



## **There are five critical inventories?**

By Barbara Jorgensen -- 3/1/2006

Electronic Business

In a just-in-time or build-to-order environment, the only inventory that counts is the inventory that's in the right place when you need it.

In the electronics industry, that usually translates into two "critical" inventories: parts in the warehouse ready to be processed and the work in progress on the manufacturing line. But consultancy D.W. Morgan says there are actually five critical inventories: raw materials (the goods that come from your suppliers), work in progress, finished goods, service inventory (repairs and returns) and in-transit inventory (goods from you or your suppliers sitting on a plane, train or ship).

Grant Opperman, president and chief strategist for D.W. Morgan, argues that having a problem with any of these inventories can be as costly as missing a production deadline.

But how do you identify critical inventories? And how can they be better managed?

Most companies in the electronics supply chain have a solid grasp on the raw materials and work-in-progress parts of the system as well as finished goods. What many companies neglect to pay attention to is what happens to the product when it ships: It can go to a distributor, end customer, system integrator or somewhere else. Opperman maintains that companies need to stay focused on their finished goods.

Service inventory is only recently being recognized as a type of supply, D.W. Morgan reports. It's the stuff that comes back to you: returns, defects and repairs. Distributors frequently get parts returned to them, and they, in turn, ship them back to the component vendor. Tracking where these parts are coming from and going to is becoming more crucial in an environmentally regulated market (see cover story, "It's tough being green," page 30). Also, visibility into these parts is useful for failure analysis, which helps in the design of better products.

Regarding the fifth critical inventory—transportation—supply chains are traditionally viewed as "a set of inventories connected by transportation." But the Morgan consultancy reports that in-transit goods account for 5 to 20 percent of a company's revenue.

At most companies, in-transit inventory is managed by a dozen people with a hundred carriers in a thousand ways. There's no enterprise-level visibility into these goods,

according to Opperman. Yet, this fifth inventory can sting your organization. "We've seen clients nearly miss their quarterly revenue numbers because some delivery guy in brown shorts hadn't yet delivered a shipment in Düsseldorf," he says.

So what should companies do? They first need to prioritize the "pain points" in their supply chain.

For Redback Networks, a \$115 million designer and marketer of broadband networking equipment, the pain point was its service inventory (see story on page 24).

Because Redback's equipment is mission-critical for broadband operators, the company must support stringent service-level agreements (SLAs) to deliver parts and services to customers as quickly as within four hours. However, the company did not have real-time visibility into the inventory it stored at 50 service depots around the world. "If you don't have visibility, you don't have control," says Ebrahim Abbasi, senior vice president of operations, information technology and customer service. "As a result, you'll have higher costs, because you'll have to invest in fixed assets and inventory to compensate."

So Redback-which already outsourced its manufacturing and IT operations-outsourced its logistics. D.W. Morgan set up a system that provides inventory visibility in every location.

"What we find about service inventories is that they are extremely time-sensitive: If the part is not available, it can cost your customer hundreds of thousands of dollars," says Beth Enslow, vice president, enterprise research, Aberdeen Group. "If you have a problem with raw materials, you can maybe start something else on the production line, but service parts have a direct revenue implication for your customers," she says.

D.W. Morgan recommends that companies go through their supply chain from front to back to identify the critical inventories for their business. Identify your most strategic suppliers, and then make sure they are somehow integrated into your system.

Opperman says visibility into the supply base no longer needs to be as complex or expensive as it was in the past. IT applications, he says, used to define business processes, rather than the other way around.

Now, he adds, IT is losing its primacy and becoming secondary to business process. His advice: Work with your supply partners to define the tools you need in order to communicate.

"We are now beginning to see the emergence of Web-based services that enable you to have real-time exchange of information and that don't need integration into ERP systems. You can build simple bridges between silos of data, so everyone can see in real time what's in a warehouse," he says.

Redback's strategy: repair parts, send to customers in four hours

Redback Networks differentiates itself from its bigger competitors by providing repaired parts to customers in as few as four hours. But managing this service inventory requires storing duplicate parts in 50 sites around the world.

"Service inventory has become a way to compete, and a four-hour turnaround can turn into a significant advantage," says Beth Enslow, vice president, enterprise research, Aberdeen Group. "The question is how you can do this without having piles of inventory sitting all over the world and still be profitable?"

Redback outsourced management of its service inventory to logistics provider and consultancy D.W. Morgan, which handles Redback's planning and systems inventory management, warehousing, distribution operations, order fulfillment and transportation management.

When a customer such as Verizon or Bell South reports a system failure to Redback's technical assistance desk, it is issued a return material authorization (RMA) that initiates the part replacement process.

The RMA is simultaneously sent to Morgan's Web-based system, which provides inventory visibility across all locations. The system determines the optimal location for fulfilling the order, pulls the item and dispatches it with a carrier selected to meet the service agreement's delivery deadline. When the part is delivered, the failed part is picked up and forwarded to the designated contract manufacturer or repair vendor. In rare cases, the part is sent to Redback for analysis.

Morgan's system determines which parts to replenish and when, as well as where they should be stocked. The Web-based system supports a tracking function within Redback's portal, so a customer will know exactly where the part is and when it will arrive, as well as such details as the serial number, whether the part is new or rebuilt and its revision numbers. The only direct involvement Redback has is to issue the RMA to the customer.

#### Redback's results

Since outsourcing the management of its service inventory, Redback has gained the following benefits:

Total logistics costs (personnel, facility and freight) are 30 percent less.  
The total number of depots needed to service customers has been cut from 50 to 28.  
Overstocking has been minimized, and the total value of inventory in the field has dropped by 50 percent.

SOURCE: ABERDEEN GROUP