SCALING UP RFID DEPLOYMENTS IN RETAIL

After running successful pilots for cycle counting and loss prevention, retailers are looking to extend the benefits of RFID across their operations. Tracking item-level inventory with RFID improves shelf availability, protects margins and provides the necessary infrastructure for omni-channel, mobile and supply chain initiatives.

Deploying RFID across a retail chain is quite different from deploying an RFID pilot in a single store or across a single product category.

Key Differences Between RFID Pilots and Multi-Store Deployments

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This guide details the specific components of multi-store RFID deployments, along with planning considerations for rollouts that comprise a large number of SKUs, stores and geographies.

WHAT’S IN THE PLANNING GUIDE?

This guide is designed to provide retail professionals with the background information to thoughtfully scope a multi-store RFID deployment, including:

- Solution Components of Chain-Wide RFID Solutions
- Building a Holistic View of Inventory Management
- Systems Architecture Considerations
- Extending RFID Use Cases
- Implementation Planning Processes

Helping Retailers Grow Profitably
All RFID deployments require specialized hardware, software and tags. When scaling beyond a pilot deployment, however, many other components come into play, including project management, systems integration, pre-tagging and encoding merchandise, managing electrical and construction services to integrate RFID hardware into existing store formats, software configuration, systems and data architecture, and finally, enterprise program management to ensure a successful implementation.

_Solution Components for RFID Pilots and Multi-Store Deployments_

Newly constructed stores can be RFID-enabled as part of the build process, but existing locations must be deployed rapidly, outside of store hours, to minimize disruption. For that reason, many retailers opt for phased rollouts, implementing stores by region or store format. Equipment is pre-staged and pre-configured, equipment is sourced, and store personnel are trained prior to each store’s “go live” date. An experienced program management team can manage complex project plans and diverse resources, making sure the chain-wide deployment runs smoothly.
When running an RFID inventory management pilot in a retail store, the emphasis is typically on cycle counting. Whereas in multi-store deployments, store inventory is managed from the time it is received at the loading dock, to when it moves from the back room to the sales floor, at point of sale, and at point of exit. RFID sensor data is integrated with a retailer’s existing inventory management systems to provide real-time visibility into merchandise location and movement across all store locations, DCs, and for vertically-integrated retailers, source manufacturing.

**Sources of Inventory Data for Multi-Store Deployments**

1. **Inbound Receiving** sensor data verifies incoming shipments, flags exceptions and moves merchandise location from DC to individual store.

2. **Front Store – Back Store** data tracks merchandise moving from the back room to the sales floor, indicating shelf availability.

3. **Cycle Counting** data verifies merchandise location and availability of fast moving items.

4. **Point-of-Sale** data tracks merchandise that has been sold and needs to be restocked.

5. **Point-of-Exit** data tracks items that have left the store and identifies those that have not been sold, enabling replenishment of stolen items, and further analysis into patterns of theft.

6. **System Integration** data verifies inbound shipments, simplifies assortment planning, store-to-store replenishment and omni-channel inventory management.
RFID sensor data from stores and DCs can increase exponentially as multiple locations come on line. Keeping real-time transaction data separate from aggregated data improves both the speed and cost effectiveness of the overall system.

**SYSTEM ARCHITECTURE CONSIDERATIONS**

Managing Sensor Data in a Multi-Store Deployment

This data architecture also provides exception handling and alerts at the process level, enabling store associates to address shipment and stocking errors as they occur, as illustrated in the Inbound Receiving process below.

**Exception Handling at the Store Level – Inbound Receiving Process**

- **ERP / WMS/ Inventory System**
  - Get Order Details from ASN
  - Assign/schedule delivery to store
  - Verify master inventory and store inventory

- **Checkpoint Merchandise Visibility™**
  - Receipt at dock door
  - Read package, contents
  - Validate against manifest
  - Operator feedback

- **Auto-ID Devices & Sensors**
  - RTLS, UWB, EAS, Wi-Fi, Barcode, Active/Passive RF, Alarms...

**Alert!** Shipment Does NOT match manifest. Verify with Shipper.
**EXTENDING RFID USE CASES**

Most RFID deployments start with the goal of managing inventory, specifically reducing out-of-stocks. But once inventory management is RFID-enabled, retailers also have the option of extending the use cases to increase sales and reduce costs throughout their operations.

### Extending RFID Use Cases to Other Business Functions

1. **RFID-Enabled Inventory Management**
   - **Starting Point for RFID Pilots**
     - Improve inventory accuracy
     - Reduce out-of-stocks
     - Reduce working capital
     - Increase sales

2. **RFID-Enabled Loss Prevention**
   - Leverage single RFID tag for inventory and LP
   - Restock stolen items to ensure merchandise availability
   - Integrate LP and inventory data to uncover patterns of theft

3. **RFID-Enhanced Customer Experience**
   - Improve merchandise availability
   - Enable additional merchandising options, enhance store layout flexibility
   - Support mobile POS, e-receipts, self-checkout, fitting rooms
   - Optimize omni-channel inventory

4. **RFID-Enabled Supply Chain**
   - Source tag to reduce labor costs, improve compliance
   - Gain visibility into inventory location and movement
   - Extend LP protection to cargo theft, vendor fraud, counterfeiting and diversion

- **RFID-Enabled Loss Prevention**: Once merchandise is tagged for RFID-enabled inventory management, the same tag can be used for loss prevention as well, reducing tagging costs. RFID also provides additional information about each item that enables retailers to know what has been stolen, to observe patterns of shrink and to take action accordingly.

- **RFID-Enabled Customer Experience**: With RFID inventory visibility, retailers are less likely to have out-of-stock items, so customers can find what they’re looking for. RFID also enables merchandising around the exit door, and can further enhance the customer experience by streamlining omni-channel inventory management and enabling mobile checkout.

- **RFID-Enabled Supply Chain**: Once an item is RFID tagged at source manufacturing, it can be tracked through the supply chain, improving sourcing, assortment planning and replenishment. The additional visibility can streamline source-to-store processes, reducing time to market for fashion retailers.
When moving from an RFID pilot to a multi-store deployment, much of the hands-on implementation must become a standardized, documented process that can be rolled out from store to store.

As project scope increases to include a large number of SKUs, stores and geographies, the importance of having a strong rollout plan increases as well.

As outlined in the diagram below, planning system design, sourcing, staging and tagging preparation off-site, away from store premises, can simplify multi-store deployments and minimize disruption.

**High-Level Implementation Process for Multi-Store Rollouts**

1. Systems Architecture
2. Rollout Plan by Location
3. Sourcing
4. Setup, Configuration, Staging
5. Bulk Tagging and Encoding
6. User Training
7. Phased DC Deployment
8. Phased Store Deployment
9. Chain-Wide RFID

Specifying systems architecture and individual store requirements early in the planning process helps inform the sourcing plan and allows for adequate lead time. Specifying management reports as part of the architecture helps to keep stakeholders informed. A training plan that takes staffing schedules into account and involves store managers early in the process helps to get employees engaged.

Pre-staging, configuring and testing system components for each store beforehand helps eliminate surprises on deployment day. Managing bulk tagging and encoding offsite through a service provider can provide a smooth transition to automated tagging and encoding at source manufacturing and DCs.
ABOUT CHECKPOINT SYSTEMS

Checkpoint Systems is a global leader in shrink management, merchandise visibility and apparel labeling solutions. Checkpoint partners with retailers and their suppliers to reduce shrink, improve shelf availability and leverage real-time data to achieve operational excellence. Checkpoint solutions are built upon 40 years of RF technology expertise, diverse shrink management offerings, a broad portfolio of apparel labeling solutions, market-leading RFID applications, innovative high-theft solutions and its Web-based Check-Net data management platform.

Checkpoint's solutions enable retailers to enhance the shopping experience for consumers, and grow their business profitably.