Long-distance Manufacturing Supply Chain Management

Toward Developing Effective Operational Collaboration

NIST's Supply Chain Integration Program

The National Institute of Standards and Technology (NIST) Engineering Laboratory is known to promote innovation and competitiveness of U.S. manufacturing through measurement science, measurement services, and critical technical contributions to standards.

NIST's Supply Chain Integration Program supports the development of standards for the operation and integration of supply chains, to enhance competitiveness of U.S manufacturing by

- Establishing requirements of process integration and communication.
- Developing formal models for coordination of collaborative work.
- Developing methodologies for simulation, validation, and verification.

Struggling with logistics issues surrounding your long-distance supply chains?

Would you like to:

- Generate immediate savings
- Reduce your transportation costs
- Reduce your in-transit inventory days
- Reduce your safety-stock-inventory days
- Yield an internal rate of return that has payback in less than 3 months

Through:

- Increased visibility into logistics processes
- Greater ability to measure supply chain performance
- Improved compliance
- Collaboration using standards-based transactions

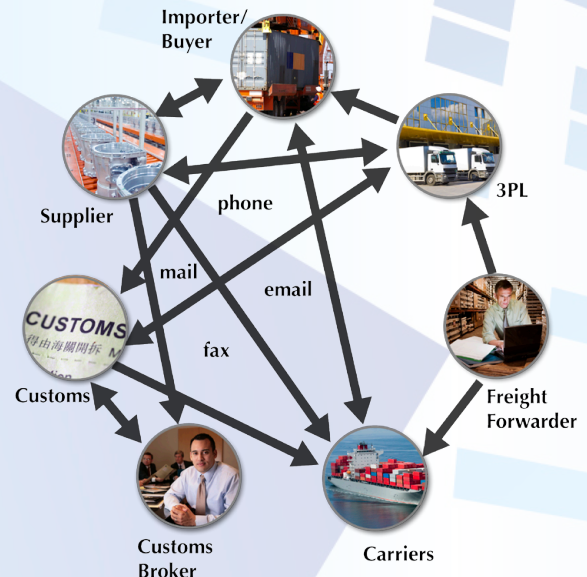# NIST has the expertise!

What you may face today

Visibility and interoperability are key determinants of the performance of long-distance supply chain logistics processes. Delay and uncertainty result in increased inventories and expediting. A principal goal of the U.S. Department of Commerce is to foster conditions for doing business that allow U.S. firms to successfully compete and increase profitability.

Currently, the limited success in implementing integration, interoperability, and information management by some manufacturers hinders their ability to operate long-distance supply chains.
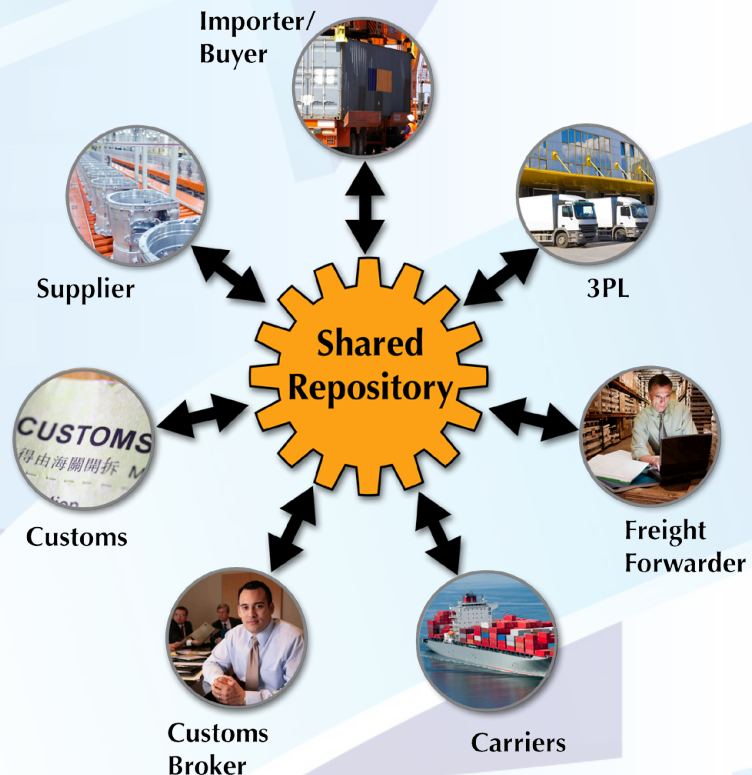
An alternate approach

The goal of NIST's work in trade collaboration systems is to replace ad hoc and paper-based logistics processes with collaborative, process-directed work flow. It seeks to eliminate errors in collaborative work between supply chain partners (customers, suppliers, carriers, service providers, and customs authorities) by leveraging standards-based communication across partners. Industrial application of these techniques appears to improve supply chain visibility and reduce lead-time uncertainty. We respond to your requirements by developing formal models and validation methods for lifecycle-integrated supply chain operations. This better supports interoperability among your supply chain partners.

NIST's work with the automotive industry was among the first to implement a Trade Collaboration System. For more information about this project, contact : peter.denno@nist.gov

Visibility is hard to achieve when communication is point-to-point

With a Trade Collaboration System, information is shared according to one's role in the business process