An Evolving Tech Backbone Makes 4PL Service More Effective

by Amy Zuckerman
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On any given day up to 800 orders ranging over thousands of items can flow into Alcatel's European logistics site at Longueil Sainte Marie, just north of Paris.

Since 2000, UPS Supply Chain Solutions has provided the technology backbone to manage inbound and outbound transportation for the telecomm giant's eBusiness Networking Division. UPS is acting as a 4PL or "lead logistics provider," providing guidance and technology while relying on other logistics providers to manage the physical job of moving freight.

In this role, say UPS officials, their technology services "go far beyond the management of Alcatel's IP server delivery." Over the years, UPS has utilized its proprietary transaction tracking and supply chain monitoring tool to integrate with Alcatel's IT system, allowing users to organize and plan all delivery flows. The results, they say, are increased speed of order turnaround and delivery, improved access to the European market, and streamlined business processes—all of which have improved the telecom's competitive position.

With the global economy contracting and the need to reduce inventory ever more of tantamount concern, 4PLs like UPS, Transplace, Descartes Systems, Accenture, Penske, LeanLogistics, and Management Dynamics are pulling out every technology tool available to meet customer demand.

According to Charlie Covert, UPS Vice President of Global Solutions—part of UPS Distribution and Logistics in Alpharetta, Georgia—many customers are "downgrading services" and only want to pay for must-need services. "They want the ability to have a system to make decisions in real-time, along with flexible, dynamic and tactical decision-making capabilities…so they can make decisions by customer and day of the week."

In general, customers all want visibility to their shipments, adds Chris Jones, executive vice president for Solutions and Services, for the Descartes Systems Group, based in Atlanta, Georgia. "They may want to know the status of their shipments to drive replenishment orders, or need to understand where their inventory is while in ocean transit, or be tracking inventory for a holiday item that needs replenishment."

Nathan Pieri, SVP Marketing & Product Management at Management Dynamics agrees. "We are seeing increased interest from corporate supply chain teams to evolve into a 4PL. In this way, the enterprise can better manage global risk through enhanced visibility and control over supply, trade compliance, and logistics operations, he says. By owning this strategic information infrastructure, a corporate 4PL is not tied to one provider's system, has ultimate flexibility over the management of trading partners, and best exploit the potential from 4PL process innovation."

For any of these functions, customers "want solutions to manage the planning process and to provide visibility for inbound shipments to the manufacturer and outbound shipments for customer service coordination," explains Chris Jones. The 4PL becomes "the virtual management arm for an organization," he said.

Brooks Bentz, partner in supply chain transportation for Accenture, LLP, Boston, Massachusetts, says there really is no technology specific to 4PLs—a term Accenture coined in 1997. "It's the same technology as what a 3PL or a primary shipper would use when facing the challenges of maintaining data visibility and tracking commodities, collecting freight, managing inventory and coping with security issues throughout a global supply chain."

When it comes to technology, Bentz said, "No one has picked the lock on it yet. There are lots of solutions, but no master solution out there that can do it all."

Applications available in the 4PL arsenal range from supply chain to transportation, order and warehouse management systems, among others, covering the full range of transportation and logistics functions (see box on technology tools). Many 4PLs, or lead logistics providers, offer Software-as-a-Service (SaaS) hosted solutions—some of which are best of breed and others that are proprietary. What's key, say the experts, is how they are integrated into a customer's system.

Another major concern is providing customers ongoing visibility logistics related data and information, usually through Web-based platforms or networks. So, for example, Penske officials say their Supply Chain Window Web tool provides customers with the ability to check the status of an order down to part-level detail relative to when it will be picked-up or delivered.

These experts note that from inventory and order management to shipment tracking, technology is a critical tool to identify bottlenecks and delays, to evaluate carrier and vendor performance and to design and optimize supply chains.

"What's really different from the past is that a lot of technologies were enterprise-centric. You would buy a planning system and only use it in your own company. Now you need systems that can work across enterprises and a solution that you can use across customers, but they only view what's specific to them," said Descartes' Jones.

He cites the example of a Descartes forwarder customer specializing in consumer electronics with competitor customers. The forwarder wanted a common system, but one that would ensure that its own employees could only access data pertinent to their job and the end customer could not access competitors' data, explains Jones.

To meet these sorts of demand, Descartes has developed "role-based access" to shipment data and information available to customers on its Descartes Global Logistics network. The role-based access tool allows for multiple participants to view data while protecting access to confidential information.

Transplace in Dallas, Texas—a 3PL that also provides technology for strategy, planning, technology and carrier management services as a 4PL—commonly utilizes technology tools to evaluate customers' supply chain flow, according to Matthew Harding, vice president for consulting.

Harding notes the case of a multi-billion-dollar retailer customer that wanted to save transportation spend on its vendors' inbound freight. The retailer was receiving a lot of small, frequent shipments from individual vendors, which were costly because they required less-than-truckload (LTL) shipments that the retailer was subsidizing.

Transplace worked with the retailer's vendors to evaluate their pickup information. Using optimization and execution tools they analyzed "various cost components of the current network and contrasted them with future scenarios." The recommendation was creation of a cross-dock operation located closer to the vendors, allowing for consolidation of shipments on less expensive truckload shipments. According to Harding, the customer saved "multi-millions the first year of deployment."

"We used our consulting services to do the analysis. Once we determined economies of scale, we used our transportation management system (TMS) to make the reconfiguration under the new, cross-dock system—what goes through the cross-dock and what goes direct—on a daily basis," he explained.

Their SaaS-based technology, which Transplace manages, includes business intelligence and optimization services. According to Harding, it provides planning and design solutions that can be utilized for executing a wide number of logistics functions, including cross-dock and routing designs and strategic carrier assignments, and others, that allows customers to "adapt quickly to a new environment."

LeanLogistics, Inc. in Holland, Michigan, conducts a lot of benchmarking work for customers in areas such as pickup and delivery performance and transportation rate comparison, according to Tim Hinson, vice president of operations. Through their "on-demand TMS," which is available via an Internet-based platform, LeanLogistics has access to accumulative customer data that include five million moves a

year and a transportation spend of over $4 billion.

Hinson cited the example of a customer who wanted 99 percent "on-time service." After conducting a study to determine their current performance they assessed the customer's transportation rates, measuring "the delta between what this customer was spending versus their level of service," then comparing that data against a customer with higher service levels and their spending.

"We were able to provide them with quantitative examples of what we believe it would take to increase a couple percentage points, how you would need to change your operation and the potential incremental costs associated with improving that level of service," he said.

Tom McKenna, senior vice president for Logistics Engineering and Technology, based in Penske Logistics' Cleveland, Ohio Technology and Engineering Center, says his team works a lot with design tools, sometimes engaging in what he calls "blue-sky studies to identify larger opportunities that may be more difficult to implement without process and system changes."

For example, a recent study for a customer, which was ultimately approved and implemented, looked at "segmenting the fast-moving and slow-moving products into separate flows and warehouses within the network, resulting in working capital savings over and above the logistics costs."

Penske provides "both static route planning and optimization for more stable networks supporting automotive OEM material flows into assembly plants, for example, as well as dynamic routing for more variable demand patterns in food and retail distribution networks," McKenna explained.

Often companies, particularly those that go through mergers and acquisitions, are left with fragmented supply chains, said Covert. One UPS customer was left with redundant operations after a buyout. UPS Global Solutions deployed network optimization software to help "define a more optimal network and (determine) what their supply chain should look like." A "decision matrix" was created to help the customer determine "how to ship products to meet various service levels and where to position them," said Covert.

UPS commonly uses tactical execution software to address issues like selecting the best inventory locations to fill orders or to determine which transportation mode is most appropriate. Advanced analytic tools are used for planning whatever a customer needs, with a focus on dynamic not static approaches, says Covert.

Jeff Jones, applications manager in the UPS Shared IT Services group, says route network optimization is another common area of customer concern, particularly with fluctuating fuel costs. "We'll take all of their transportation data and come up with a model specific to that customer, indicating what lanes and routes are affected and setting up a proposed network complete with diagrams, maps and costs. We'll generate one or more transportation models to figure out at the end of the day what's the most effective. So they may source closer to the end consumer, for example," he explained.

Ultimately, McKenna points out, it's how 4PLs apply the information they generate, store, report and analyze with the assistance of technology tools that counts. "It's this information and the knowledge and expertise of our associates, in collaboration with our customers and other business, and their inherent knowledge and expertise, that Penske customers have come to rely on to continuously improve, adjust and fine-tune their supply chains," he said.

As for the future, Bentz believes that Web-based technology, which is getting better "at an increasingly rapid pace," is going to rule. The Web, he said, "has really changed the way we do business, particularly in freight forwarding by providing global outreach almost instantly." wt

Sidebar: Arm & Hammer Cuts Supply Chain Transportation Costs with JDA Software

Leading consumer goods manufacturer Church & Dwight Co (Arm & Hammer) had traditionally focused on selling in the U.S. and Canada until a series of acquisitions expanded its range of personal care,

household and specialty products into Latin American, Eastern European, Middle Eastern and Asian markets.

Challenged to streamline its burgeoning global supply chain and better meet retailer demands, Church & Dwight initially focused on reducing transportation expenses. Increased retail diversity and the need to optimize inventory led the company to also seek out technology that would drive improved planning and forecasting for its wide assortment of stock keeping units (SKUs).

Church & Dwight replaced in-house systems with a JDA® Software supply chain solution suite, including forecast planning and transportation management. The company has since increased household product offerings by 67 percent, while decreasing inventory levels by 10 percent. Additionally, Church & Dwight increased on-time and full deliveries from 82 percent to 90 percent.

JDA's forecasting solution has increased Church & Dwight's visibility into key retail accounts worldwide. The solution generates accurate forecasts by assessing multiple years of sales history, and takes into account frequent promotions. "Forecasting is the root of good deployment and production planning," stated Sam Dragotta, Church & Dwight's senior director of supply chain. "The benefits realized have been threefold—improved case-fill, on-time deliveries and a reduction from 80 to 55 days of supply. We've leveraged JDA solutions to improve forecasts and to plan product launches and promotions."

On the transport side, Chad Whyte, senior manager of corporate transportation, commented: "JDA's transportation management solutions provide a reliable method for planning inbound and outbound shipments, and the ability to merge inbound loads from materials suppliers with outbound shipments. The solution provides alerting capability, which signals when forecasts and shipment schedules are out of balance, and has effectively automated Church & Dwight's carrier-selection process. The results are increased carrier capacity and reduced transportation spend in certain areas, as well as better negotiations with the company's carrier base."

Sidebar: A Breakout of Major 4PL Technology Tools

Tom McKenna, Senior Vice President for Logistics Engineering and Technology at Penske Logistics, offered the following breakout of tools Penske, and many 4PLs, use to design, plan, measure, execute and control logistics activities, along with Web-based visibility tools to track inventory moving through customer supply chains:

- Design tools include supply chain network modeling, transportation modeling, route planning and optimization, distribution center design/layout, etc.

- Planning tools include route planning and optimization, resource scheduling, labor standards, etc.

- Execution tools include order management systems, transportation and fleet management systems, warehouse management systems, supply chain event and inventory visibility tools, etc.

- Measurement and control tools include business intelligence and data warehouses, dashboards, data/statistical analytics, etc.

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