Supply chain REBOOT

Lenovo reworks its use of logistics providers and technology to better compete in ferocious personal computing market.

By Eric Johnson



The path to becoming the world's largest personal computer maker took Lenovo from China's biggest city to a quiet metropolis in northeast North Carolina 10 years ago.

In one move—the acquisition of IBM's personal computing business and its iconic ThinkPad brand—the Chinese electronics company once known as Legend came to the forefront of the hyper-competitive PC market with a new identity and a lot of clout.

Rebranded as Lenovo just prior to the IBM deal, the company has been on a fast track ever since, with a string of acquisitions that have seen it expand into the server and smartphone businesses, and rapid organic growth in the North American market.

Behind the scenes, the company's supply chain has had to not just keep pace with that growth, but provide a platform for differentiation against Lenovo's biggest competitors in the personal electronics market.

"I look at it from an outside perspective," Matt Tabisz, Lenovo's director of North America logistics, said in a wide-ranging interview in late December at the company's North America headquarters on the outskirts of Raleigh, N.C. "This company is willing to take big risks (referring to major acquisitions from IBM and its more recent purchase of the Motorola smartphone business). The company made some big bets, and not at the most usual times. From a supply chain perspective, that's a fun problem to have, to have to put these things together."

That "fun problem" exists at a time when there are some interesting dynamics impacting the personal computer market, Lenovo's bread and butter: the overall market has been declining, and competition between manufacturers is "ferocious," as he put it.

"There are three big guys at the top and they are champing for more market share," he said.

Yet Lenovo has grown its market share in North America to a record 13.2 percent by the second quarter of its 2015-2016 fiscal year (July-September 2015).

Tabisz knows well the pressure inherent in the technology industry. His supply chain experience prior to coming to Lenovo in 2013 included stints with Microsoft and Samsung Mobile, not to mention time with one of the biggest logistics entities in the world, the U.S. Navy.

The challenge facing Tabisz and his team at Lenovo is what he dubbed "the perfect storm" of supply chain.

"You need to increase speed, reduce costs, instill controls, and remain flexible to properly serve all our internal and external customers," he said. "It's a challenge, but it's a fun problem to solve."

He's tackled it in a couple specific ways: aiming to better leveraging Lenovo's existing supply chain systems, and reworking its network, use of its logistics partners and transportation carriers.

More Than Visibility. On the first front, Tabisz has been endeavoring to use the company's visibility tool, GT Nexus, in a broader and more sophisticated way.

Lenovo has been a GT Nexus customer for five years, but a lot of the work around honing its use of the system has come in the last two years. First and foremost, Tabisz said GT Nexus has allowed Lenovo to refine the way it receives shipment information from its carriers and freight forwarders. Previously, those partners may have been feeding Lenovo information in two ways—direct to the company to manually track shipments or to input it into its enterprise resource planning system.

Using GT Nexus has enabled Lenovo to route all that information directly into one system, which then interfaces with Lenovo's ERP. It's also allowed Lenovo to challenge its logistics and transportation providers to improve the timeliness and completeness of that milestone information.

"But it's not just a repository," Tabisz said. "It's a tool that's woven into our daily operations."

Tabisz described how that improved visibility has allowed Lenovo to create what he called an "early warning dashboard" with three levels of operational relevance:

- The first level provides a quick "snapshot" of goods in transit for the supply chain vice president to get an overview.
- The second level shows an "all-up view" of on-time arrival, departure, customs cleared and on-time delivery (whether that's a store, distribution center, or direct to a customer at home).
- The third level puts in the hands of the operator customer-specific information around a shipment. That's critical for Lenovo, since its retail customers tend to have strict requirements and major penalties for non-compliance.

"In 15 seconds, we can decide where to put our effort and share that across our supply chain," he said. "With retailers, in some cases early is as bad as late, so we're able to throttle the speed of our supply chain. It's become extremely valuable in our supply chain operations. If you cast it off as just a visibility management system, you're absolutely missing the value."

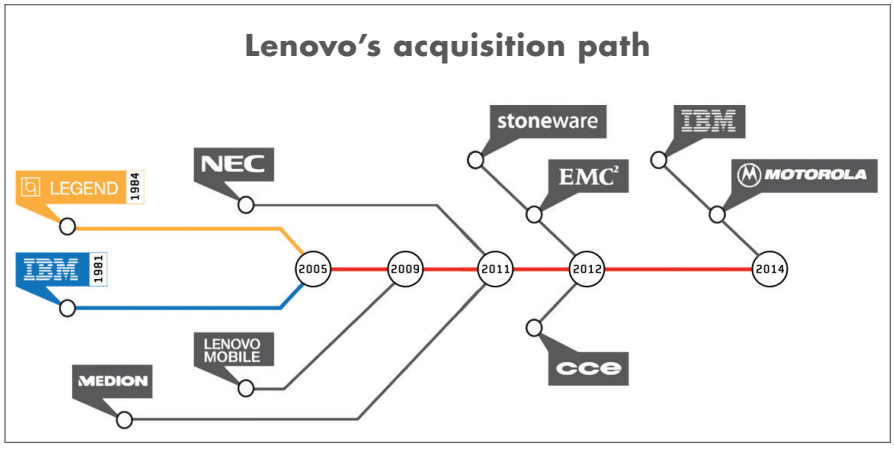
All that value comes on the back-end for Lenovo, but the GT Nexus system also comes in handy in an outward-facing way, feeding the company's customer visibility portal not just for e-commerce orders, but for all customers.

As head of North America logistics, Tabisz's responsibility starts from when a shipment is tendered to one of Lenovo's forwarders.

"We've been driving our forwarders to get this information—now we know within two minutes of logging into GT Nexus what particular orders need attention," he said. "In some cases, we know before they know."

That focus on information accuracy includes the future ability to audit Lenovo's logistics partners and operations team members, "to see that John Doe checked what he was supposed to check in terms of monitoring," he added.

By Tabisz's unscientific estimate, Lenovo is 40 to 50 percent of the way down its path of fully leveraging its use of GT Nexus. The challenge (and fun) for Tabisz is that



Source: Lenovo.

the goalposts keep moving.

The benefits of such a reliance on the GT Nexus system became clear in late 2014 and early 2015, when crippling port congestion on the U.S. West Coast left many shippers' supply chains in disarray.

"We didn't have a container that we needed left behind for Christmas 2014," he said of the congestion crisis.

The system has also allowed Lenovo to get a clearer picture of the performance of its carriers and terminals those carriers use to help inform future procurement cycles.

"It's not just the volatility," Tabisz said. "We can see who's a good performing terminal, and what line is performing well, even which strings to use. It helps us make intelligent booking decisions at origin and greatly improves the accuracy of the commitments to internal and external customers on the lead times."

That process isn't as optimized or dynamic as Tabisz wants it to be yet, but it's getting there.

More Is Less. Just as Lenovo has rolled the dice on some major acquisitions, he too has gone against the grain when it comes to reconfiguring the company's inbound network and use of logistics partners.

Instead of relying on fewer partners to do more, Lenovo is finding applications to use more logistics companies to handle specific functions in its end-to-end activity, banking on the idea that each company's individual expertise in the specific functions assigned to them offsets any headaches that might occur by adding more handoffs.

"In terms of problem solving, we really have put our bow into the headwinds to break through the water and create a smooth wake for our logistics partners to operate in," he said. "We're using our logistics partners a bit differently. It sounds crazy, to have three or four logistics partners handing things off to one another. It sounds like too many handoffs. But it is an all-star team.

"It may be better for many shippers to go all in with one provider for a wide variety of reasons, be it making entry in an emerging market with unknown lanes, lack of richness in the relationship with the logistics partner, or insufficient systems and processes to effectively manage the complexity. At Lenovo we have worked to build intimate relationships with all logistics partners, regardless of spend, and this has paid dividends in the maturity of the conversations and high performance on the execution side."

In all, Lenovo leans on a broad portfolio of logistics partners (around 50 worldwide), including what Tabisz called "strategic relationships" with the global top five or six 3PLs. Those relationships have been cemented by chairman-to-chairman discussions between Lenovo's leadership and that of the logistics companies, a sign of Lenovo's clout in a fragmented market. Some of its partners have global service offerings and others are applied in more specific regional or niche service areas, he said.

Tabisz's other major move was to change its inbound air freight gateway from Atlanta to Chicago.

"This created a little more lead time on the inland move (from Chicago to Lenovo's distribution facility in Whitsett, N.C., about an hour from its headquarters near Raleigh), but there is 10 times the inbound air freight capacity to Chicago, providing more end-to-end lead time and cost reduction," he said.

In a vacuum, the move could be perceived to be adding miles and vulnerability to Lenovo's inbound leg, but Tabisz said it has a host of benefits for the company and its transportation providers.

"Transportation is usually a one-way activity," he explained. "Once the load is delivered, the transportation company and the driver have to find the next load



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with another shipper. This creates dwell-time for the driver, additional cost for the transportation company to find the next load (sometimes having to move the truck to another area empty without a load to offset the operating cost), and ultimately inefficiency in the economy.

"We created our own backhaul. We are booking the truck for a roundtrip (Chicago to Whitsett and Whitsett to Chicago). Two trucks moving in opposite directions on the same flows. This gives us reliability on both sides of the inbound and outbound activities. It creates efficiency for the transportation company and a dependable paycheck for the drivers," Tabisz added.

It also allows Lenovo to zone-skip its less-than-truckload and parcel moves by moving goods closer to the ultimate end point, while reducing costs without giving up control or visibility.

"It's a very managed flow," he said. "The roundtrip truck is a regimented schedule. In a world where there are so many outside influences, it helps to have that view. If our business has new demand crop up, we know exactly where that inventory is to process it."

A La Carte. Tabisz said the goal of Lenovo's approach to its logistics partners and use of technology is to build what he calls an "a la carte menu" of service options on a global scale, where the company will be able to pick "the right service application for the right time of year for the right product. It's not a one-size-fits-all approach."

That approach is a classic case of seeing the supply chain in a holistic manner, where the company might incur a bit of inefficiency with the complexity of multiple logistics partners participating, but gains the net benefit of cost advantage, increased speed, control and visibility.

Lenovo's business is a seasonal one, with the back-to-school, spring, and holiday seasons bringing a variance of roughly 20 percent above-normal demand levels. The demand gets especially sharp when a retailer uses what Tabisz referred to as "burst activity," a promotion around a particular product that provides Lenovo additional demand in a particular campaign that could be a burden on components, manufacturing and transportation capacities.

The flipside of that increased demand is that the planning horizon tends to be a bit longer since those promotions are planned further out than normal orders.

Lenovo's three business lines are personal computers and servers (which it collectively calls its enterprise business group), smartphones, and ecosystem and cloud service.

Tabisz said that for supply chain purposes, the company groups the PC and server businesses together.

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>
> *Matt Tabisz, director of North America logistics, Lenovo*



"It's interesting, because HP split those businesses (at the end of 2015)," he said. "We clearly are on opposite ends of the spectrum as we've integrated the two."

The smartphone business has been indelibly impacted by the Motorola acquisition. While that segment of Lenovo's business was growing, the Motorola deal, as Tabisz put it, "gave us immediate entry into mature markets where Lenovo longed to compete in. We're moving more deliberately, performing more observation with that business, learning a lot about how those markets work."

In terms of manufacturing, Lenovo operates its own production facilities, relies on more traditional original design manufacturers, and also manages joint ventures.

Lead Times = Pressure. As one might imagine, lead times in the electronics industry are incredibly tight. While Tabisz declined to specify Lenovo's exact lead times, it places extreme pressure on the company's logistics team to pick the right mode, route, and partners and then to manage those decisions in a real-time manner along the way.

On the spectrum of supply chain complexity, Tabisz characterized Lenovo's as moderately complex—less complex than say, a fast-moving consumer goods company managing tens of thousands of stock-keeping units to all global markets.

Lenovo has a vast range of products in its three primary business units but that number can increase quickly when you factor in the customizable nature of its e-commerce products. The company also sells computers through a number of different channels—to businesses, through retailers and distributors, and direct-to-consumer.

On top of that, the company has digested a series of major acquisitions on its growth path, most notably IBM's and NEC's PC businesses in 2005, and then part of IBM's server business in 2014. The company also acquired the Motorola smartphone business from Google in 2014.

That's a lot of big brands and product ranges to account for in a pretty short period of time. The two 2014 deals came soon after Tabisz joined Lenovo and it's kept him on his toes. But what gives him confidence is Lenovo's clear focus on supply chain as a place to create competitive differentiation, a final frontier for significant improvement in a company's financial results.

"We've invested in big systems and talent, and our own manufacturing," he said.

Tabisz's three-person team is in close contact with relevant departments like trade compliance, sales, and sourcing. How much direct involvement Tabisz and his team have in a sourcing or compliance decision depends on the gravity of logistics in the decision.

"If we're adding a new ODM (original design manufacturer) supplier in China, we're not going to be involved directly," he said. "But we're deeply involved in owning decisions that must have intimate knowledge of the region such as government programs [like NAFTA or a foreign trade zone], application of international inbound lanes and modes of transportation, and driving the right use of logistics partners."

Tabisz lauded the culture that's developed: "We're trying to become quicker, to get away from the legacy of 'this is the way we've always done it.' Sometimes we're not as nimble or as agile as we need to be, but once there's alignment, it moves great. Once we agree on a path, we're charging up the hill together."

To that end, the company took another systems step late last year, as it implemented a cloud-based transportation management system. The system is initially being used to execute domestic transportation, but the plan is to expand the system globally to other markets where Lenovo can connect such a system on a global scale.

Prior to the implementation, that execution process was a manual one, he said.

"It was an overwhelming argument I was able to put together," Tabisz said. "The complexity of Lenovo has grown in the last five years, between the sources of supply, the expanding product portfolio, and the acquisitions." ■