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AmerisourceBergen to Conduct HF/UHF RFID Pilot

Topics/Verticals: Supply Chain, IT/Infrastructure, Pharmaceutical

The pharmaceutical distributor is installing an EPCIS-based system to track tagged bottles and cases of drugs passing through one of its DCs. Pfizer and GlaxoSmithKline will be among the participating drugmakers.

By Claire Swedberg

Nov. 14, 2006—Drug distributor AmerisourceBergen will begin piloting an RFID solution using IBM's software and middleware, as well as an Electronic Product Code Information Service (EPCIS) data system, to track RFID-tagged bottles containing bulk quantities of pills and cases filled with multiple tagged bottles. VeriSign will provide integration services and querying capability for AmerisourceBergen and its business partners—drug manufacturers and retailers—across multiple EPCIS systems. EPCIS enables companies to store EPC numbers and related data in secure databases on the Web, and to share that data with different groups.

The pilot is scheduled to take place at the company's distribution center in Sacramento, Calif., during the first quarter of 2007. AmerisourceBergen expects the pilot to lead directly to permanent deployment of the system there, says Shay Reid, the firm's vice president for integrated solutions. Initially, Reid says, the company will use a variety of handheld and fixed RFID interrogators to read tagged cases of drugs as they enter the 300,000-square-foot distribution center. Presently, both Pfizer and GlaxoSmithKline (GSK) are already shipping RFID-tagged cases and items to AmerisourceBergen's DC in Sacramento, though the DC has not been reading the tags.

Christian Clauss

Prior to shipping the products to AmerisourceBergen, each drugmaker will apply high-frequency (HF) 13.56 MHz tags to bottles, and ultrahigh-frequency (UHF) tags to cases. The HF tags are made with NXP Semiconductors (Philips) Icode chips, encoded with EPCs. The drugmakers will record the tag ID numbers in an EPCIS database, which AmerisourceBergen can access. When a tagged shipment arrives at the Sacramento DC, AmerisourceBergen will capture the product name, the expiration date, the tag ID number and other RFID data encoded to the UHF EPC Gen 2 tags on the cases.

AmerisourceBergen personnel store the bottles in their cases for up to 30 days before removing them from the cases and putting them in totes—hard plastic containers—that transport orders to retailers. Prior to shipping the totes to pharmacies, workers will read the tag of each bottle in the tote, linking its EPC number to the date of departure and the destination. This data will then be stored in AmerisourceBergen's EPCIS database.

With the pilot, AmerisourceBergen hopes to determine the best hardware with the highest read rate and efficiency. The company expects to process 20 to 40 totes per minute, Reid predicts, with the reader capturing data from every individual bottle in each tote.

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AmerisourceBergen will use IBM's RFID System for Pharmaceutical Track and Trace to capture RFID data, and to manage the EPCIS database, as well. The WebSphere RFID Premises Server acts as middleware for the system and will pass RFID data from the interrogators deployed at receiving and shipping points to IBM's EPCIS-compliant repository, allowing AmerisourceBergen to manage its data and share it with drug manufacturers and retailers.

The company plans to utilize IBM's WebSphere Premises Server and intelligent readers embedded with IBM's WebSphere RFID Device Infrastructure. IBM released the Track and Trace system in August 2006 (see IBM Markets RFID Suite for Tracking Drugs). Currently, says Chris Clauss, a sensor-network executive at IBM Software Group, the drug distribution firm Cardinal Health is using the system.

"This will be the first step in evaluating the technology available and determining how we can deploy that technology in future steps," Reid says.

AmerisourceBergen chose to pilot the program at its Sacramento distribution center, which averages $2 billion to $4 billion worth of pharmaceutical products annually. The state of California recently passed SB 1476, a drug-pedigree law requiring manufacturers to start an electronic chain of custody throughout the supply chain to the retailer by 2008. The company intends to expand the RFID system to its two other DCs in California before that date.

In phase 2 of the program, slated for later in 2007, AmerisourceBergen plans to work to enable its manufacturing and retailing business partners to query and share RFID data across multiple EPCIS systems. Clauss says the system is designed for flexibility and speed. "We will be able to provide software infrastructure, information management and information sharing for tracking drugs while maintaining line speed," he says. "We're trying to do this without slowing operations down."