The Digital Ledger

Panelist:

Celeste Catano
Global Product Manager
E2Open

Tom Gould
Vice President of Global Customs and Trade
Flexport

Moderator: **Fred Klemashevich**
NCBFAA Customs Committee Member /
FedEx Trade Networks Transport & Brokerage

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The Digital Ledger

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Blockchain vs. Digital Ledger Technology

- **DLT** is a decentralized database managed by multiple participants, across multiple nodes.

- **Blockchain** is a type of DLT where transactions are recorded with an immutable cryptographic signature called a hash.

- **Hash** is the transformation of an input of arbitrary length into an output of fixed length and format. Different inputs may be hashed into the same output, and it is not possible to uniquely determine the input value from the hash value.
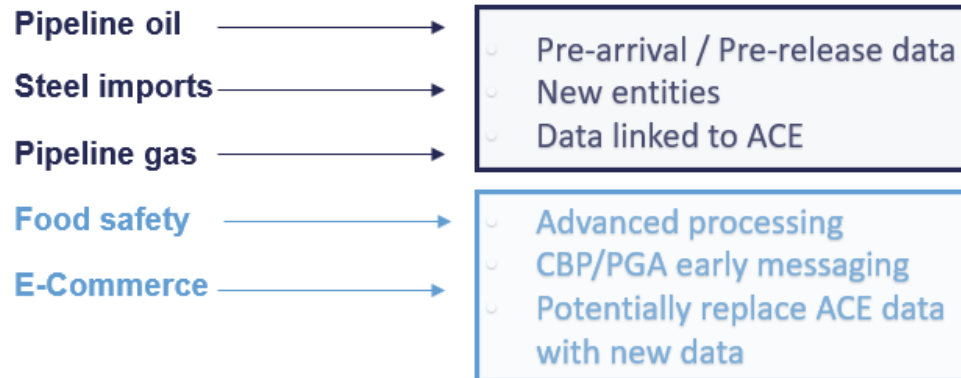
The Impact of DLT on Customs Brokers

- ## Today a broker
  - Gathers data, analyzes and augments that data, maintains records and addresses issues
  - Verifies some of the data
  - Trusts the source for each piece of data
  - Submits it to ACE

- ## Tomorrow a broker
  - Gathers data, analyzes and augments that data, maintains records and addresses issues
  - Verifies some of the data
  - Looks to the blockchain to verify the data (if needed)
  - Posts data to the blockchain
  - Submits it to ACE

CBP's use of Distributed Ledger in ACE 2.0

- **Trade will have options**
  - Develop their own Distributed Ledger
  - Could post to a public DL using an API

- **CBP - End-to-End Supply Chain Visibility and Traceability**
  - Includes importers/online retailers/sellers/manufacturers
  - Allows multiple agencies to receive and respond to data in real time

Distributed Ledger Technology (DLT) Pilots Overview

Pipeline oil →
Steel imports →
Pipeline gas →

- Pre-arrival / Pre-release data
- New entities
- Data linked to ACE

Food safety →
E-Commerce →

- Advanced processing
- CBP/PGA early messaging
- Potentially replace ACE data with new data

Timeline

✓ **Pipeline Oil/Steel/E-Commerce**
- Integration with ACE 2022
- Technical demonstration 2023
- Potential production 2024

✓ **Pipeline Gas/Food Safety**
- Integration with ACE/Single Window 2023
- Technical demonstration 2024
- Potential production 2025

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Examples of DLT use in the Supply Chain

- Food traceability (Walmart, Nestle, Tyson Foods)
  - Where manufactured - back to the ingredients to the farms
  - Data is provided by each entity along the supply chain as events are happening
  - Helpful in the event of a recall
- Pharmaceutical company
  - Trace prescription drugs to protect consumers from counterfeit, stolen or harmful products
  - GS1 standard tags – scanned and recorded – from source to the end consumer
- Financial Services
  - Digital Contracts – Settlements and International Payments more secure, efficient and transparent
  - Documents – Protected Originals

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