SATP Use-Case: Supply Chain Logistics & Trade Finance

IETF115 – SATP BOF

10 November, 2022

Thomas Hardjono (MIT), Martin Hargreaves (Quant) and Venkatraman Ramakrishna (IBM)
Background: Global Trade Highly Inefficient

• Paper-based processes (manual, time-consuming)
• Clearance takes too long & exposed to fraud
• High costs to Shippers/Sellers and Buyers
• Little ability to forecast supply chain disruptions in near real-time
• Unable share correct (trustworthy) information across the supply chain
Share trustworthy information over the Internet

• Buyer & Shipper (Seller) utilize a permissioned & private network carrying the Bill of Lading (B/L)
• Buyer needs short term loan from a Financial Institution in order to pay the Shipper/Seller
• The Financial Institution need the B/L as collateral, but it cannot see into the permissioned network
• The Bill of Lading data must be reported by the Gateway Operator as a neutral service provider
The Buyer requires short-term loan from the Financial Institution to pay Seller/Shipper. The Bill of Lading (B/L) is the Title (Deeds) to the freight. The B/L is an instrument of loan collateral.
Beyond Notarization

• Gateway is not a notary

• Notaries
  • Witness the existence of a (paper) document & signature
  • Not required to understand the semantics of contracts
  • No liabilities for contents of documents/contracts

• Gateway operators in SATP
  • Attest to the truthfulness of contents of B/L and L/C
  • May take-on legal & financial liabilities
SATP Asset-Related Data Sharing Flow

The Letter of Credit (L/C) is a guarantee of payment based on the Bill of Lading (B/L)

Supply Chain & Trade Logistics Permissioned Network

Gateway G1

Operator of G1

Trader (Shipper) (Seller)

Gateway G2

Operator of G2

Consumer (Buyer)

Trade Finance Permissioned Network

L/C ...

L/C L/C

Bank

B/L B/L ...

B/L
Other Types of Data in Supply Chains & Trade

• Sea Waybill
• Commercial Invoice
• Packing List
• Booking Request
• Booking Confirmation
• Shipping Instructions
• Export Declaration
• Pro-Forma Invoice
• Arrival Notice

• Import Declaration
• Health Certificate
• Phytosanitary Certificate
• Veterinary Certificate
• Fumigation Certificate
• Inspection Certificate
• Certificate of Analysis
• Certificate of Origin
• Dangerous Goods Declaration
Global Entities in Ecosystem

- Ocean Carriers
- Government Authorities
- Financial Services
- Port operators
- Intermodal Operators (Planners)
- Shippers
- Freight Forwarders
References

• List of global Ocean Carriers, Government, Port Operators: https://www.tradelens.com/network


• Supply Chain Finance and Blockchain Technology, by Hofmann, Strewe, Bosia. Springer 2018.