

# Log Maker Warms Up to RFID

Having successfully completed an RFID pilot, North America's biggest maker of artificial logs for fireplaces plans to deploy a full system ahead of schedule.

By Jon Collins

July 16, 2004—While 100 of Wal-Mart's largest suppliers faced little choice in having to meet giant retailer Wal-Mart's mandate for RFID tagging shipments to its Texas distribution centers by January 2005 deadline, some other smaller companies have actually volunteered to comply with the same deadline. One such company is Conros, which dominates the market for artificial fireplace logs in North America.

Made of mostly of sawdust and wax, the company's logs, which are sold under the Pine Mountain and Northland brands, account for around 65 percent of the fireplace-log market in the U.S. and 93 percent in Canada. Eager to reap the benefits of deploying RFID and getting greater visibility into its inventory and supply chain, the company says it has already completed pilot in which it put RFID tags on cases and pallets of its logs and that it is ready to start tagging its shipments to Wal-Mart just as soon as the retailer is ready to receive them.

"We have carried out all our trials, and we can be 100 percent compliant. We just need to expand the installation the equipment across our production facilities. When Wal-Mart gives us the go-ahead, we can start shipping to them within 30 to 60 days," says Navin Chandaria, CEO at Conros, which is based in North York, Ontario.

Conros completed its RFID pilot in January 2004. That pilot implementation involved tagging cases of Conros's logs by hand as they came off a production line and then tracking those cases and the pallets as they were loaded into the plant's warehouse and then ship to a retailer.

Expanding that pilot to cover the company's shipments of logs to Wal-Mart will require adding the same RFID system to two other Conros production sites, as well as adding automatic label applicators to replace the manual tagging process that took place during the trial. The system will also be connected to the companies SAP AG ERP system.

Cognos decided to jump-start its efforts to deploy RFID ahead of Wal-Mart requirements because it saw benefits for its own business from investing in the technology.

"We expect to invest no more than \$2 million in this and expect to see a return on our investment most likely in one year, maybe two," says Navin. The company says that annuals sales of its logs run into the hundreds of millions of dollars.

That return on investment is expected to come from using greater visibility in its supply chain to ensure its products are available in Wal-Mart stores when customers want to buy them. "If there is no product on the shelf on a cold night, its not just Wal-Mart that loses a sale but us as well" says Chandaria

Adding RFID to its products in tandem with Wal-Mart's RFID deployment in its retail stores will improve the

company's ability to know the status of its products—whether they are ready to ship, en route to Wal-Mart or already there.

“Wal-Mart stores get many deliveries a day, but if we know they need our products and that there is a trailer loaded with cases of Conros products in their backyard, we can make sure they pay attention to it,” says Chandaria.

While its artificial logs were the focus for the company's RFID trial and its planned RFID deployment this year, the company expects to extend tagging to the fire starters, fireplace matches, citronella candles and iron fireplace grates it also makes, as well as the adhesive tapes and stationery products sold by its sister division, LePages.

In deploying its RFID pilot Conros turned to IT giant Hewlett-Packard to design, implement and manage its RFID trial and its planned expansion into part of its fire log supply chain. “We avoided using separate business consultants, as it would have meant adding another layer to the process. Instead we went to HP to design and implement the system,” says Chandaria.

Managing the design and deployment of the Conros trial, HP worked with its RFID partner companies—Matrics, which delivered the tags and reader infrastructure, and Shipcom Wireless, which provided middleware to connect the system to an SAP application server running on HP ProLiant servers—as well as with Conros's own IT staff. According to HP, it took around 30 days to design the RFID trial and an additional 30 days to deploy and complete the pilot.

“We were able to duplicate a lot of what we had already learned with our own internal RFID deployments to deliver a turnkey solution to Conros,” says Victor Garcia, chief technology officer at HP Canada.

The trial, which was carried out on site at a live Conros production line, used Matrics 4x4-inch Class 0 inlays that were attached by hand to cases of logs as they left the production line. Each case held six logs, and the trial used self-adhesive inlays instead of smart labels, as it was decided that existing bar code and other labeling information printed on the cases packaging would continue to be used after the cases were tagged. Once the inlays were attached to each case, their transponders were then read and each transponder's EPC was recorded to the SAP application. Then the cases were placed onto pallets. Once the pallets were fully loaded, each one was wrapped in plastic,

Between 60 and 80 cases were loaded onto each shipping pallet. When loaded, the pallet was driven to a separate area, where the pallet and its cases were wrapped in plastic, and topped with a Matrics' RFID. During the wrapping process, the EPC numbers of the tags on a pallet's cases were associated with the EPC number of the pallet's tag in a parent/child relationship, so that by tracking the pallet, Conros would know the location of each case.

The pallet was then carried by forklift through another portal as it entered the warehouse area, giving the company a record of its ready-to-ship products. A final portal was located at the doors of the shipping dock to read and record the EPC numbers of the tags on each loaded pallet as it was placed on a truck for delivery.

The four-portal pilot system used a Matrics reader at each portal, each fitted with four antennas. Tag data read the readers was communicated, via network equipment from Cisco Systems, back to two HP ProLiant dual-processor servers running ShipCom's Catamaran software to manage the collection of the data and filter that data according to business criteria defined by Conros.

According to HP, one issue that had to be confronted before the pilot could be deployed was finding the right tags. The mixture of sawdust and wax used to create the logs is very dense material, and when the logs first

come off the production line they are still wet. Because of that density and wetness, the logs had the tendency to absorb RF, which could that interfere with the RFID reader's ability to read the tags.

"We had to take an entire pallet [loaded with cases of logs] to our labs to test how RFID would perform with the product," said Garcia.

With the pilot already proven on its logs, Conros is confident that extending RFID to its other products will be a relatively simple proposal. "We can duplicate this in other plants and on other products. We did the hardest product first," says Chandaria.

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