

Warehouse Automation for Retail & Grocery Client



Client: A leading grocery and general merchandise super-store company serving the central United States of America



Situation

The client envisioned a five-prong initiative to improve the retail value chain. The real-time Warehouse Automation program, a key prong, sought to:

- Reduce per-unit warehouse costs
 - Reduce manual handling
 - Optimize product storage and movement
 - Improve inventory accuracy
 - Decrease product residency in warehouse
- Increase warehouse throughput
- Improve delivery accuracy and timeliness to stores
- Contribute to reducing 'Out-Of-Stock' conditions in stores



Challenge

The engagement focused on converting the legacy batch-oriented system to a Just-In-Time model. Several challenges had to be overcome:

- The client was transforming its business operating model
- Existing IT skill sets were legacy mainframe oriented
- Existing business processes and KPIs were aligned with over-night batch processing system
- The real-time Warehouse program had to synchronize with the four other prongs in this initiative
- New technologies were being introduced throughout the warehouses and IT department



Action

As Project Manager and Lead Technical Architect, I led a team of architects, designers, developers, and testers.

- Managed several projects for the 'hard' real-time subsystems:
 - Receiving
 - Auto-Labeler
 - Scanner (Conveyor)
 - Hi-Lo (Fork-Lift) Movement
 - Carousel & Pick Modules
 - RF Subsystem
 - Shipping
- Crafted the overall technical architecture for warehouse and these subsystems



Result

The business transformation, financial, and technical benefits were achieved:

- Reduced warehouse costs while improving throughput, accuracy, and service to the stores
- Exceeded the 30,000 cases/day throughput goal by sustaining 300,000 cases/day

This real-time warehouse program increased warehouse throughput 10-fold without building new warehouses or adding staff.