

Network software "worked as designed," but only 78 percent of the off-the-shelf tags were read during the trial.

Oct. 4, 2002 - The Auto-ID Center has released a "technical report" on the first phase of its field test, which began on October 1, 2002, when a pallet of Bounty paper towels was tagged at a Procter & Gamble manufacturing plant in Cape Girardeau, Mo. It arrived the next day at a Sam's Club in Tulsa, Okla., creating what Kevin Ashton, executive director of the center, refers to as the "beep heard round the world."

The main purpose of the test was to evaluate the network infrastructure developed by the center. The report says the technology worked "worked as designed," But it also says that only 78 percent of the off-the-shelf tags were read during the four-month trial. The report concludes that portal readers will not be able to provide 100 percent accuracy.

In phase one, the center tracked only pallets of goods. It started with Bounty Paper Towels. As the test progressed, other products were added. Gillette shipped tagged pallets of its Mach 3 razors in 16 packs from a distribution center outside of Chicago. And Unilever sent pallets of Liquid All laundry detergent from a facility in Baltimore, Md.

Since there were no readers or tags based on the Auto-ID Center's specification for reading electronic product codes, the field test engineers used 915 MHz tags from Intermec and portal readers from Savi Technology, a provider of supply chain tracking and security solutions. Savi did the integration work.

Portal readers were set up at exit doors at the manufacturing plants or distribution centers and at a receiving bay at the Sam's Club. The report says that only 78 percent of the tags passing the portal readers were read, but 97 percent of all pallets were properly identified because two tags were placed on each wooden pallet, which were supplied by CHEP International.

The report says that the low read rates were due mainly to hardware problems and human errors. Pallets went out doors without readers. Goods were put on pallets without tags. Once, the system was accidentally unplugged. One reader failed and one antenna was damaged.

The poor read rates show that RFID isn't perfect, but they aren't a sign that the Auto-ID Center's system won't work. The more important issue is the performance of three key pieces of technology created by the center to make it possible to identify any item anywhere in the world.

The first piece is the electronic product code, which acts as a unique ID for items. The Object Name Service points computer systems to information about specific items in a Web database. And Savant is distributed network software that manages the flow of RFID data from readers to existing software applications.

The report doesn't go into any detail about problems, bugs or other issues related to these elements of

the system. It says only that these three core elements performed as expected and that "the system is robust and scalable."

The center has also developed something called the Product Markup Language, a version of the XML computer language that the center hopes will be used to describe physical objects. The report says, "PML language has proven to be the most difficult problem to solve. It gives little detail, saying only: "There is a multitude of ways of describing a single object. Must be user driven in its development."

Phase two of the field test began on Feb. 1. The center is now tracking tagged cases of Caress soap, Pantene shampoo, Right Guard deodorant, Maxwell House Coffee and other products as they move across eight states in the U.S., from manufacturing and distribution facilities to the Sam's Club and a Wal-Mart store in Tulsa. The final phase of the field test in the U.S. will begin in January and last for at least three months. The center will begin tracking individual units in phase three.

Among the other end users participating in phase one were International Paper, Johnson & Johnson, Kraft, Coca-Cola, Uniform Code Council, Unilever, Westvaco, and Yeun Foong Yu Paper. The technology sponsors included Alien Technology, Checkpoint, Invensys Control, Markem Corp., NCR, Philips Semiconductors, Rafsec, Savi Technologies, Sensomatic, SAP Labs, and Sun Microsystems.

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