

Mutual Drug

The Perfect Prescription for Error-Free Shipments

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Andrew Meyer,
Software Engineer and
Pilot Development Manager,
Mutual Drug

ABOUT THE COMPANY

- Mutual Drug (also known as North Carolina Mutual Wholesale Drug Company) is the wholesale distributor of choice among independent pharmacies in North Carolina, South Carolina and Virginia. The company was formed in 1952 by pharmacists for pharmacists. Mutual Drug provides its approximately 500 customers with a wide variety of merchandise, including scheduled drugs, over-the-counter medications, and other non-medical merchandise commonly found in pharmacies.

BUSINESS CHALLENGE

- Reduce shipping errors and associated costs due to conveyor belt “spin-off” incidents that lead to merchandise being loaded on the wrong delivery trucks.

SOLUTION

- RFID tracking system powered by RFID Anywhere

Each week, Mutual Drug ships thousands of totes (plastic merchandise containers) packed with over-the-counter medications, medical supplies and other goods ordered by the company's 500 independent pharmacy customers. The value of goods in each container can be as much as 10,000 dollars.

The merchandise is manually picked by Mutual Drug's warehouse staff. As each tote is filled, the employees place it on a conveyor belt that carries the tote to a diverter. The diverter then directs the tote to the correct shipping lane for loading onto delivery trucks.

Historically, the diverters have directed the totes to the proper shipping lanes by reading barcodes attached to the totes, which has not been as accurate as Mutual Drug would like. On an average night, there may be 15 to 20 errors where totes are diverted to the wrong lanes. While the staff who load the trucks visually check the totes and catch most of these errors, a number go undetected and wind up being shipped to the wrong customers. Andrew Meyer, Software Engineer and Pilot Development Manager at Mutual Drug, states, “On an annual basis, we're incorrectly shipping hundreds of totes, which costs us thousands of dollars.” Not only are unwanted costs generated and additional work caused for Mutual Drug, but it can also create dissatisfied customers.

IN SEARCH OF AN ERROR PROOF SHIPPING SYSTEM

“Errors like this certainly cause real dollar losses for us,” explains Meyer. “More important, though, we want to keep our customers happy, so they will continue buying from us.”

“It was clear,” adds Meyer, “that our barcode system was not error-proof. We were determined to improve the system and began looking for options to improve the accuracy of our shipments, track the locations of our totes at any given time and improve the efficiency of our entire order fulfillment system.”

At the time, the IT employees at Mutual Drug were hearing a lot about the potential of RFID (radio frequency identification) technology to improve asset tracking systems. The more they researched RFID, the more convinced they became that it could help them achieve their objectives. To determine the effectiveness of RFID, they decided to run a pilot.

PILOT PROGRAM POWERED BY RFID ANYWHERE

The pilot program was designed to

- determine if RFID technology would help Mutual Drug reduce or eliminate errors,
- test the effectiveness of different types of RFID tags, and
- evaluate RFID software infrastructure.

RESULTS

- Zero shipping errors
- Substantial cost savings
- Streamlined loading of trucks
- Increased customer satisfaction

INDUSTRY

- Transportation Logistics / Healthcare

SYSTEM CONFIGURATION

- Backend SQL Server database containing all product information runs on a Windows 2003 server
- RFID Anywhere runs on a Windows 2003 server
- Standalone Tracking Application also runs on a Windows XP laptop in the warehouse as a stand-alone error detection system
- Four Rock Boxes (a durable box containing a warning light and a RFID reader) are located along the warehouse diverter system
- Communication between the rock boxes and the error detection laptop is via RFID Anywhere
- Communication between the Rock Boxes and Omron V750 RFID readers is via RFID Anywhere
- Labels are printed from RFID Anywhere using Intermec PM4i printers

For the pilot, Mutual Drug selected a particular category of merchandise, defined by the zone it occupies in the warehouse. Mutual Drug chose RFID Anywhere from Sybase as the software to actually develop, deploy and manage the RFID network. Four Rock Boxes (a unit containing warning lights and a RFID sensor) were deployed in the warehouse to read the RFID tags and transmit that information to RFID Anywhere. An additional RFID Anywhere-powered stand-alone application was developed to run on a laptop PC in the warehouse. If a RFID reader detected an error, it would trigger a light connected to the rock box, and the specific error would appear on the laptop screen, making it easy for warehouse workers to find the tote in question and redirect it, thereby avoiding an erroneous shipment.

“In developing the system for our pilot,” says Meyer, “we received a lot of assistance from Sybase’s professional services organization. They helped us configure the system and wrote a number of custom business modules for us. They were also on site to ensure system performance and accuracy.”

PILOT RESULT: ZERO ERRORS

Mutual Drug ran the pilot in a number of waves to determine how the RFID system worked over time. “The consensus among management and our warehouse staff,” says Meyer, “was that it was a definite improvement over our existing system. Errors were detected and corrected more quickly; when a tote would go astray, it took our warehouse workers much less time to find it thanks to the RFID system. Most important, during our RFID pilot, we didn’t have a single incorrect shipment; that was very impressive and met our ultimate goal of zero errors.”

RFID ANYWHERE CRITICAL TO SUCCESS

Looking to the future, Mutual Drug expects to roll out its RFID tracking system across its entire shipping operation. In addition to tracking the merchandise ordered by its customers and ensuring it gets to the right locations, the company is planning to use RFID to track the actual totes. Meyer states that, “When we roll our RFID system out completely, we’ll realize tens of thousands of dollars in savings each year.”

“RFID Anywhere was critical to the success of our pilot,” says Meyer. “As we look to rolling RFID out across our entire operation, RFID Anywhere will certainly be at the heart of it. RFID Anywhere gives us the broad device support along with the development and deployment flexibility that is required for RFID projects. I highly recommend it for anyone looking at RFID software upon which to build solutions.”

ABOUT RFID ANYWHERE

RFID Anywhere simplifies the development, deployment, configuration and management tasks for highly distributed, multi-site, intelligent sensor networks, and abstracts the interaction with the physical network of devices. With support for over forty devices, this powerful infrastructure enables the creation of intelligent sensor networks out-of-the-box. By using RFID Anywhere, sensors are able to work together as an intelligent network by combining, organizing and coordinating these technologies through a common management structure, advanced feature set and event-driven development framework.

ABOUT SYBASE IANYWHERE

Sybase iAnywhere enables success at the front lines of business. The company holds worldwide market leadership positions in mobile and embedded databases, mobile management and security, mobile middleware and synchronization, and Bluetooth® and infrared protocol technologies. Tens of millions of mobile devices and over 20,000 customers and partners rely on the company's "Always Available" technologies, including SQL Anywhere and its Information Anywhere suite. iAnywhere is a subsidiary of Sybase, Inc. (NYSE:SY).