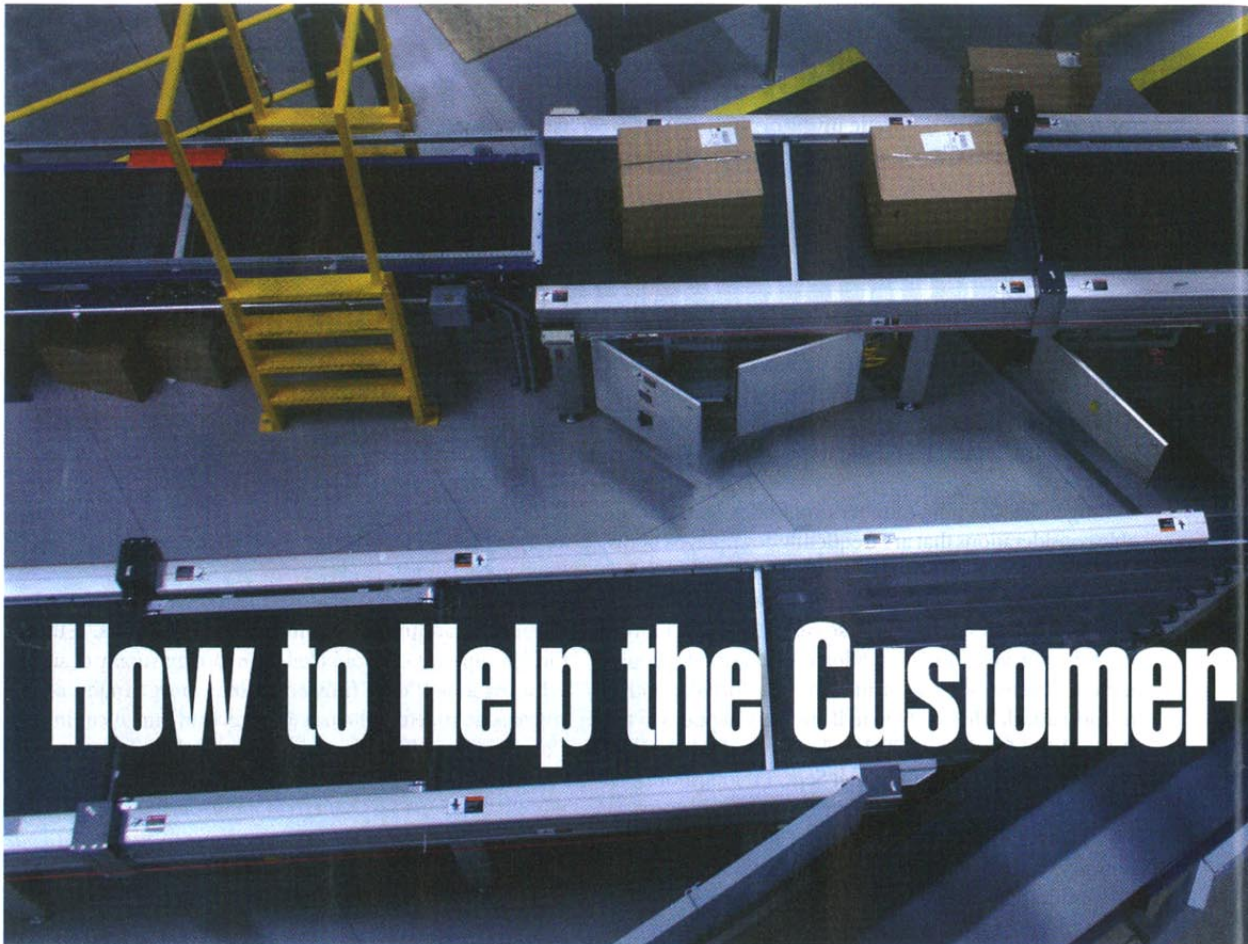


## Information Management

By Clyde E. Witt



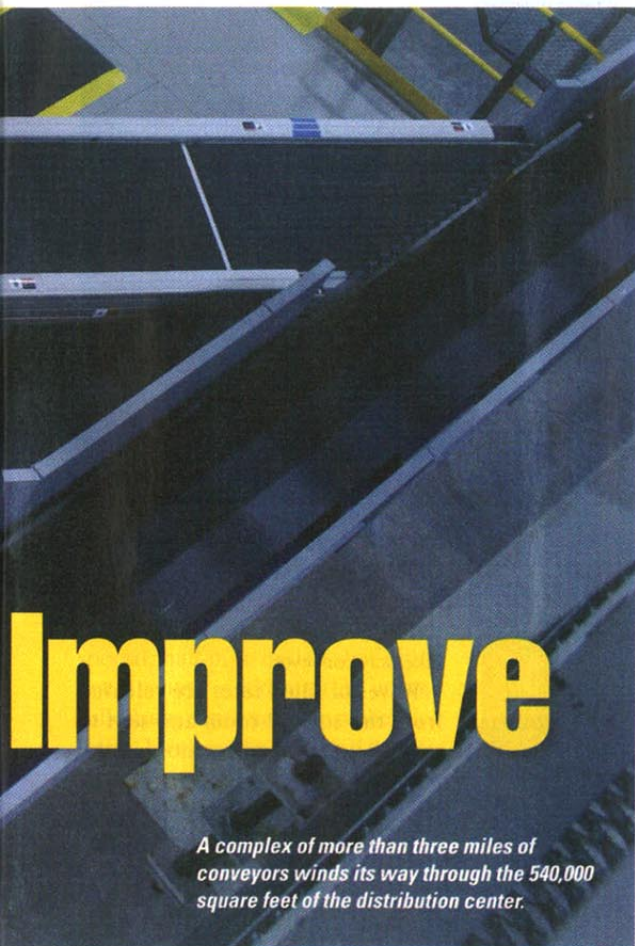
# How to Help the Customer

Web hosting usually means taking care of a client's Internet presence. Here's how one company expands that definition.

**C**reating a niche business refers to taking a small or specialized part of a larger operation and turning it into something special. GSI Commerce (King of Prussia, Pa.) has used Web hosting as a stepping stone to something much more than a Web presence for its clients.

Standing on the mezzanine in its newest distribution center, surveying more than a half-million square feet of activity, begs the question: If this is a technology-based, Web-hosting company, what's it doing with all this merchandise?

For Paul Chisholm, vice president and general manager of GSI Commerce, the answer is easy. "Our core competency is building, designing and hosting Web sites. We do the whole



*A complex of more than three miles of conveyors winds its way through the 540,000 square feet of the distribution center.*

front-end piece. We also believe we can help our partner companies build their businesses faster through our host of other services.”

The company is a provider of e-commerce solutions that enable retailers, branded manufacturers, entertainment companies and professional sports organizations to operate e-commerce businesses.

Its newest distribution center, in Richwood, Ky., was designed and the material handling system integrated by AHS Inc. (Cincinnati). This is GSI's third distribution center and offers its partners everything they might need to be in business, from Web hosting and call-center services through complete order fulfillment.

The range of those services is broad. GSI's services address a

common e-commerce problem: Too often, what is happening on a company's Web site is not always reflected back in the distribution center. Or, a company might have a great distribution network for getting products to its retail stores but does not have a clue how to do direct to consumer. The various combinations of what is required to be successful are endless—as are GSI's answers. As a multi-client environment serving thousands of customers, the new distribution center begged for automation along with a new order fulfillment process.

### Facing the Challenges

A new building in a new location was just the beginning for Chisholm. First, he was bringing in a new management team. Second, they would be installing a new warehouse management system. And third, this was the company's first use of such a high level of automation.

Opting for more automation offers GSI flexibility for growth, along with more options for working with its base of national partners.

The company's other two distribution centers are located near the UPS shipping hub in Louisville, Ky. To meet its time commitments, the new distribution center also had to be within 100 miles of UPS' Worldport global operations center in Louisville.

“As for the management team,” says Chisholm, “we were lucky and brought in people from our facilities in Louisville and Shepherdsville.”

The hourly staff was recruited from the Richwood area, he says, and most recruits had no idea what GSI was. They quickly adapted, however, to the company culture.

Chisholm is a veteran of automated distribution centers and says, no matter how many times you install a new WMS, you always walk away saying, “Next time, I'll give myself more time.” And, although this project went relatively smoothly, he says more time spent testing and training would, again, have been welcomed.

Because GSI negotiates different service-level agreements among its partners (24-hour shipping for some; 48 hours for others, for example) having multiple partners in the same building can create additional challenges. “To the person on the floor,” explains Chisholm, “having multiple partners with different service levels is invisible. All the order management is done via the WMS.”

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*Lights at the end of the chute tell operators proper carton size, along with order information.*

### How it Works

GSI's partners cover a wide range of retailers, some with brick-and-mortar operations, some with partial distribution networks and others with nothing except a Web site. If you buy a licensed shirt from NFL.com, for example, the order goes through and is fulfilled by GSI. It does other unique things like string tennis rackets for a major sports retailer and embroidery of dog collars for online shoppers of a pet-supply company.

On the incoming side, merchandise moves directly from the dock to the massive picking module. This distribution facility has no replenishment function. Merchandise comes in and is immediately broken down and moved to the pick locations.

Receiving is the most labor-intensive part of the operation. As orders are broken down, they are tagged down

to the item level if the vendor has not already labeled the items. RF scanners for reading barcodes are used throughout the installation for data collection, order putaway and order selection.

An elaborate order profile for each item within the WMS indicates if the order is conveyable but not sortable, or sortable but not conveyable. Things like wine glasses or dog tags need special handling. Items like jackets or hats do not.

Putaway carts and totes carrying barcode labels are scanned, along with rack locations, during the putaway process, making it possible to store similar items in multiple locations.

Order selection is RF directed for a batch-pick-to-sortation process. "In other systems, where there might be multiple clients," says Steve Schwiertert, vice president of integrated solutions at AHS, "you might have multiple

kinds of information trying to filter through the fulfillment system. In this system, it all comes through the GSI order management system that feeds the WMS." Thus, multiple customers' orders, and multiple items, are all picked to the same tote.

Batch picking of orders is done into totes on any of four levels of the huge pick module. Currently, there are 450,000 active pick locations and 7,000 pallet locations. Chisholm says the business fluctuates with the time of year; however, on average, they're shipping about 218,000 items every day with more than 9 million units on hand.

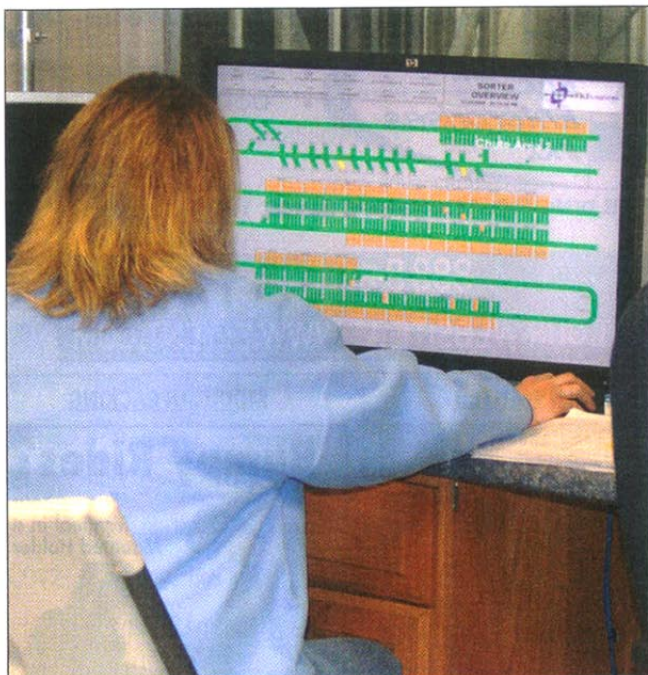
Order pickers move through the aisles, scanning with handheld devices and picking. Two totes are positioned on the pick cart. When the order picker reaches either end of the aisle, if the tote is filled, he pushes it off on to a takeaway conveyor.

Waves of filled totes are released from the control room and sent to workstations. The operators in the workstations remove the items from the tote and scan the label with a handheld device before placing it on one of the tilt trays of the sorter. During peak periods, to speed the induction process, the operator can opt not to scan the item and use the in-line scanning array to induct orders. The item has to be placed label up on the tray.

The Crisplant tilt-tray sorter, which uses electrical technology, not mechanical means, to divert items, drops one order per chute for the packer. There are 456 double chutes for order accumulation.

This sortation system also employs a TGW Ermanco high-speed sliding shoe sorter to divert cartons into special areas. The 193-foot-long, extremely quiet shoe sorter is one of the longer installations of its type in the U.S., says Chisholm.

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*Movement of picked orders and totes are monitored in the control room.*

### Sourcebox

For more information on this installation, contact any of the following vendors:

- AccuSort, [www.accusort.com](http://www.accusort.com);
- AHS Inc., [www.ahs1.com](http://www.ahs1.com);
- AmbaFlex, [www.ambaflex.com](http://www.ambaflex.com);
- Dehnco, [www.dehnco.com](http://www.dehnco.com);
- Crisplant FKI Logistex, [www.fkilogistex.com](http://www.fkilogistex.com);
- DataLogix, [www.dcsglobal.com](http://www.dcsglobal.com);
- Interlake, [www.interlake.com](http://www.interlake.com);
- Logitech, [www.logitech.com](http://www.logitech.com);
- Metro Deck, [www.rpcrawford.com](http://www.rpcrawford.com);
- Motorola, [www.motorola.com](http://www.motorola.com);
- Mettler Toledo, [www.mettlertoledo.com](http://www.mettlertoledo.com);
- Pyramid Controls, [www.pyramidcontrols.com](http://www.pyramidcontrols.com);
- Red Prairie, [www.redprairie.com](http://www.redprairie.com);
- Starrco, [www.starrco.com](http://www.starrco.com);
- TGW-Ermanco, [www.tgw-ermanco.com](http://www.tgw-ermanco.com);
- Transnorm, [www.transnorm.com](http://www.transnorm.com);
- Wildeck, [www.wildeck.com](http://www.wildeck.com).

The chutes themselves are of a special, half-pipe design that offers better control of odd items like inflated volleyballs, men's pants or rubber dog bones. Using gravity to control the flow of items down the chute reduces the potential for damage.

A light on the picking end of the chute tells the order packer which size box to use and the number of pieces that should be in the order. When all the items are in the carton, it is moved onto a takeaway conveyor and delivered to the shipping area. Shipping labels are automatically applied and cartons automatically sealed for shipping.

Chisholm says the best thing this system offers the company's partners is that they can grow their businesses more easily than they could on their own. For example, the ability for the customer to order online and pick the item at the store grew in popularity this year. Because of flexibility in its material handling systems, GSI was able to piece that kind of service together quickly for its partners. **MHM**



*Items removed from the totes are scanned as they are placed on trays of the sortation system.*