

Interledger

Introductory Webinar

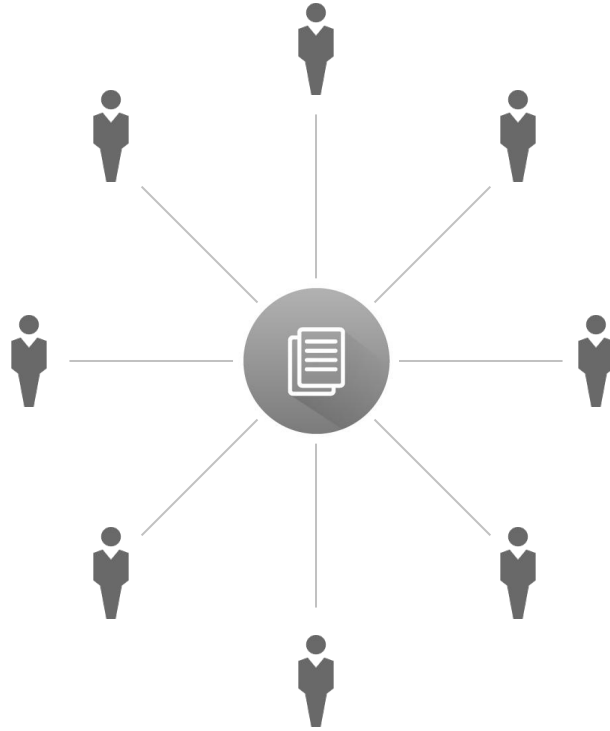
Oct 20th • Evan Schwartz & Stefan Thomas

Payments Work Great!

Payments Work Great!*

* Within Each Payment System

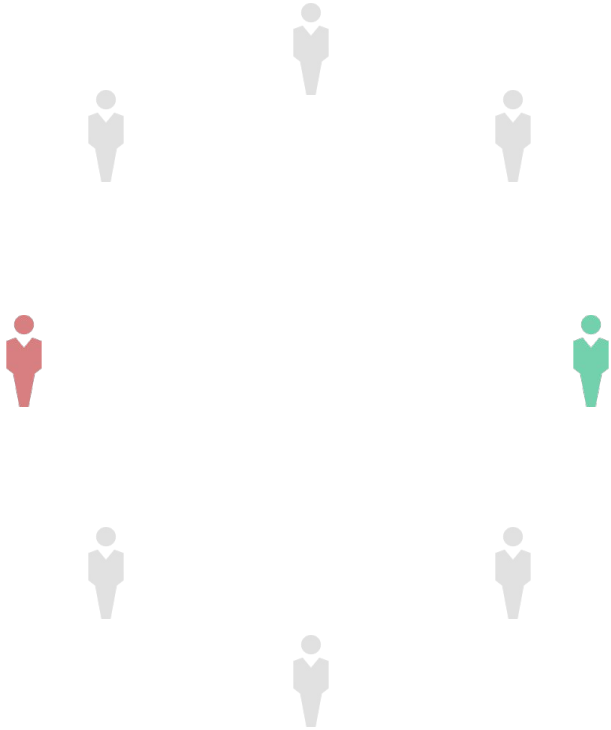
So Let's Use One System for Everything?



But Different People Have Different Needs...

Micropayments

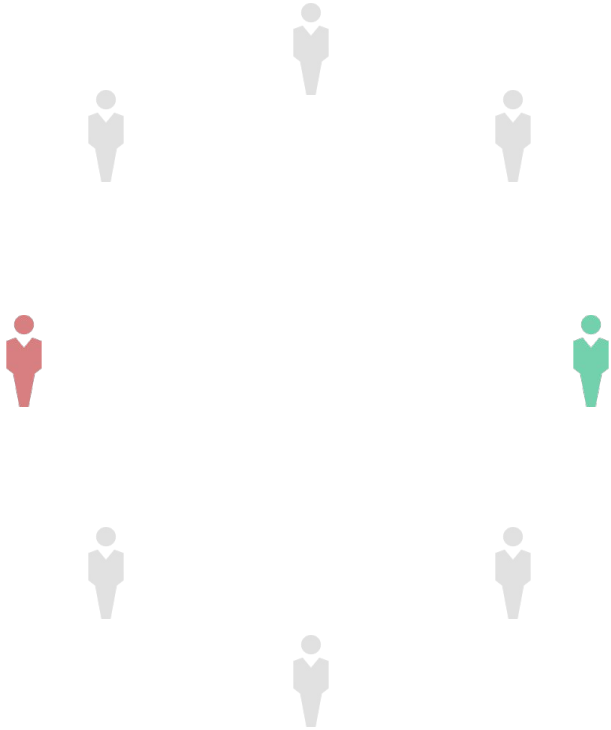
Bank-to-bank settlement



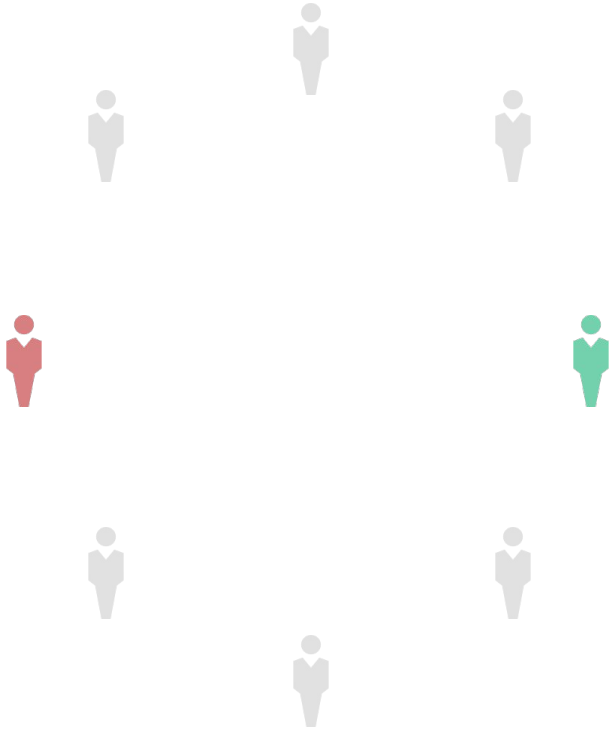
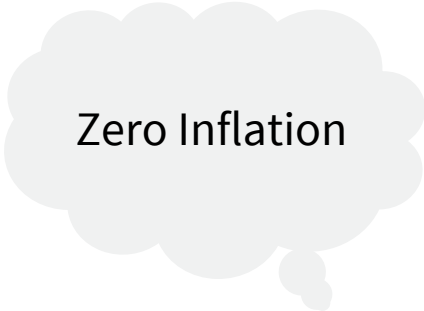
But Different People Have Different Needs...

Maximum
Decentralization

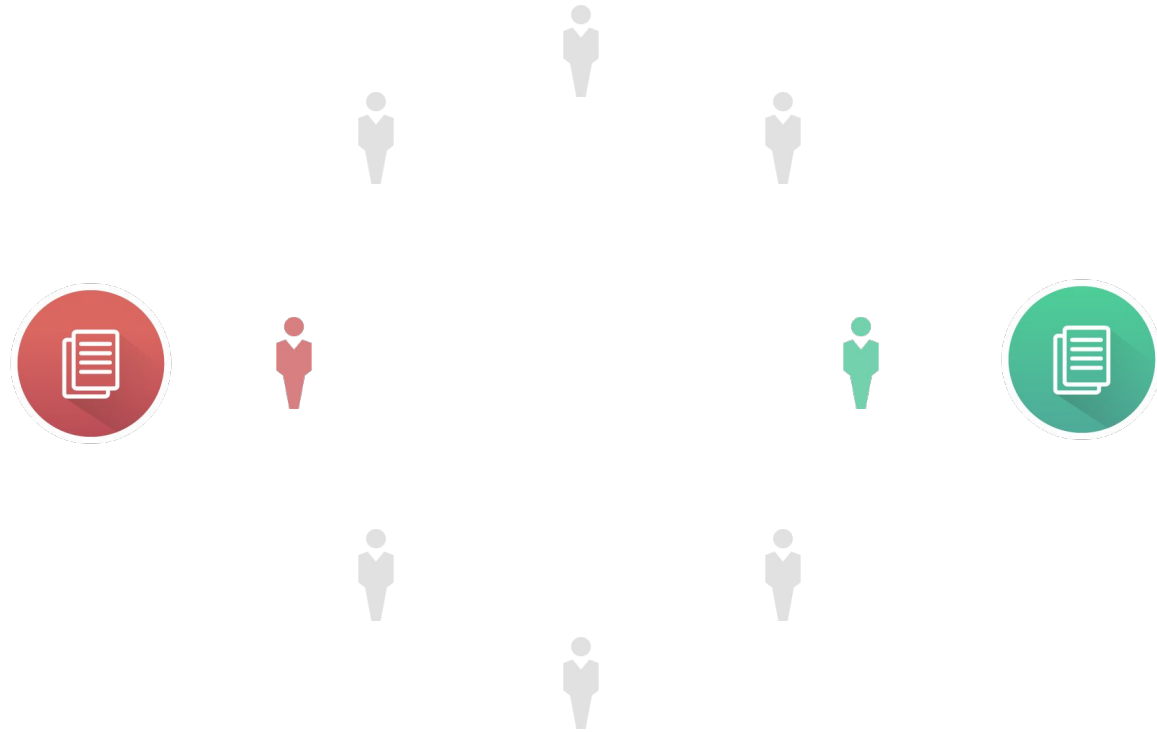
Minimum
Latency



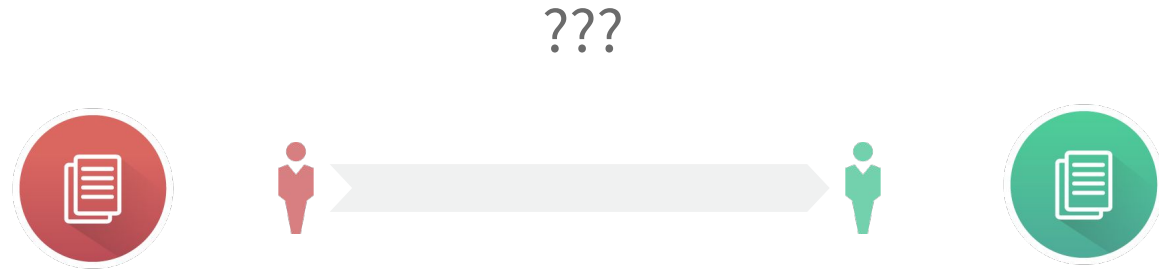
But Different People Have Different Needs...



...Served by Different Assets and Ledgers



How Do You Pay Across Ledgers?



There Are Lots of Ways

But No Standard

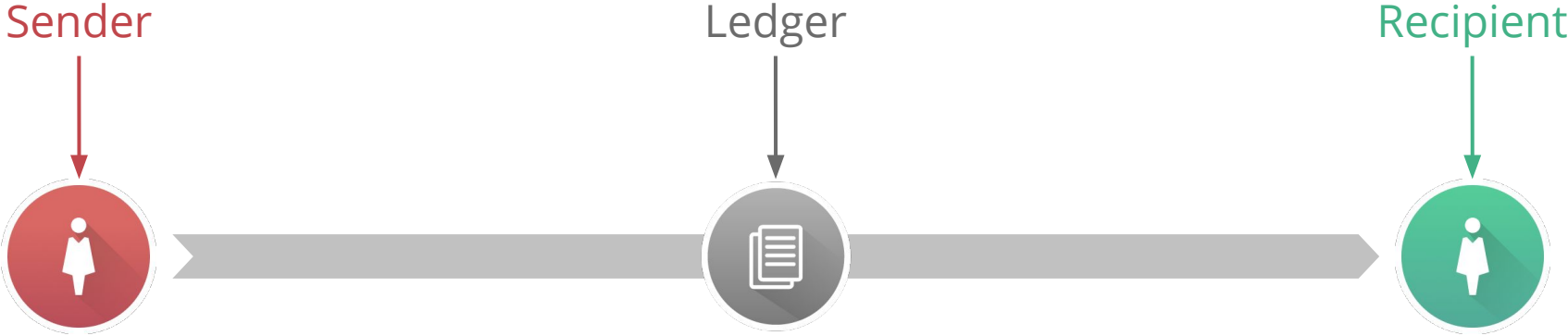
A complex network graph with many nodes and edges, overlaid with the text "Why isn't it like the Internet?". The graph consists of numerous nodes, some colored red and some green, connected by a dense web of blue lines. The nodes are arranged in a way that suggests a hierarchical or clustered structure, with many nodes having multiple connections to other nodes. The text is centered in the middle of the image in a large, black, sans-serif font.

Why isn't it like the Internet?

Internet standards are about
relaying information

Can we **relay** money?

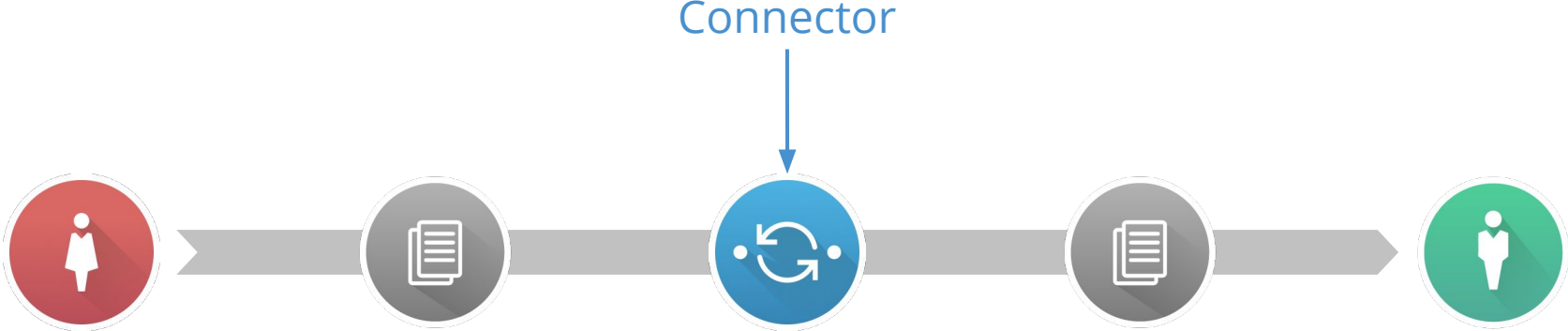
Ledgers Track Accounts and Balances



But: Not Everyone Is on the Same Ledger

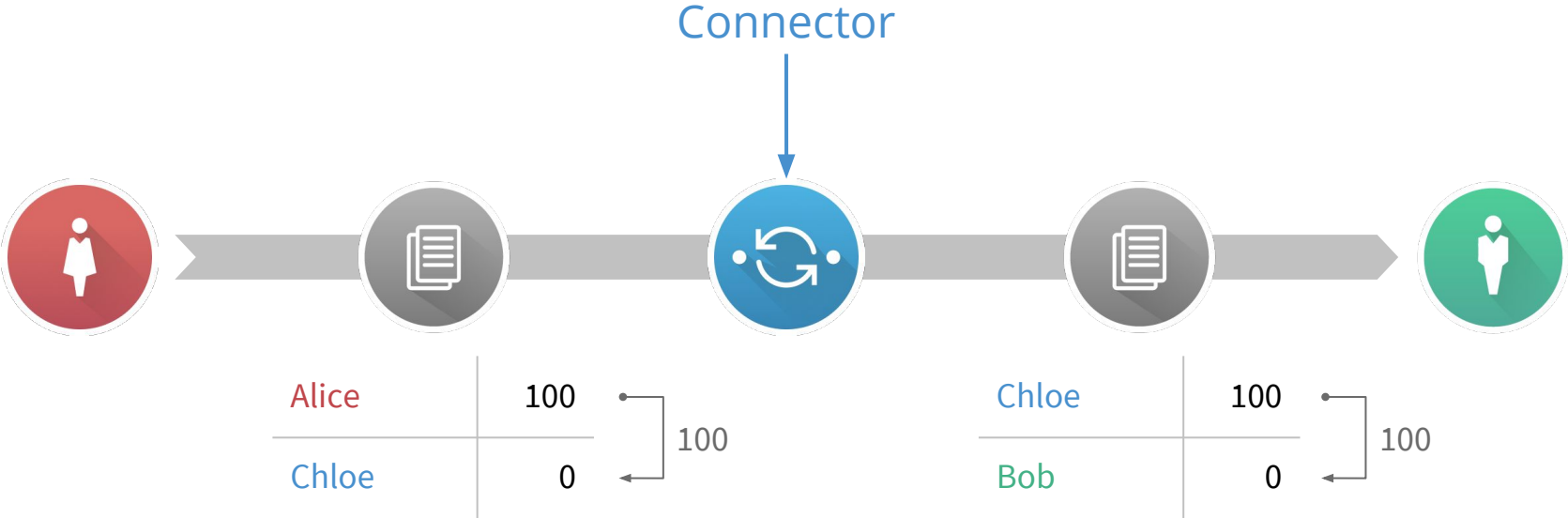


Connectors Relay Money



Connectors Relay Money

Payment vs. Payment

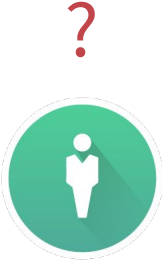


What if the connector **drops** it?

Money Would Be Lost



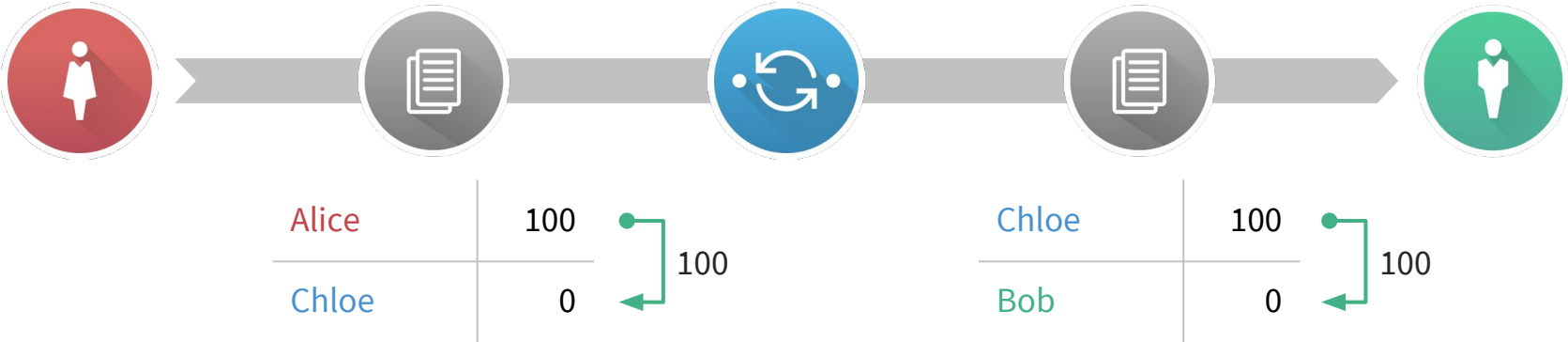
Alice	100	100
Chloe	0	



Chloe	100	X
Bob	0	

We need Atomicity

Either Both Transactions Execute...



...Or Neither of Them Do



Alice	100
Chloe	0

Chloe	100
Bob	0

We use **escrow** and **notaries**
to provide atomicity

Atomic Payments

Ledger-Provided Escrow Protects Participants from Risk



Alice	100
Escrow	0
Chloe	0

Chloe	100
Escrow	0
Bob	0

Atomic Payments

Notaries Coordinate Transfers on Different Ledgers



Alice	100
Escrow	0
Chloe	0

Chloe	100
Escrow	0
Bob	0

In the Preparation Phase,
the sender and connectors
escrow funds

Atomic Payments

Preparation Phase



Alice	100	100
Escrow	0	
Chloe	0	

Chloe	100
Escrow	0
Bob	0

Atomic Payments

Preparation Phase



Alice	0
Escrow	100
Chloe	0

Chloe	100
Escrow	0
Bob	0

100

Atomic Payments

Preparation Phase



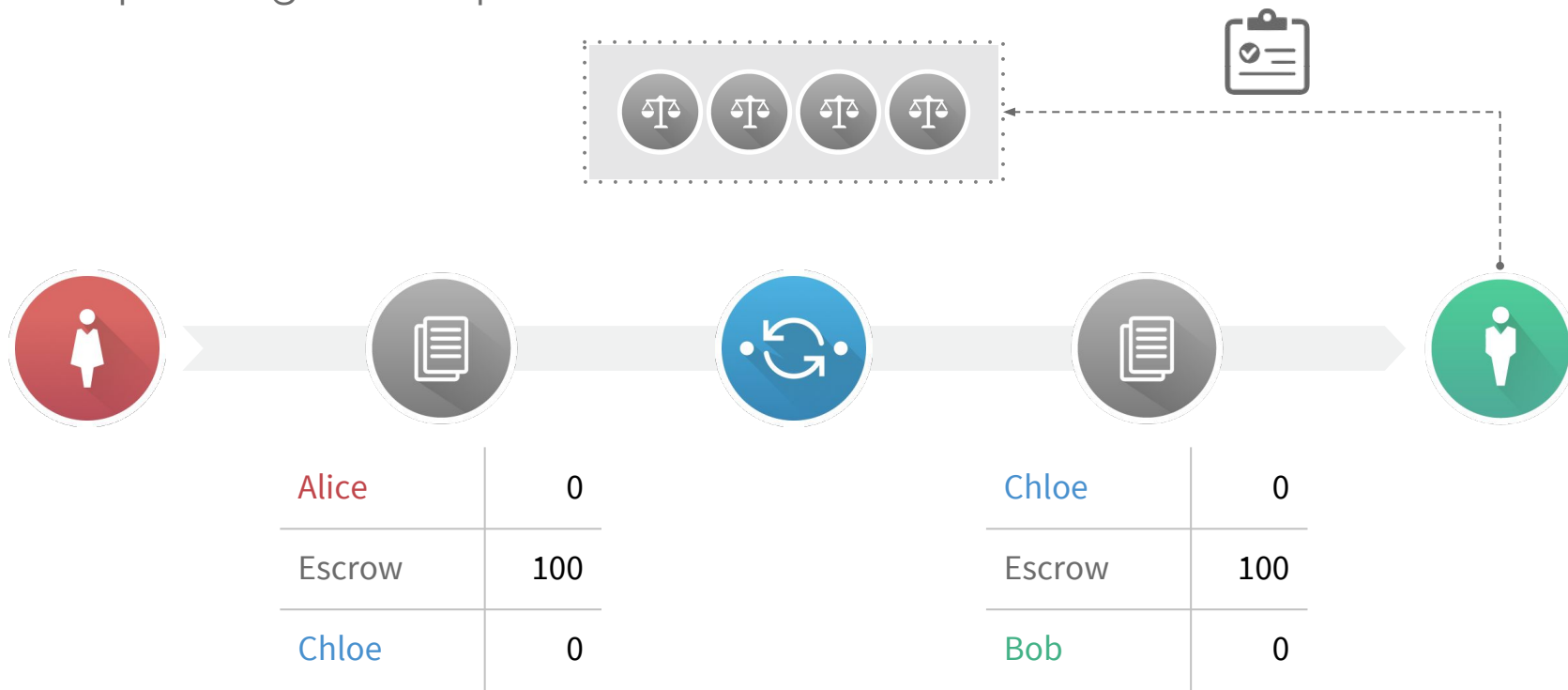
Alice	0
Escrow	100
Chloe	0

Chloe	0
Escrow	100
Bob	0

In the Execution Phase,
a receipt from the recipient
unlocks escrowed funds

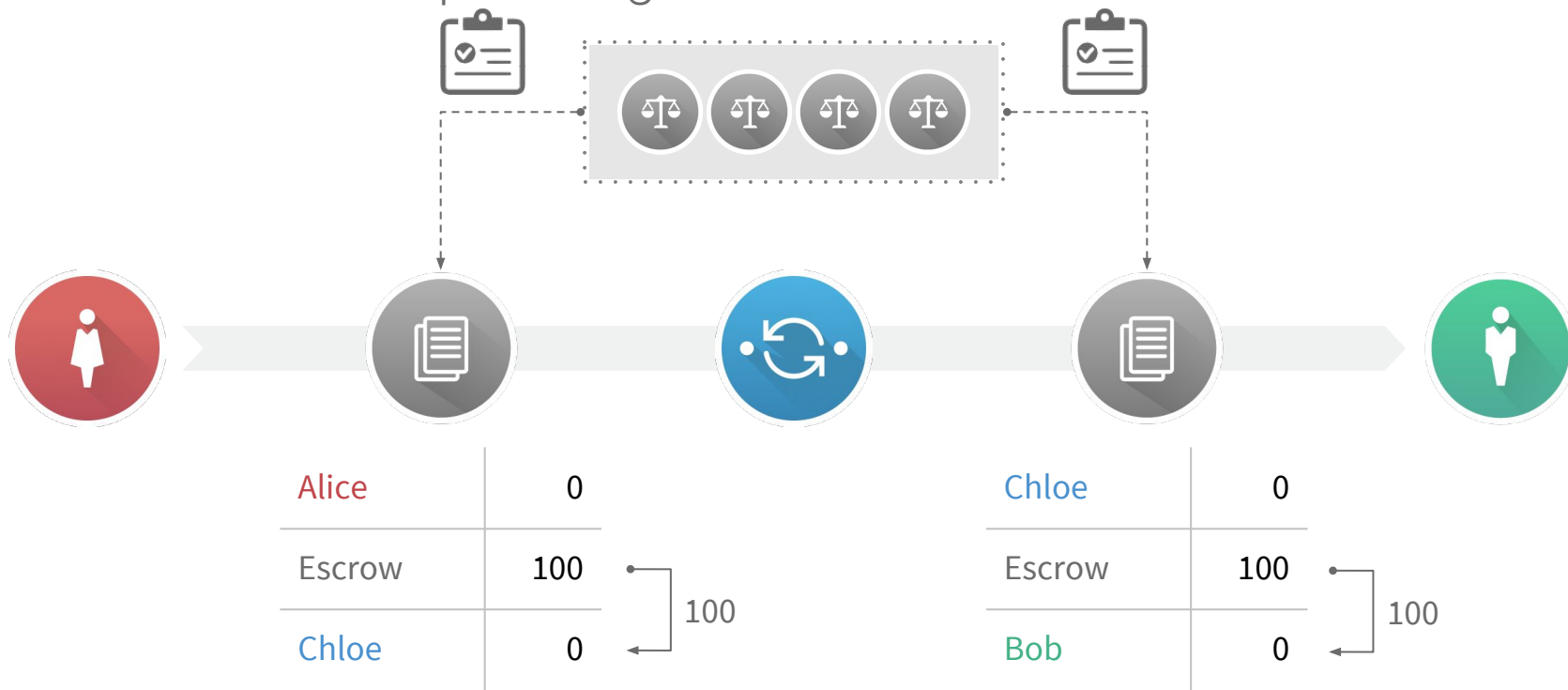
Atomic Payments

Recipient Signs Receipt Before a Timeout



Atomic Payments

Notaries Pass Receipt to Ledgers



Atomic Payments

Payment is Completed



Alice	0
Escrow	0
Chloe	100

Chloe	0
Escrow	0
Bob	100

And without Notaries?

In the Universal mode,
transfer ordering ensures
payment is executed fully

Universal Payments

Same Setup



Alice	100
Escrow	0
Chloe	0

Chloe	100
Escrow	0
Bob	0

Universal Payments

Funds Are Escrowed By Sender and Connectors

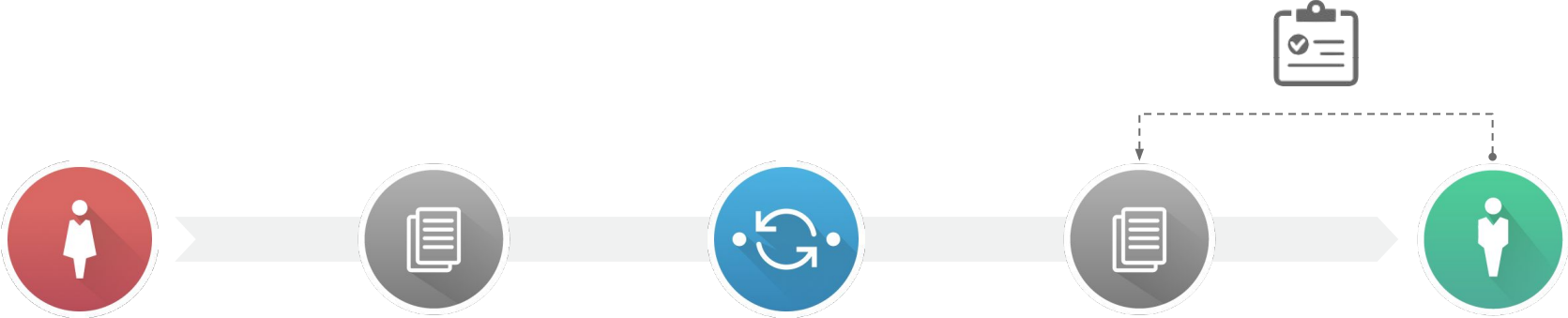


Alice	0
Escrow	100
Chloe	0

Chloe	0
Escrow	100
Bob	0

Universal Payments

Recipient Signs Receipt

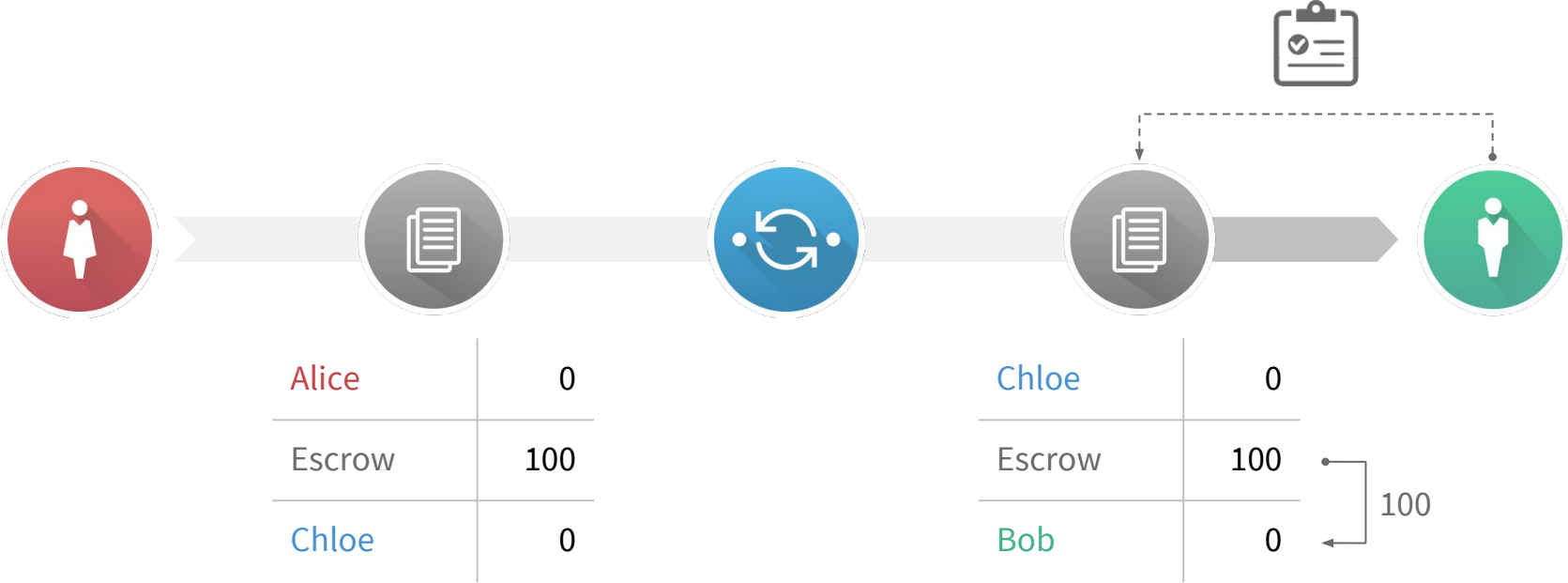


Alice	0
Escrow	100
Chloe	0

Chloe	0
Escrow	100
Bob	0

Universal Payments

Recipient Receives Money



Universal Payments

How Does Chloe Get Reimbursed?

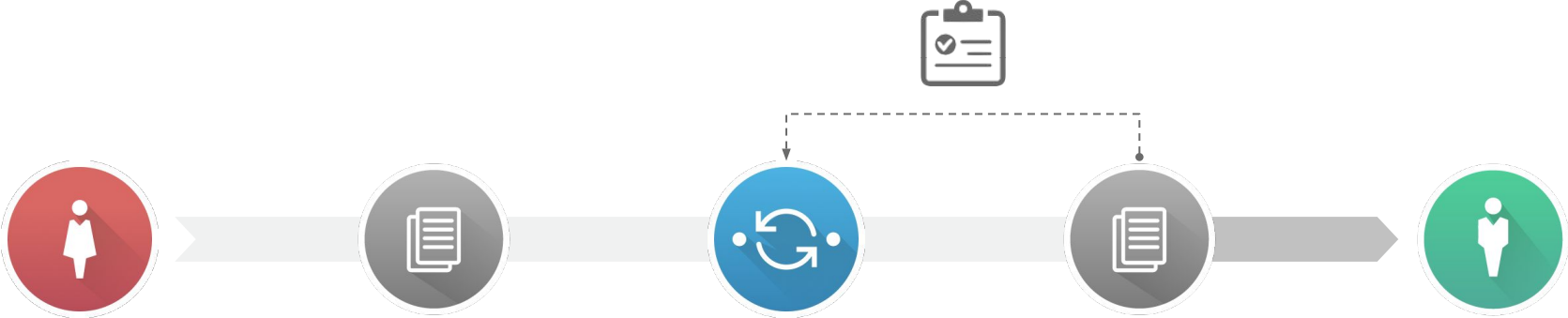


Alice	0
Escrow	100
Chloe	0

Chloe	0
Escrow	0
Bob	100

Universal Payments

Chloe Gets Receipt

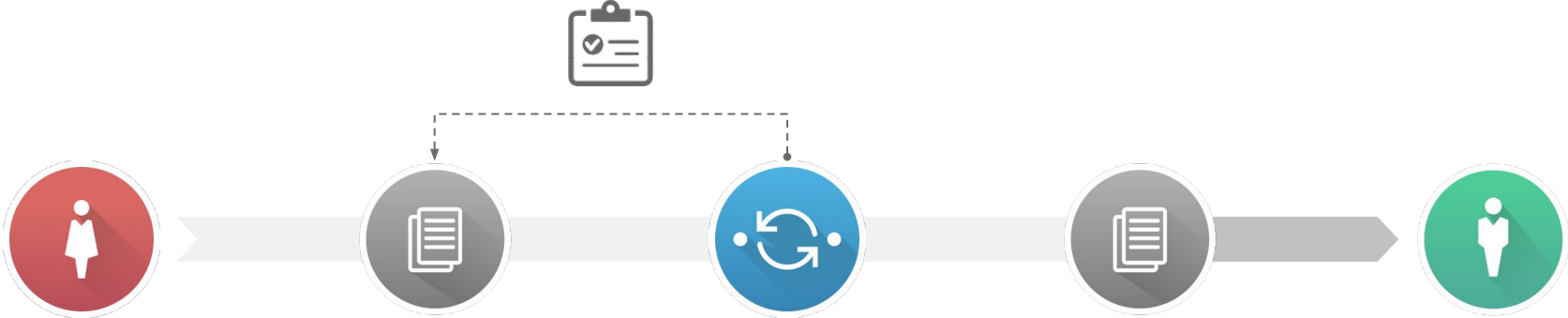


Alice	0
Escrow	100
Chloe	0

Chloe	0
Escrow	0
Bob	100

Universal Payments

Chloe Passes the Receipt On

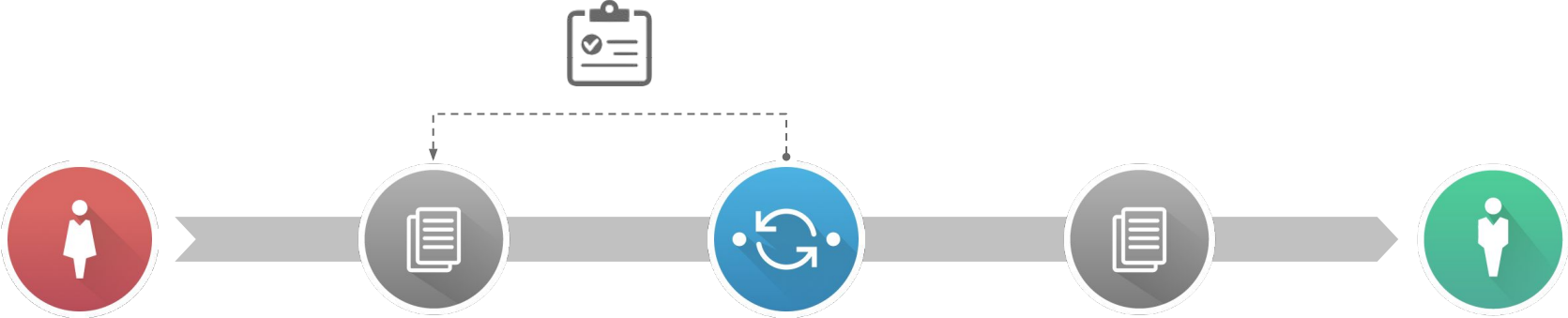


Alice	0
Escrow	100
Chloe	0

Chloe	0
Escrow	0
Bob	100

Universal Payments

Chloe Gets Paid



Alice	0
Escrow	100
Chloe	0

100

Chloe	0
Escrow	0
Bob	100

Universal Payments

Payment Is Complete



Alice	0
Escrow	0
Chloe	100

Chloe	0
Escrow	0
Bob	100

This enables money to be
securely relayed

Chained Payments

From Any Sender to Any Recipient

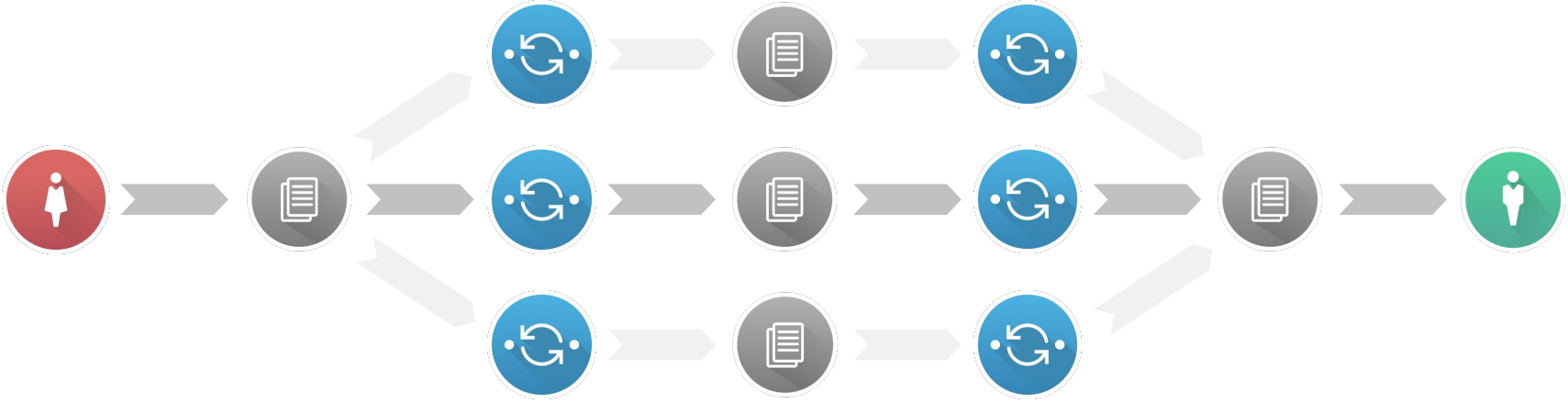


Risk-Free for Sender and Recipient



Limitlessly Scalable

Connectors and Ledgers Can Be Added to Handle More Payments



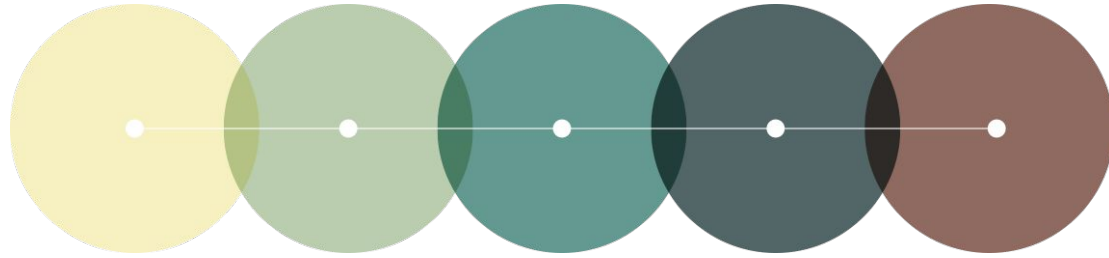
Connecting Disparate Systems

Minimal Standard to Link Banks, Cryptocurrencies, etc



Let's Build the Internet of Value





Join the Interledger Community Group
[Interledger.org](https://interledger.org)