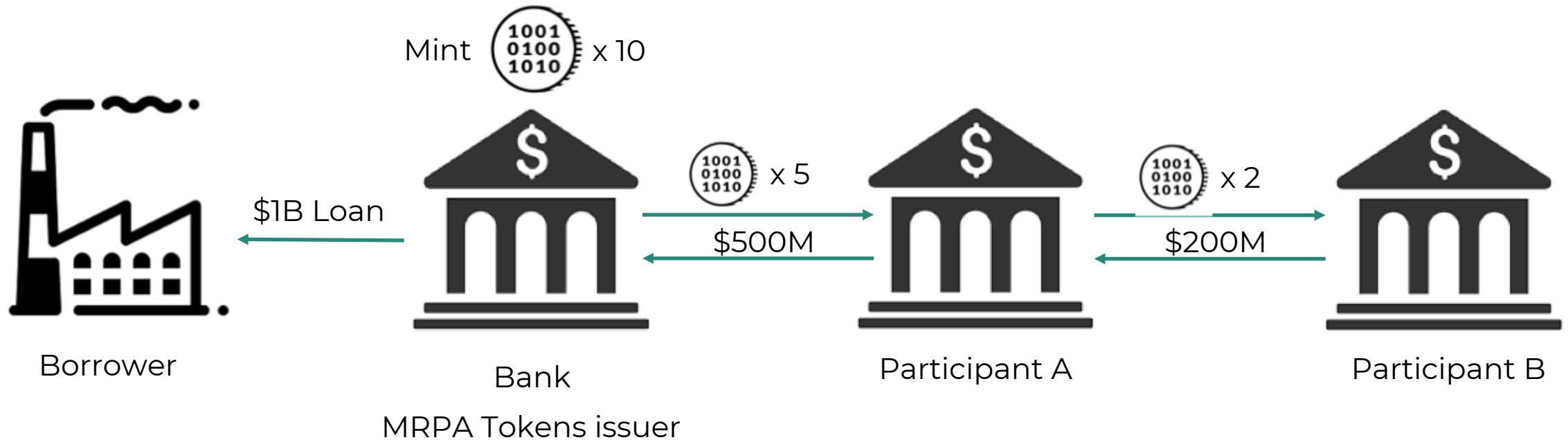

Chaining adds additional risk.

Inefficiencies

Current risk participation process has several inefficiencies

- Slow, manual processes

- Contract management hassle

- Reconciliation heavy process

- Slow flow of funds, hop by hop

- Additional risk with each new link in the chain
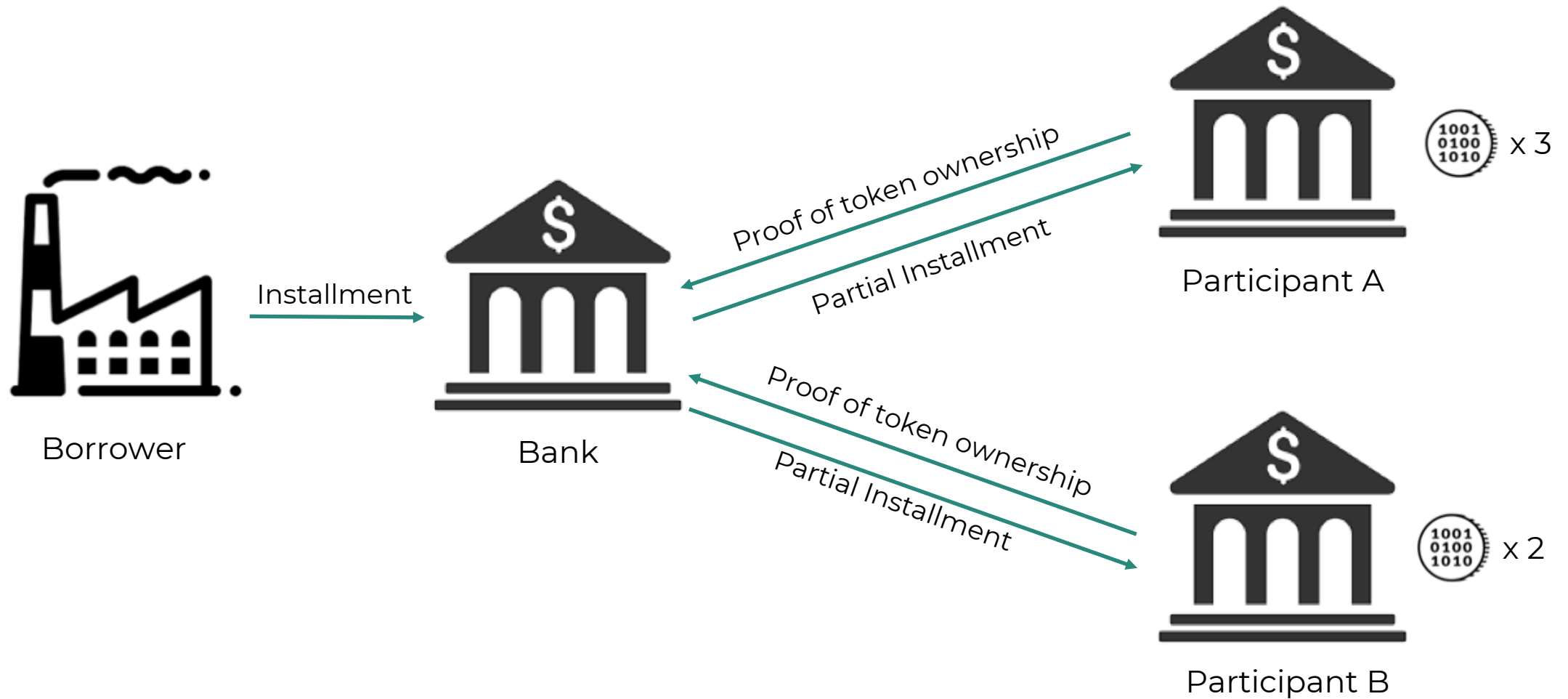
Risk Participation with MRPA Tokens

MRPA Tokens are Digital Bearer Instruments

Digital Bearer Assets can be transferred from bank to bank instantly and with settlement finality.

Risk Participation with MRPA Tokens

On installment due date, participants present proof of MRPA Token ownership. Issuer makes partial payments.

Borrower

Installment

Bank

Proof of token ownership

Partial Installment

Participant A

x 3

Proof of token ownership

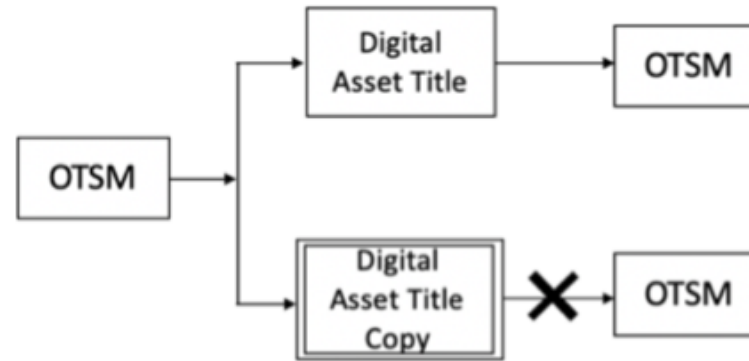Partial Installment

Participant B

x 2

MRPA tokens reduce intermediaries and consequently risk.

Product: One Time Spend Machine

OTSM – A Special Purpose
FIPS 140-2 Level 3 HSM

OTSM prevents a digital asset from
being spent multiple times.

|	OTSM
Confidentiality	Yes
Security	Yes
Decentralization	Yes
Compliance	Yes

OTSM enables direct institution-to-institution transfers of tokens.

OTSM: Key Technical Concepts

- For peer-to-peer (institution-to-institution) transfers rely on trusted hardware

- Since transfers will be over the Internet, rely on an asynchronous approach to value transfer. Single-shot transfers, no interactive sessions.

- HSMs are very good at maintaining small amounts of data very securely. Rely on advanced cryptographic concepts to maintain full recall of transaction history despite limited storage space.

- Ensure active-active replication of secure storage. An OTSM cluster is highly resilient and there are no practical limits on replication factor.

Risk Participation Network

An inter-bank Risk Participation Network can be established using OTSMs
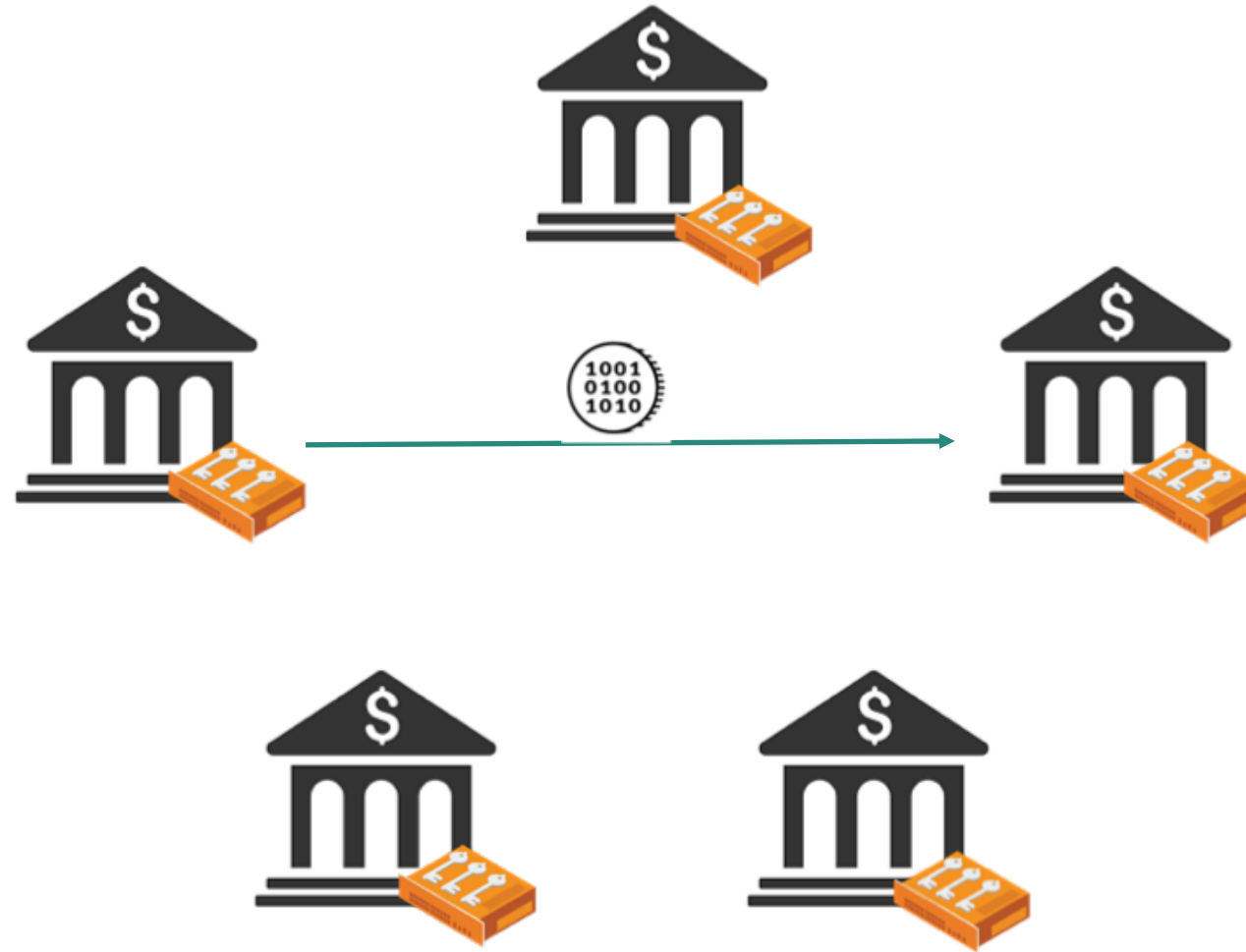
MRPA tokenization, custody and direct inter-bank token transfers

Benefits

- Easy creation of Risk Participation Tokens

- Secure custody

- Easy transfers

- Instant settlements

- Reduced contract management hassles

- Reduced reconciliation hassles

- No additional risk added by participant-to-participant risk sell down

Thank You!

If you liked this deck, share it!

Contact: pralhad@halfepsilon.com