

THE PLANNING BEHIND AN RFID PILOT PROJECT

This specialty food manufacturer is testing an RFID (radio frequency identification)-based warehouse management system to reduce its inventory inaccuracies.

by *Kristen Chapin*

From reading Integrated Solutions and attending trade shows, you know about the problems involved in implementing RFID technology, such as low read rates and high tag failures. But, pilot projects add to our collective knowledge base and move us close to solving those problems. Nancy's Specialty Foods is one of the latest companies to implement an RFID pilot project, which went live at the end of March.

Nancy's is a manufacturer and distributor of gourmet food products, producing more than 35 tons daily. It operates an 86,000-square-foot manufacturing facility, from which its products are distributed to Nancy's sales channels. In its facility, approximately 6,000 square feet of space is dedicated to frozen storage at minus 10 F, where it stores finished products ready to be shipped and finished ingredient trays that will later be used as part of multi-pack products. The frozen storage areas are composed of our rows of racking, with thousands of slots for pallets and bins. Finished products are placed in slots close to the shipping doors, and ingredient trays are stored closer to the storage area's entrance to be accessed more easily when needed.

Nancy's uses a bar code-based inventory management system to track finished products and ingredients as forklift drivers move products and ingredients to and from the production and storage areas. The bar code scanners often freeze up in the cold temperatures, causing inventory inaccuracies and production downtime as forklift drivers search for ingredients they need. "It sometimes takes forklift drivers an hour to locate ingredients needed in production. That creates downtime throughout the entire production and packaging process," say David Siegfried, IT director for Nancy's.

Nancy's is subject Wal-Mart's 2006 RFID compliance mandate, so it decided to investigate whether that technology could solve its inventory



The forklifts in Nancy's Specialty Foods production and storage facility are equipped with an RFID solution that queries Nancy's WMS.

problems. "Implementing a technology just because we had to for Wal-Mart required additional proof of return on investment," says Siegfried. "The Wal-Mart initiative was more of a background force to getting the project started."

Nancy's found an RFID solution from Stratum Global, called TagNet, that provides location management capabilities, a key to solving its inventory and product-locating problems. The RFID solution is designed to begin in Nancy's production area and carry over to the frozen storage warehouse. Completed food products and ingredients are packaged in bins or pallets, RFID tags are placed on each bin or pallet, and the tags are commissioned by a mobile Intermec RFID interrogator. A forklift driver picks up a pallet, and a forklift-mounted Intermec RFID reader reads the tag information.

The Kathrein antennas mounted on the forklifts communicate with WMS (warehouse management system) via a WLAN (wireless-LAN) from Cisco in the warehouse. Preset parameters in the WMS tell the forklift operators where the pallets need to be placed in the frozen storage area. The information is communicated to the forklift drivers via a display terminal on the forklifts. RFID location tags at the entrance to each slot in the frozen storage area will verify the pallets are placed in the correct locations.

RFID SOLUTION NEEDS COMPLETE WLAN COVERAGE

During the last five months, the WLAN has been a difficult aspect of the solution. "The key to an RFID project is having an ironclad, rock-solid wireless network," Siegfried asserts. "Some people might tell you that one access point is all you need to support an RFID solution, but they don't understand the problems a warehouse setting brings to a wireless network." He cites the ever-changing environment of a warehouse (e.g. forklifts moving around, boxes and pallets stacked higher some days than others) as an obstacle to traditional WLAN setups. "We ended up putting in eight access points, mounting some of them on ceiling beams to get the coverage we needed," Siegfried continues. With wireless coverage of the entire warehouse, the RFID-enabled forklifts can be moved anywhere they are needed. □

Installation Profile

Technology User: Nancy's Specialty Foods is a manufacturer and distributor of gourmet food products selling through club stores and retail outlets. It operates an 86,000-square-foot manufacturing facility, from which food products are distributed to its sales channels.

Problem: Ten percent of Nancy's manufacturing facility is dedicated to storage at minus 10 F. Nancy's uses a bar code-based inventory management system to track products as forklift drivers move the products to and from the production and storage areas. The bar code scanners often freeze up in the cold temperatures, causing inventory inaccuracies and production downtime as forklift drivers search for products.

Solution: Nancy's is installing an RFID (radio frequency identification)-based warehouse management system in its manufacturing facility. The solution is composed of TagNet middleware and inventory management software from Stratum Global, Intermec's RFID readers and Intellitags, RFID antennas from vendor Kathrein, WLAN (wireless LAN) access points from Cisco, and VMU (vehicle mount unit) display terminals from Craft Data Limited.