



# Presentation to the World

**Agillence**

March 17, 2006



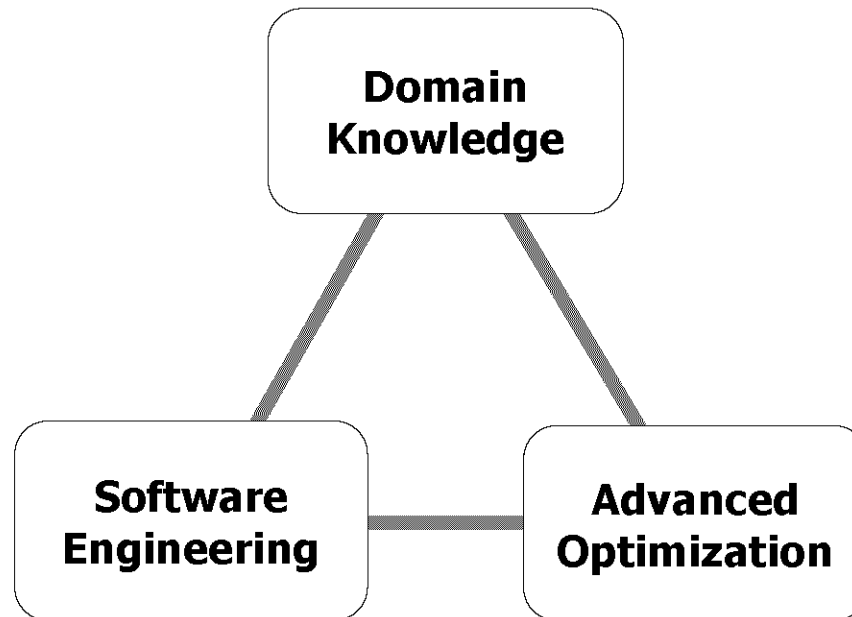
# Agenda

- Agillence
- ALLP
  - Lean Logistics
  - Case
- ALLP for OfficeMax
- ALLP Major Features



# Agillence

- Agillence has started June 2003 committed to:
  - providing “next generation” supply chain optimization systems and related services



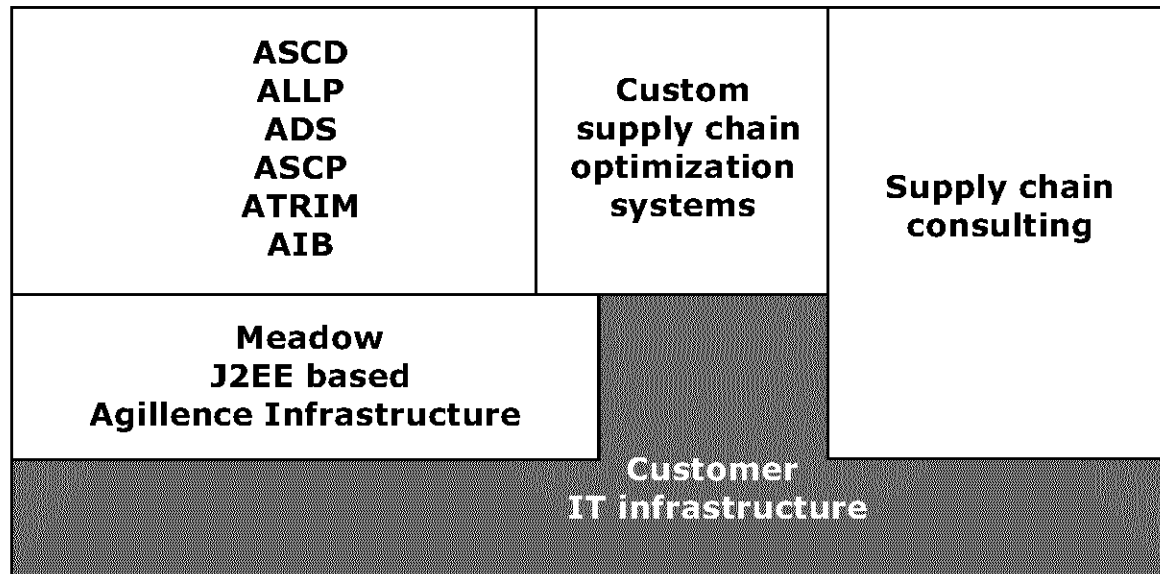


# Agillence – Sean Kim

- Previously, VP of Development at SynQuest and Bender Consulting
  - Operations Research PhD, Wharton
  - Over 20+ years, has managed scores of supply chain optimization development/consulting projects
    - Strategic Supply Chain Optimization
    - Tactical Supply Chain planning
    - Vehicle Routing and Scheduling
    - Load Consolidation
    - Stowage Optimization
    - Inventory planning and execution
    - Forecasting
    - Trim Optimization
    - Job Shop Scheduling
    - Inbound Planning
  - Customers we worked earlier for
    - Ford, UPS, TNT, Sara Lee, Kellogg, Whirlpool, Alamo, Torraspapel, White Martins, CUB, Condat, Sony... 50+ customers
    - In 10+ countries



# Agillence Offering



- ASCD (Agillence Supply Chain Designer)
- ALLP (Agillence Lean Logistics Planner)
- ADS (Agillence Dock Scheduler)
- ASCP (Agillence Supply Chain Planner)
- ATRIM (Agillence Trim Optimizer)
- AIB (Agillence Inventory Balancer)



# Agillence Clients

- Toyota
  - Inbound logistics optimization
    - North America
    - Europe
    - Global
  - Dock scheduling
  - Outbound, Service part
  - The Toyota Way Fieldbook
- Keystone
  - Distribution network
  - Inventory

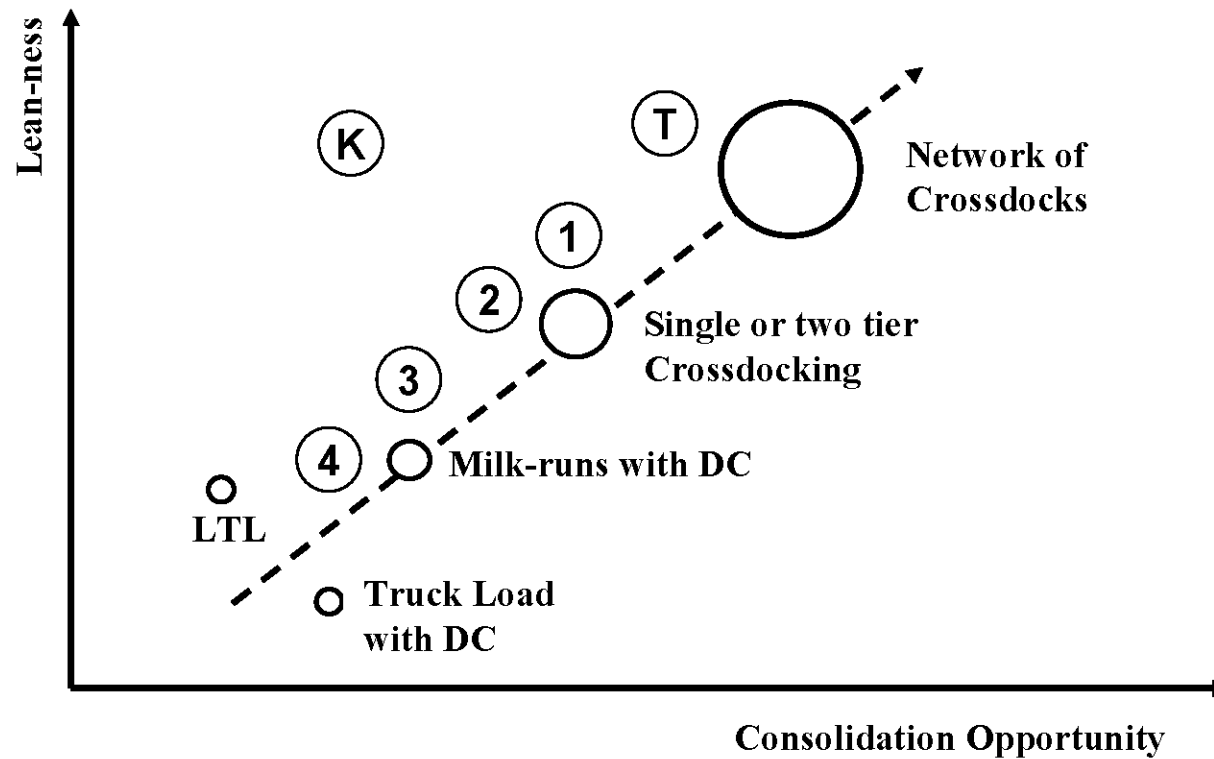


## Lean Logistics

- Moves small quantities of each item from source (vendor) to destination (store) at low costs
- Optimized logistics between frequency (inventory) and shipping and handling costs



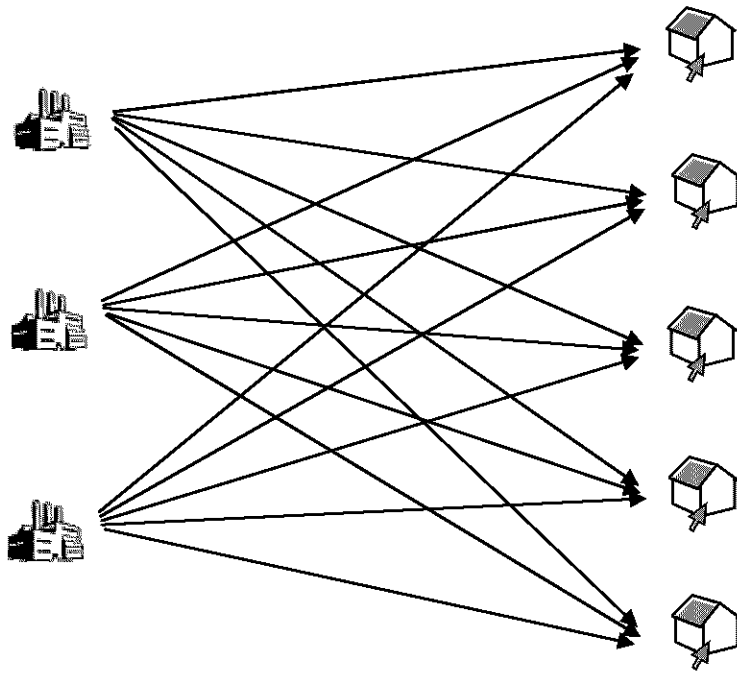
# Lean Logistics Maturity







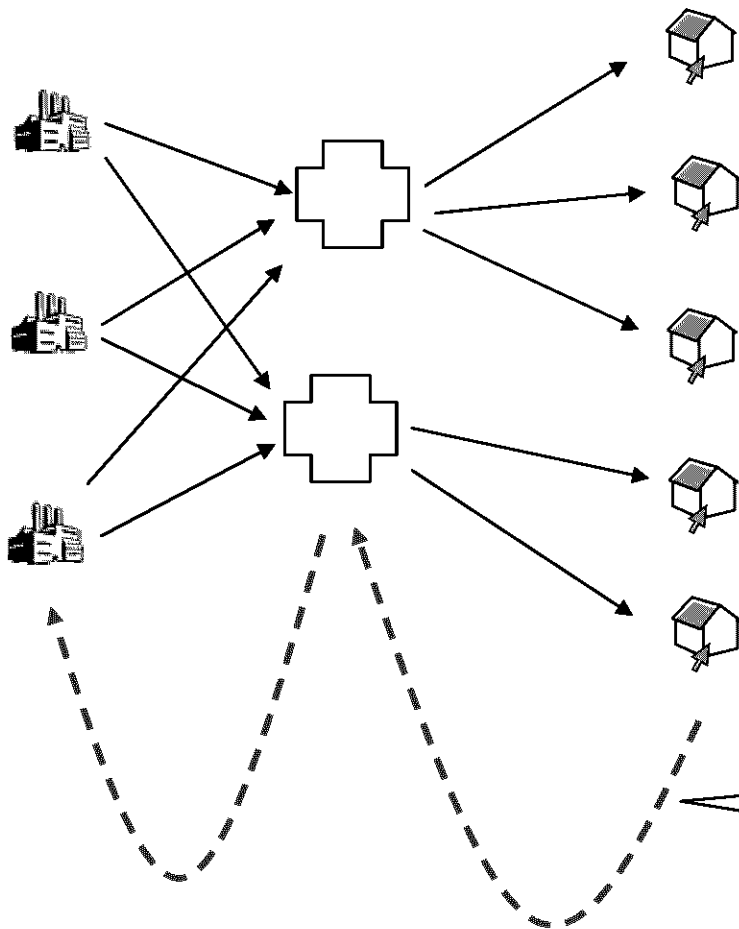
# Direct Shipping



- Low frequency
- High inventory
- High shipping Cost



# Distribution Center Layer

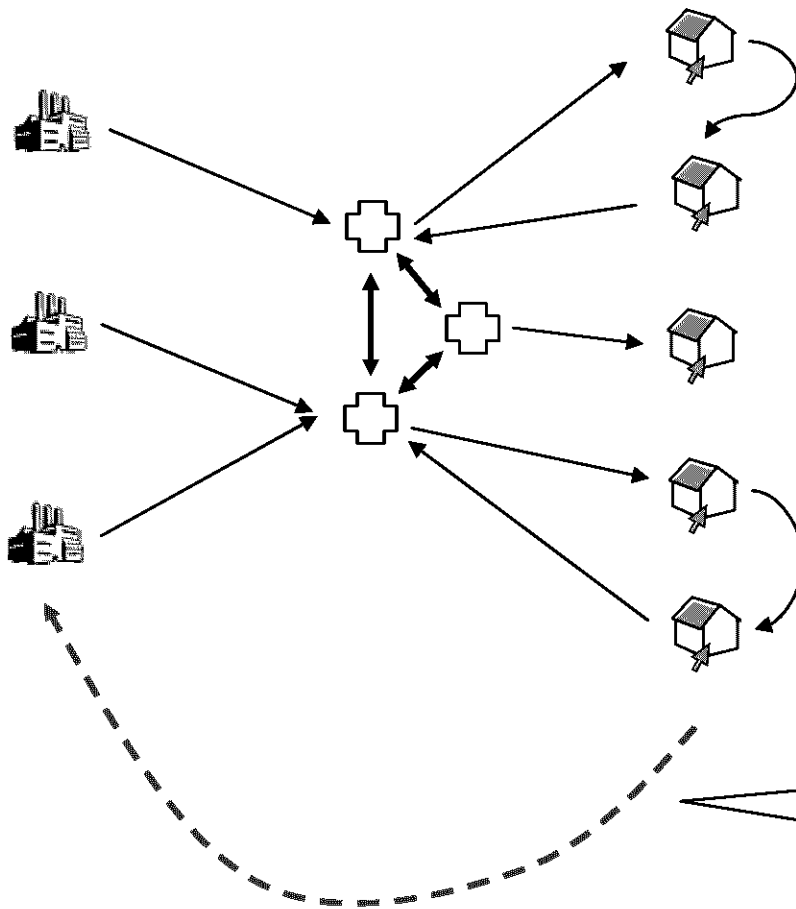


- Low Frequency
- High Inventory
  - Additional inventory layer
- Optimized Shipping Cost

2 replenishment signals: resulting bullwhip effect



# Crossdocking

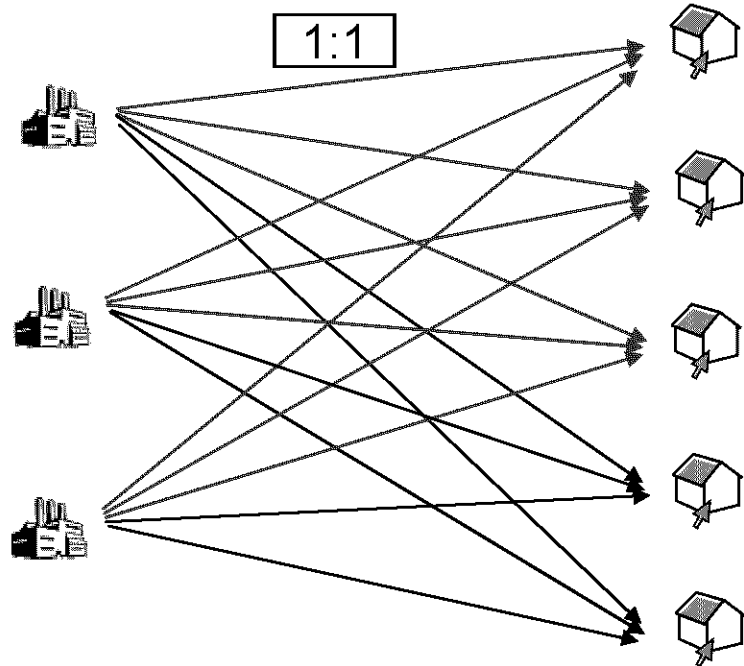


- High Frequency
- Low Inventory
- Competitive Shipping Cost

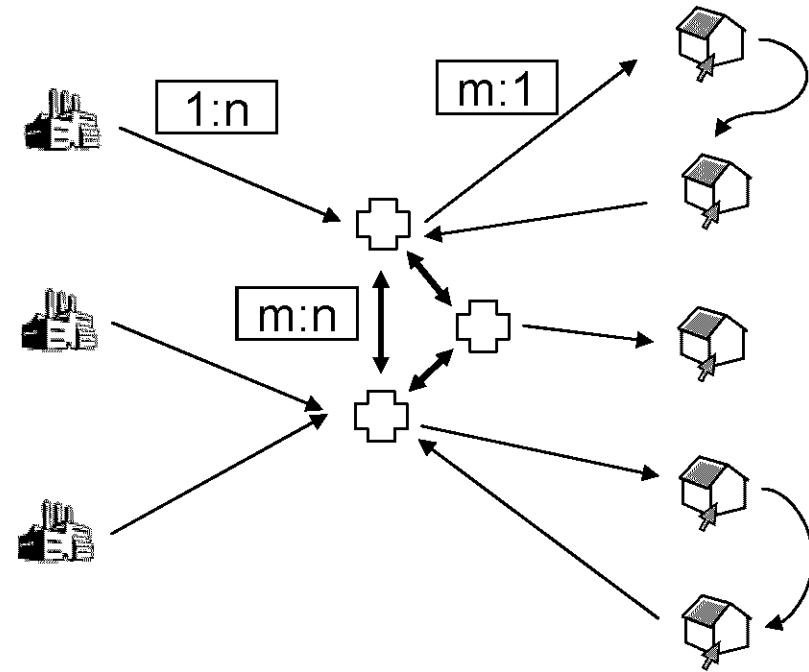
Direct  
replenishment  
signal



# Why does it work?



Low frequency replenishment

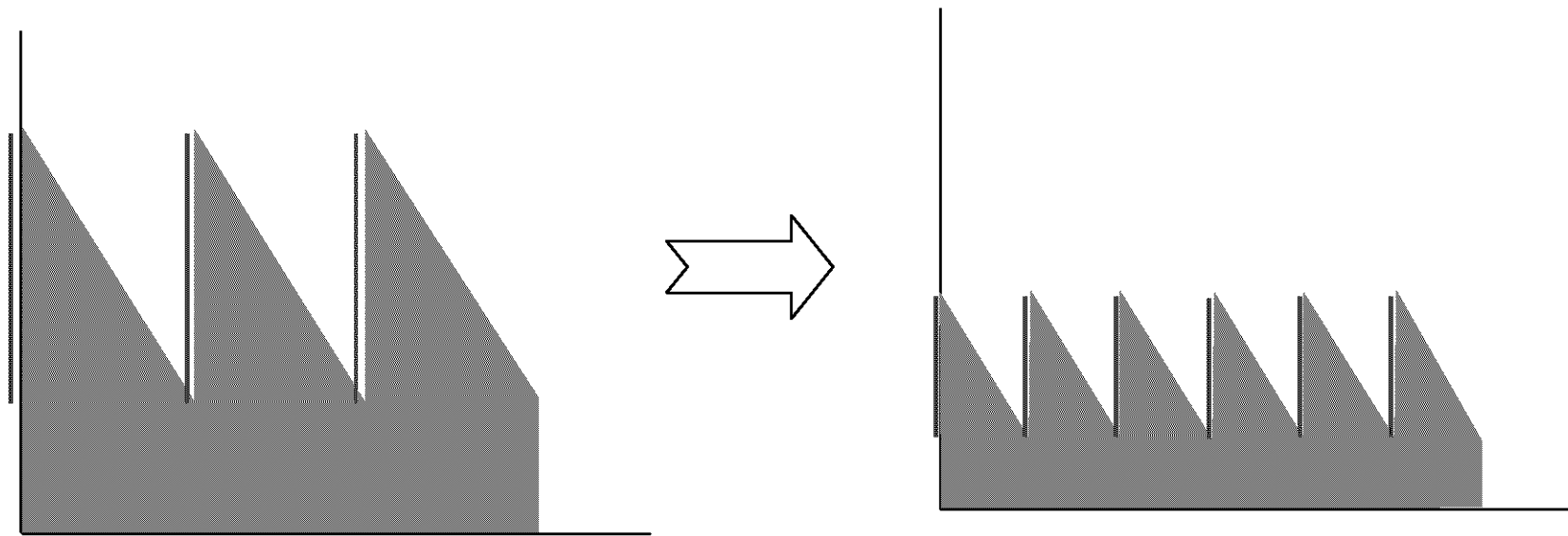


High frequency replenishment

- Compare blue and red arcs between traditional and lean



## Why high frequency results in low inventory?



- Same volume (sum of vertical lines)

Inventory planning systems work for given replenishment cycles



# Challenge

- How to achieve transportation efficiency while providing desired frequency?
  - Freight consolidation is the answer via:
    - Crossdocking
    - Milkrun
    - Network of crossdocks



# Benefit of Lean Logistics

- **Low inventory**
  - Low space requirement, high asset utilization
- **High in-stock**
  - High customer satisfaction
  - Higher sales, low lost sales
- **High inventory turn**
  - High financial performance
- **Smooth resource utilization**
  - Low resource requirements
- **Less reliance on demand forecasting and inventory planning**
  - Low variance
- **High Alertness**
  - Better execution



## From Toyota to Keystone

- Keystone had serious inventory problems
  - High inventory
  - Low in-stock
  - Low inventory turn
- High transportation costs
  - Transfer mania





# Keystone - Branches



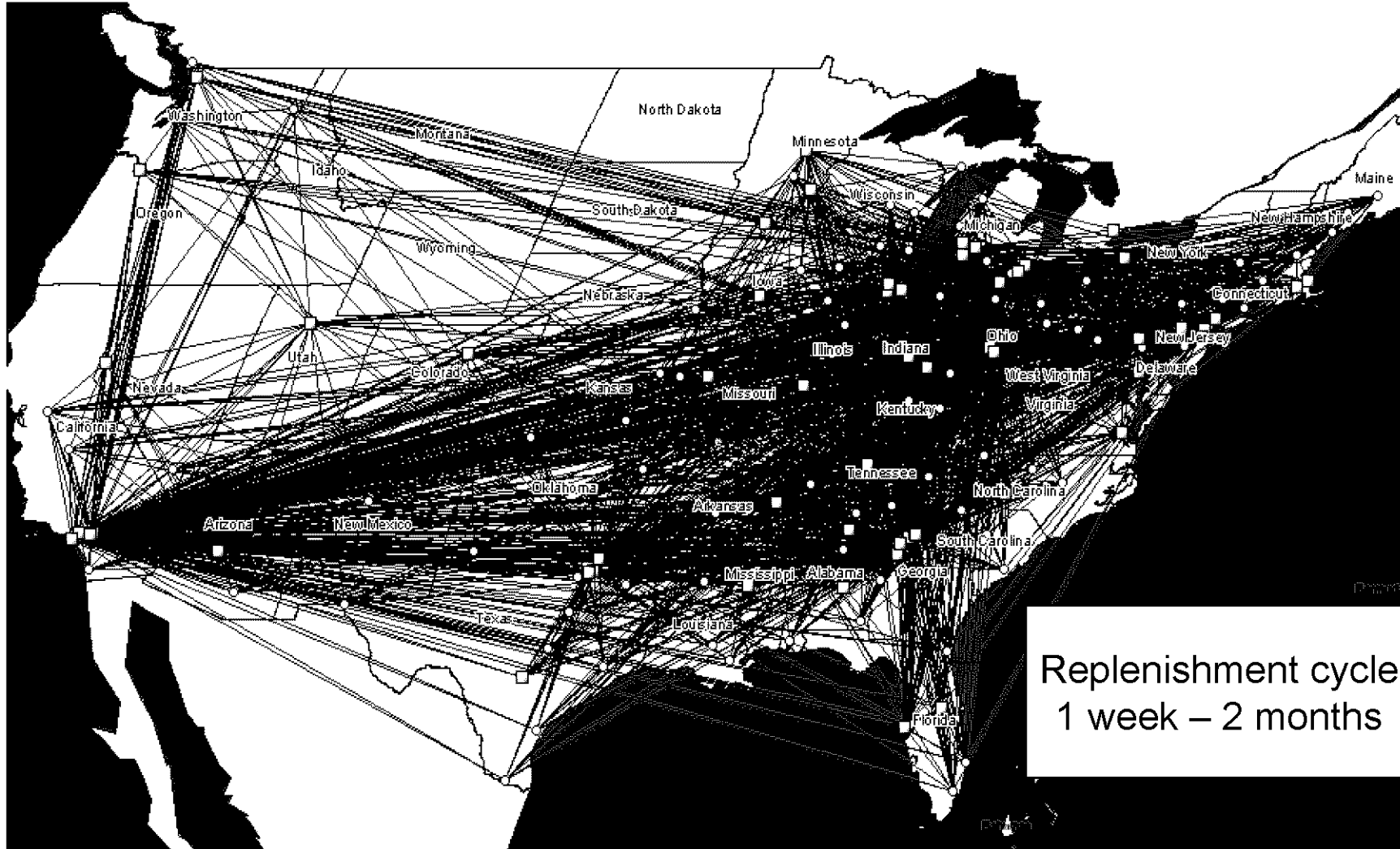


# Keystone - Vendors





# Keystone – Before (Direct to Branch)



Replenishment cycle  
1 week – 2 months

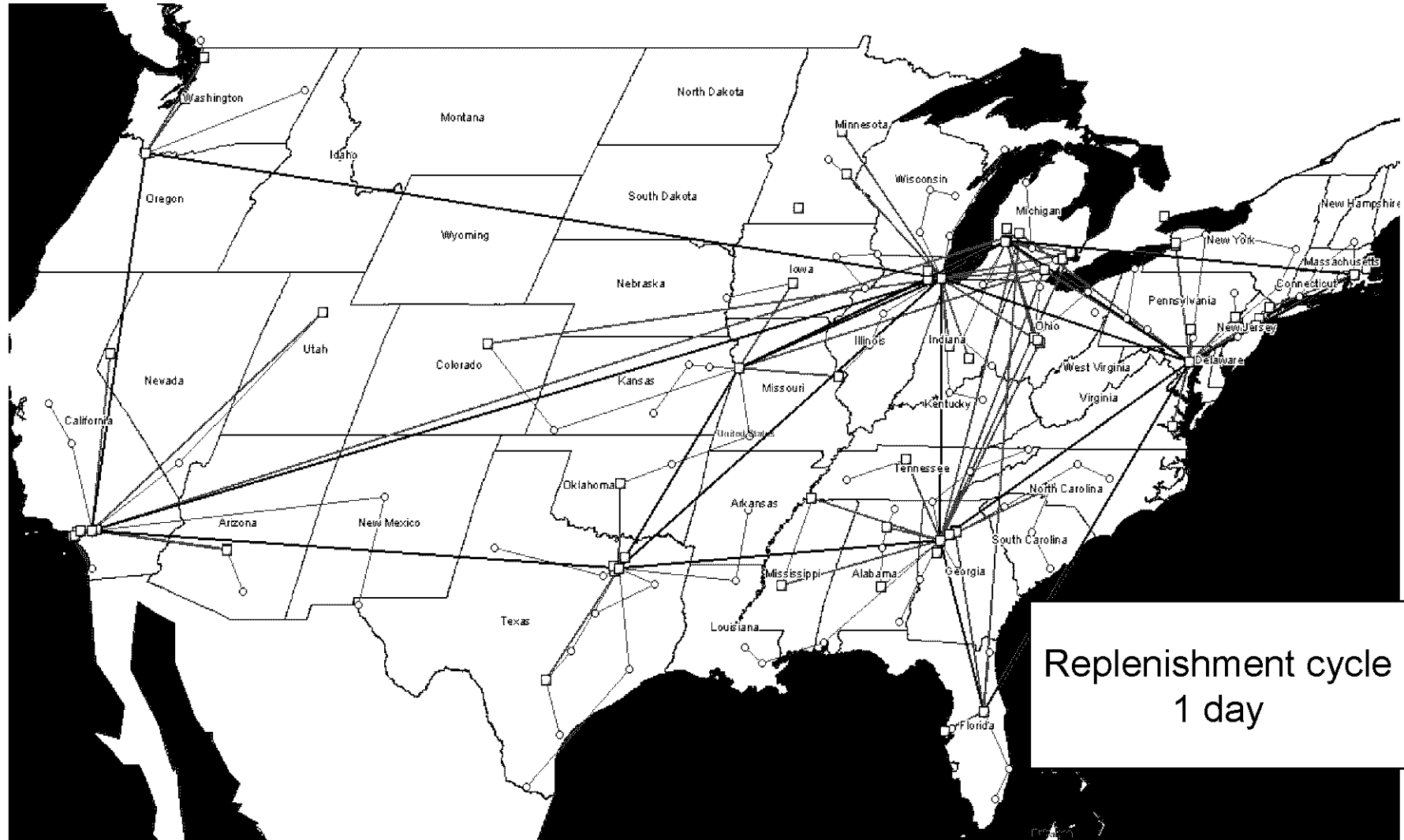


# Keystone – Crossdocks





# Keystone — After (Lean Logistic Network)









# Keystone – Branch Routes (m:1)

