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Will Combining Tracking and Theft Protection in One Tag Drive RFID More Aggressively into the Consumer Goods to Retail Value Chain?

Metro Group to Pilot Concept with Checkpoint Systems; Could Make Incremental Cost of Item-Level RFID Modest

SCDigest Editorial Staff

Will the idea of combining traditional electronic article surveillance (EAS) tags widely used to deter shoplifting with electronic product code (EPC) RFID tags become a key catalyst to accelerate the slow movement of RFID into the consumer goods to retail value chain?

Just maybe. While such a system is probably two years away at least, the benefits and relatively low incremental cost could be bullish for item-level RFID tagging.

Two recent announcements have generated the interest:

- GS1 EPCglobal released two complementary documents – one an application guide, the other a technical specification – for using RFID for EAS and product tracking

- Germany's Metro Group store chain announced it would be working with Checkpoint Systems to pilot a combined tracking/EAS RFID system.

EAS has been used for two decades to combat theft in stores. Basically, the tag is a simple "on/off" wireless sensor that triggers an alarm if it moves through a portal type reader at a store exit without having been turned off as part of the purchasing process.

There are many different types of EAS tag factors, price points, and application models. For example, many manufacturers and retailers use source tagging at the point of production. Other retailers apply the tags in-store, especially those that are designed to be re-used. Some EAS tags are meant to

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be disposable, such as those commonly found on razor blades or batteries.

The fact that the manufacturer or retailer or both are already incurring a cost for the tag and the application of the tag to the product (item level) is a critical point. While RFID tags with EAS will still be more expensive than the lowest cost disposable tags, which can be just 1-2 cents each or even less, nonetheless that existing cost may help reduce the net incremental cost of going to RFID, which can provide many additional benefits. In addition, the incremental cost for applying the tag may be next to zero, as either the manufacturer or retailer is already invested in labor or automation to apply the EAS tags.

Of course, such tags now are generally used on just a subset of overall consumer goods, generally those that are expensive and prone to theft. That includes apparel, consumer electronics, some health and beauty products, entertainment media, etc. Often, retailers in the same basic category

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take very different approaches to their use of EAS.

Still, the use of an RFID-enabled EAS tag could be a breakthrough, as it would only modestly change an existing process for many manufacturers and retailers, and provide tracking and even shrink management benefits not available from traditional EAS tags. New POS software and readers of course would need to be deployed.

How it Would Work

In general, as noted above, existing EAS tags are simple on/off devices. In this new vision, an EPC tag carrying a unique EPC serial number would be attached, either at source or the store, to each item for which such control was desired.

If source tagged, the tags would be read as new merchandise entered a retail store. It is assumed that the retailer would want to use the RFID tags on the products to improve the speed and accuracy of the receiving process.

The tagged merchandise could also be tracked onto the store floor, to make cycle counts, etc., identical to the traditional vision of RFID at retail.

The main difference is that the backroom receipt would trigger adding the serial number of each item to that store's "unsold items" database – obviously, a new concept.

When a consumer purchases an item, a tag read at POS would change that serial number's status to "sold" or some similar designation.

So, when a consumer leaves the store, an RFID reader array/portal would query the tags, and verify that all the items have in fact been purchased. If a shoplifter tried to leave the store, the store system would recognize there were one of more "unsold" items being taken out, and sound an alarm similar to current EAS systems.

In addition to providing tracking and EAS in one

chip, there are other potential advantages. For example, if a shoplifter simply runs through the EAS portal currently, all that a retailer knows is that goods have been stolen. What products and how many are not known.

In the RFID/EAS vision, store management would know immediately down to the serial number what items and quantities were taken.

Checkpoint Systems and Tyco/ADT, both long time players in EAS and RFID, are two key technology players in this convergence.

Checkpoint says it has solved one big potential issue, and that is new technology that can focus the reader signal to only pick up tags going through the portal, not tags on products consumers may have in a cart or in their hands but not yet purchased as they pass near

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the readers. Too many false alarms like that would likely kill the concept.

"This is a very interesting concept, and one that may have some real legs," says SCDigest editor Dan Gilmore. "The change is very incremental. Someone is already applying an EAS tag on those products. Just swipe it out for a new, improved RFID version."

One potential barrier, he notes, are products that have large, re-usable tags that are very hard for potential shoplifters to remove.

"It's not immediately clear to me how you would make these combined tags difficult to remove by a shop-lifter," he said. "You also might need to be able to re-use these larger tags in someway."

The Strategy and Technical guidelines are available at no charge on the EPCglobal web site. See: **EAS/RFID documents**.