

Advisor: Bruce Arntzen

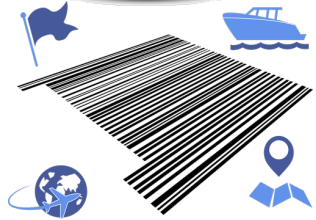
Sponsor: CVS Health and GlaxoSmithKline

January 2017 Poster Session

Motivation / Background



Potential counterfeit market:
I. Pharma \$200bn
II. Electronics \$169bn
III. Food \$49bn



Drug Supply Chain Security Act (DSCSA)

- Unit level Serialization
- Item Level Track and Trace

Key Questions

- I. How DSCSA law impacts physical flow?
- II. What should IT architecture be?
- III. What is impact of “Push” vs “Pull” data model?

Relevant Studies

Food and Drugs Administration (FDA) documentation
Parallel Processes in Other

- Industries: Aerospace, Food, Medical Devices
- Countries: China, India, Brazil, Turkey

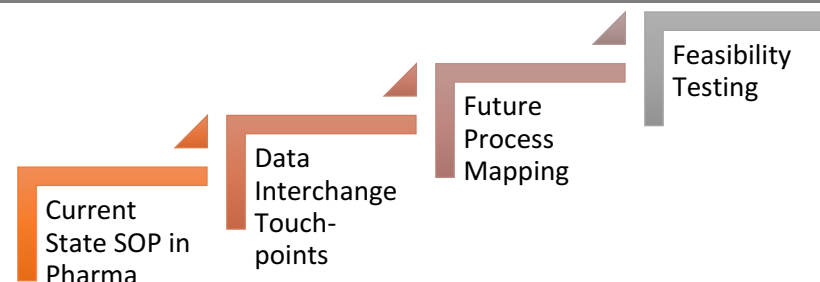


The Problem

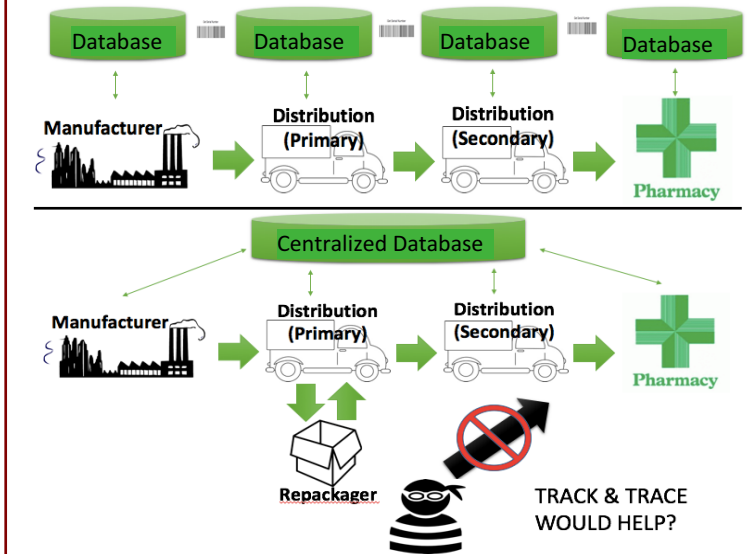
Serial Info traceability with Physical Pallet Aggregation & Break Down



Methodology



Physical & Informational Flow



Expected Contribution

Serialization impact on data access, transmission, and security will be explored, along with physical inventory and investment requirements.

Distinct scenarios for study:

- Centralized information flow with data push model
- Decentralized information flow with data push model
- Centralized information flow with data pull model
- Decentralized information flow with data pull model

