

## ***How the Right Technology Infrastructure Can Help Mid-Market Supply Chain Partners Comply with Retailer RFID Mandates***

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For most mid-market consumer product suppliers, the RFID compliance mandates of mass merchandisers like Wal-Mart and Target have not been top of mind – yet.

With most initial RFID mandates impacting only the top 200 or so suppliers, mid-market suppliers have been focused on more immediate supply chain issues and opportunities with greater proven ROI. But, as initial RFID pilots with the top-tier of manufacturers and distributors conclude, the next few waves of retailer RFID mandates will have their sights set squarely on tier-two mid-market suppliers. In fact, Wal-Mart, Target, and Best Buy have all already issued mandates that reach beyond their top tier of suppliers, phasing in additional suppliers in 2006 and 2007.

Successful mid-market consumer product suppliers know what to expect. As with EDI and other retailer compliance mandates, they will need to step up and meet the challenge, or face the consequences, which can range from lost sales to retailer deductions in the form of chargebacks. Simply put, lack of compliance can directly and negatively impact their bottom line.

But, savvy consumer product suppliers can also see an opportunity emerging. Meeting RFID compliance requirements, on or ahead of schedule, can differentiate a supplier from its competition. While some suppliers will be unable to meet the new RFID compliance requirements, opportunities exist for those who do to capitalize on increased sales at the expense of those not quite as quick on their feet.

### ***RFID: Compliance or Strategic Investment***

In a time of continued retailer price pressure and increasing costs due to factors such as rising fuel and transportation expenses, supplier margins are already being squeezed. Additional margin pressure due to non-compliance is not an option.

For a limited number of suppliers, RFID could be a strategic investment opportunity and not just a means to compliance. In some early RFID implementations, larger suppliers have taken the technology past “slap and ship” at the case and pallet level (the level most commonly required by current retailer mandates) and applied tags at the item level. They have incorporated RFID into a broader set of supply chain processes both inside and outside their own walls. The results: they have seen improvements in areas such as reduced out-of-stocks, reduced theft, and enhanced efficiencies in shipping, receiving, and cycle counting. The long term potential benefits from having the end-to-end, real-time item level supply chain visibility that can be provided by RFID tagging could offer potential ongoing returns to suppliers.

But, for a mid-market supplier with low per unit margins and only moderate unit volumes, who is facing a near-term compliance mandate, item level tagging could remain cost prohibitive in the foreseeable future. In addition to the initial outlay of capital for RFID printers and readers, and the costs to make operational process changes and to integrate data systems, the cost for just the RFID tags can still be around 25 cents per tag. Even at volumes of 10 million, the lowest current reported tag costs are still around 7.2 cents per tag. Most mid-market suppliers simply do not have the volume and margins to be able to justify the investment in RFID tags at the item level.

Additionally, a real key to end-to-end supply chain efficiency gains through RFID will be to have RFID tags applied – whether at the case, pallet or item level – at the point of manufacturing. This would enable RFID to be utilized for end-to-end shipping status and confirmation, receiving, and inventory control. Since a good portion of manufacturing occurs overseas, RFID tags will need to be sturdy and reliable enough to survive trans-oceanic shipping. RFID today has not yet proven to have this level of stability and reliability. Couple that with current costs, and for many mid-market suppliers - whose budgets are smaller than those of the Fortune 500 and whose manufacturing or sourcing is done overseas - the answer may be to meet basic compliance requirements now and wait for RFID technology to improve before making a more strategic investment.

### *Choose the Right Technology Infrastructure for Cost Effective Compliance*

If basic compliance with a “slap and ship” mandate is the initial goal, the ability of a mid-market supplier to achieve that compliance at the lowest possible cost will be critical to profitability. There are several factors to consider relating to technology in support of RFID, including software and middleware, process and data integration, and hardware (printers, readers, and tags).

As a starting point, consumer product suppliers faced with an RFID mandate will want to find out about their ERP or supply chain management solution provider’s ability to create, store and pass the retailer required RFID data from their existing software system to an RFID printer for tag production in the format requested by the retailer. In addition, since most RFID mandates today are limited to select products and/or select distribution center shipments, consumer product suppliers will also want to understand the ability of their system to detect when RFID processes are or are not required, and to automatically select and use them only when appropriate - at the right level (item, carton or pallet) and at the right place in the workflow.

In many cases, especially in legacy system implementations, system customization or additional middleware may be required to develop these needed capabilities. Or, in some cases, external or manual processes may be needed to work around costly customization requirements. The costs of customization versus the impacts of inefficient manual processes need to be weighed. Since RFID, like EDI, is probably going to become more pervasive and stay around for a while, external or manual processes will prove costly to productivity and efficiency over time. Consumer product suppliers should determine early on whether or not they will require additional middleware and/or need to upgrade or replace their core ERP or supply chain management system to one that supports RFID data and processes as a standard capability in order to minimize long term costs.

An ERP or supply chain management solution provider with expertise in the consumer product industry will likely have relationships with providers of the hardware needed to achieve RFID compliance, which will minimally include printers and tags. Readers, although they may not be required to achieve initial compliance, should also be given serious consideration, even for an initial compliance implementation.

Printers and readers are currently available in Gen 1 or Gen 2 standards, and are available from a variety of manufacturers. The role of the printer is to receive the RFID data from the software application, and correctly encode the data onto a compatible RFID tag.

The tags are affixed to the case, pallet or item, and are available in Class 0, Class 1, and Class 1 Gen 2 standards today from a variety of manufacturers. Careful consideration must be given to the tag to ensure compatibility with the printer and compliance with the retailer requirements, as well as to achieve high readability. Tag readability can be impacted by several factors, such as the product’s material make up (liquids, metals, etc.) as well as the general reading environment (high humidity, low or high temperature, etc.).

The role of the reader is to read back the data encoded on a tag to ensure it is readable and that the data is accurate. Most RFID printers also operate as readers, ensuring that - at least immediately upon printing - the RFID tag can be read. While including a reader in an RFID compliance initiative may cost more upfront, it will help in testing the RFID process and increase the likelihood of providing the retailer with readable tags. It can also be invaluable in diagnosing where in the process trouble is occurring if retail partners receive tags they find to be “unreadable” and resolving readability issues before they become a chargeback and profitability issue.

Regardless of whether the software solution provider engages hardware vendors or the consumer product supplier does so directly, it is critical that all work closely together on hardware and standards selection, interoperability, and testing. While “standards” may imply consistency and interoperability, RFID standards are still evolving rapidly and can be implemented with slight differences among manufacturers that can make this not the case. Not all Gen 1 or Gen 2 printers and readers are compatible with others of the same standard. And not all tags work with all printers. Proper selection and testing is critical to

ensuring proper encoding and readability, and to minimize errors, time-to-market for the solution, and overall costs.

While RFID offers select consumer product suppliers the potential for supply chain improvements and efficiency gains, in the short term it is for many a necessary compliance initiative to sustain or improve sales revenues from large retail partners and to minimize the potential of future related chargebacks. If done with the proper technology infrastructure, collaboration, and testing, suppliers can meet their RFID compliance mandates while minimizing their costs and perhaps even open up some sales opportunities.

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