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Computer Industry Seeks Pallet Standard Optimization

When Bob Sanders first joined IBM in San Jose, Calif as a packaging engineer 22 years ago, shipments were typically domestic. For the most part, products were shipped as banded loads on 2-way or 4-way standard full and half-size wooden stringer pallets.

A graduate of Michigan State's School of Packaging, Bob is now senior engineer of corporate packaging programs for IBM in Research Triangle Park, N.C. Global commerce has brought tremendous change to the packaging world, he noted.

"We have seen many business trends, such as six sigma quality, just-in-time inventory management, and now intensive focus on cost due to market and competitive pressures," Bob said. "Oddly, the cost focus has actually led to longer shipping distances overall as manufacturing moves to locations with lower tax and labor rates despite the added shipping costs."

Unfortunately, the focus on cost can sometimes lead to shortcuts on pallet construction quality and the risks associated with cutbacks. Regulatory initiatives, such as international restrictions related to the pinewood nematode and Asian Longhorned Beetle, are also causing shippers to consider alternative pallet designs and materials to ensure uninterrupted flow of goods across international borders. The good news, according to Bob, is that regulatory pressures have spurred considerable innovation.

The computer industry faces some key challenges. The proliferation of alternative pallet designs and materials may compound the industry's problem with regard to reusability, recyclability and disposability. Also, the computer industry still struggles to achieve global standardization due to the momentum behind regional standards, such as the Europallet.

Optimizing utilization among air, ocean, rail and truck transport has proven difficult. "We still don't have good dimensional modularity between these various transportation modes and warehouse storage facilities, which inhibits standardization," Bob said. "And we still have handling problems which defeat marginal designs. If something could be done about handling quality, overall costs and environmental factors could be improved considerably."

Cross-dock handling within carrier hubs as well as on the shipping dock or the destination receiving dock can be rough. "This, too, is spurred by the trends toward faster and cheaper transportation as well as less well-trained temporary workforces in any of these areas," he said. "Companies may be more inclined to measure their carriers on cost first, speed second, and, unfortunately, damage may be a distant third priority."

However, not all distribution environments are bad. In Japan for example, handling quality is generally better than in other parts of the world since workers seem to take a "white glove" style approach to the goods they handle. This seems to be a cultural phenomenon, mainly in Japan. But IBM definitely benefits by not needing as much packaging there.

Bob is affiliated with several major packaging organizations and standards bodies. He is also founder and current chairman of the Electronics Industry Pallet Specification Task Group, which is trying to develop voluntary pallet performance standards for the global computer industry supply chain (and perhaps eventually to the entire electronics industry).

"We want to do away with the inefficiencies caused by every company requiring a unique pallet spec in its purchase contracts," Bob said. "This is similar to what has been done in other industries, such as automotive and chemicals." IBM anticipates that a globally acceptable pallet may have to be the 9-block style."

Fundamentally, the group wants to introduce the best possible pallet at the beginning of the supply chain and then use it all the way to the end. The pallet may be more expensive but it should provide savings by not needing repair or replacement as often. Plus, overall load quality should also improve, which would result in less product damage.

In the short term, Bob believes that the focus on cost and regulatory compliance will continue to put pressure on all shippers and therefore the pallet industry. It appears that untreated non-manufactured wood pallets will soon be restricted or banned for export altogether. He pointed out that the limited capacity for treatment globally and the cost of it may begin to preclude the use of treated wood from an economic perspective. "One big concern is the monthly cost associated with getting authorized to stamp heat treated materials. Many small operators will refuse to do it and this will tighten supplies. This reality will continue to present many opportunities for innovative solutions and perhaps break some very long held habits on how pallets are built and used."

Bob would like to see cooperation within the transportation industry between all applicable modes to standardize equipment dimensions. "This could make it possible to build a consistent unitized load which does not force those that ship on all modes to always have to sub-optimize one or more of those modes," he said. "This would be a very long term initiative but would improve overall system efficiency." Case in point, the task force group found that a very small change to the dimension of the standard air cargo 'cookie sheet' could greatly improve efficiency with the world's two most common pallet dimensions (1.0x1.2m and 0.8x1.2m.)

"Another interesting concept is to break from the paradigm that pallets must always be used as shipping platforms, Bob stated. "Imagine if all over-the-road shipments were done on slipsheets, which were then placed on pallets upon arrival (if needed) only for local storage and handling purposes." With this approach, he noted, cargo capacity increases, shipping costs are lowered, pests do not hitchhike on the loads to other continents, and waste created by non-standard pallets and damage due to loads speared by forklifts is eliminated. "Furthermore, this presents an opportunity for pallet users to stick to their

regional pallet pool and not impose it on shippers from other continents. This would improve these programs since pool pallets would not be exported and the regional pool itself would not be contaminated with non-standard imports."

This vision would require a major shift in thinking throughout the transportation industry. "It would also create a shift from disposable pallet making to greater use of durable pallets and the associated asset management of those pallets," Bob said. "As pressure continues to build on the environmental impact of global commerce, regulatory compliance, cost containment and so on, this may be inevitable, but it is certainly still a long way off in the future."