



CLAUDIA IMHOFF

Hey Dude – Where’s My Soda?

Imagine the following scenario: An individual can of your favorite cola is tracked throughout its entire manufacturing process. Then, it’s tracked throughout the distribution process – from the plant to the shelf of your favorite store – where it sits until you pick it up and proceed to leave the store without visiting a cash register. You’re not stealing; your credit card is automatically debited with the price of the soda. In addition, the quantity on hand in the store’s inventory control system is reduced, a reorder transaction is sent to the cola distributor and soon another shipment of colas is on its way to the store. If you choose, the can may even let you know when you are near a recycling barrel for disposal. Imagine that all of this occurs without any human intervention.

Does this sound like science fiction or a scenario from the future? Actually, as you read this column, the technology exists and is being implemented by large consumer packaged goods and retail companies.

The technology that makes it happen is called RFID, or radio frequency identification.¹ The ability to tag or label individual, otherwise not identifiable items is just one its many uses. Unlike bar codes, RFID systems can read the tags without line of sight or a particular orientation of the tag or reader.

The tags come in two flavors: passive and active. Passive tags work without an embedded power source. They get enough energy from the reader itself to communicate back to the reader and usually have a short, limited range for communication. Active tags have an embedded power source, allowing longer-range communications with readers. They also

contain read/write data storage, essentially acting as a small, portable, dynamic database.

One of the limiting factors to mass deployment today is the price point for the tags – currently they cost approximately 50 cents each. Therefore, it’s economical to use them to track railroad cars, overseas shipping containers and other valuables, but not a can of cola. As you might expect, though, prices are falling. The prediction is that they’ll run from one to five cents each within two years.

What does this mean to the savvy corporation? The potential for RFID is significant: simplified business processes, improved inventory control, reduced labor costs, increased revenues and reduced shrinkage, all leading to a more efficient and effective enterprise – and a heck of a lot more data (several orders of magnitude compared to what is collected today).

To put this new data to its best use for improved decision making, it has to be made available quickly throughout the organization, from supply side to demand side, to all of the individuals and systems who need its information to make decisions.

Standard operational or legacy systems do not have the flexibility in their database designs and cannot handle the flood of data RFID tags will produce. Even if they can receive the data, the flow of data through the various systems is often slower than the actual movement of the item itself! This is not very useful to the organization trying to improve its agility.

To solve this problem, there are two possibilities:

- A centralized database to capture, organize, consolidate and route the massive number of transactions read from passive tags, or

- Distributing the data by storing and maintaining its active tags, allowing other readers and systems to take advantage of its data locally.

This column focuses on the first alternative. Within the Corporate Information Factory architecture, such a current, integrated database is called the operational data store (ODS). Companies that create such a database for their RFID transactions will garner a great advantage over their competitors.

Let’s look closer at the relationship between the RFIDs and the ODS. The analogy that I use is that the ODS is the brain and the RFIDs are its nerves – communicating all the information needed to determine the environment’s health and well-being. The ODS is used to interpret what is happening in real time and then to share that intelligence with the rest of the body or enterprise so that good decisions are made for real-time operations.

Needless to say, the overall architecture to support this type of real-time enterprise is complex and untried ground for many corporations. The hardware and software may be complicated to coordinate for the RFIDs and their readers. My suggestion is that you start small – choose a part of the overall environment that can be carved out as a clean, well-defined project using RFIDs and prototype the ultimate implementation. Design the ODS with the future in mind – keep your eye on what fields will be used in the future and plan a scalable architecture for it that will grow with additional deployment of the RFID technology. Additionally, the business must consider how this new technology will affect its overall processes. Changes are inevitable and must be

planned. Roles and responsibilities will change or be eliminated; new ones may be created.

RFID technology has an interesting future and will make a valuable contribution to the overall real-time capabilities of a corporation. Certainly there is much to be worked out – privacy issues (Can consumers be “followed” using their RFIDs?), ROI

associated with the technological expenditures (What measures should you use?), changes in business processes and so on. These will certainly be worked out eventually; therefore, it is to your advantage to start planning for the new technology on the block by taking a hard look at the new utilization of the ODS. 

Reference:

1. For more information, see the following Web sites: www.rfidjournal.com and www.aimglobal.com.

Claudia Imhoff, Ph.D., is the president and founder of Intelligent Solutions (www.intelsols.com), a leading consultancy on CRM and business intelligence technologies and strategies. She is a popular speaker and internationally recognized expert and serves as an advisor to many corporations, universities and leading technology companies. She has coauthored five books and more than 50 articles on these topics. She may be reached at cimhoff@intelsols.com.