

# WMS – A Scary Success

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# M-D Building Products Inc.

- Manufacturer and Distributor of Home Improvement Products
- Headquarters in Oklahoma City, Oklahoma



# Pre-Implementation

- Oracle Financials - 1991
- Oracle Manufacturing - 1996
- Upgraded to 11.5.9 - 2005
- Hosted by Oracle on Demand
- Custom, Legacy System for Order Administration and Distribution through June 2006

# Order Picking Pre-WMS

- Hand Held Scanners
- Custom Java Code
- No Inventory Reservation
- No Automated Release Capabilities
- Interfaces between Legacy System and Oracle Inventory and Financials
- Lack of Real-Time Information

# Challenges of Legacy System

- Customers Order in Each UOM and M-D Stocks and Ships Pack UOM
- Variety of Product Sizes
- Variety of Order Sizes

# Decision to Implement WMS

- Legacy System
  - Outdated Hardware
  - Outdated Software
- Improve Distribution Processes
- Improve Customer Service

# Project Team

- Full Time Team Participants
  - Finance
  - Customer Service
  - Distribution
  - IT
- Independent Consultants
- Support of Senior Management
  - Avoid Customizations
  - Change Business Processes

# Planning and Testing

- Need for Multiple Warehouse Layouts to Support Customer Requirements
- Three Sub-Inventories
  - FGLARGE
  - FGSMALL
  - FLOORCOV



# FGLARGE



# FGLARGE



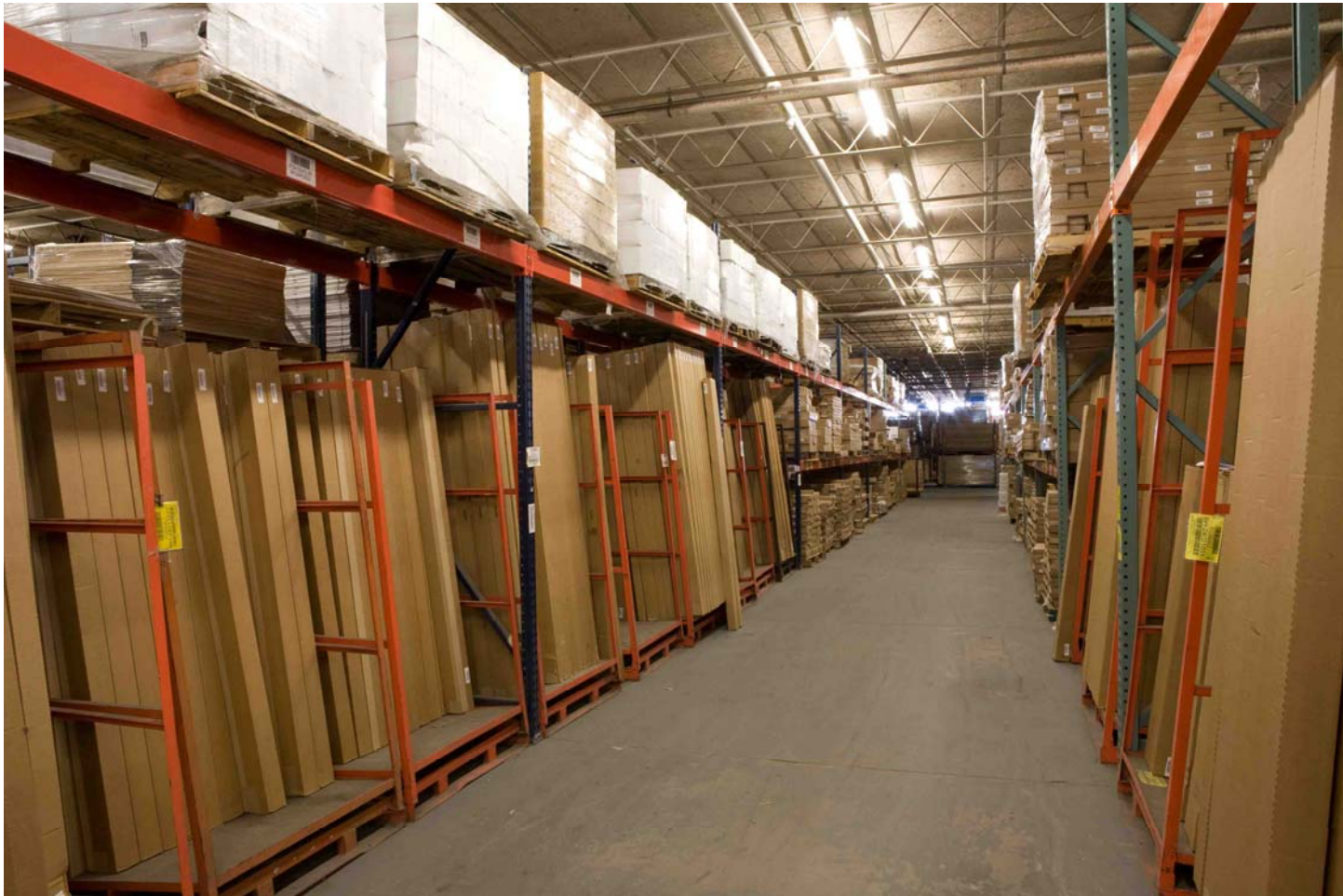
# FGLARGE



# FGSMALL



# FGSMALL



# FGSMALL



# FLOORCOV



# Warehouse Configuration

- Remove Carousels
- Install Racks for FGSMALL
- Continue to Ship



# Set-Up and Testing

- Picking Rules
- Picking Pack UOM
  - BIN Labels
- Training Manuals
- Confirmation Processes

# Bin Labels



# Testing Mistakes

- Overused Auto-Pick
- Assumed Infinite Inventory in Pick Locators

# Migration

- July 4, 2006
- Very Few Issues
- Ready for First Shipments July 5, 2006

# Go Live

- Went Well at First
- Problems with RF Network
  - Dropped Connections
  - Dead Areas
- Performance Issues with Consolidation/Confirmation Process
  - Printing Shipping Labels and Bills of Lading

# Go Live

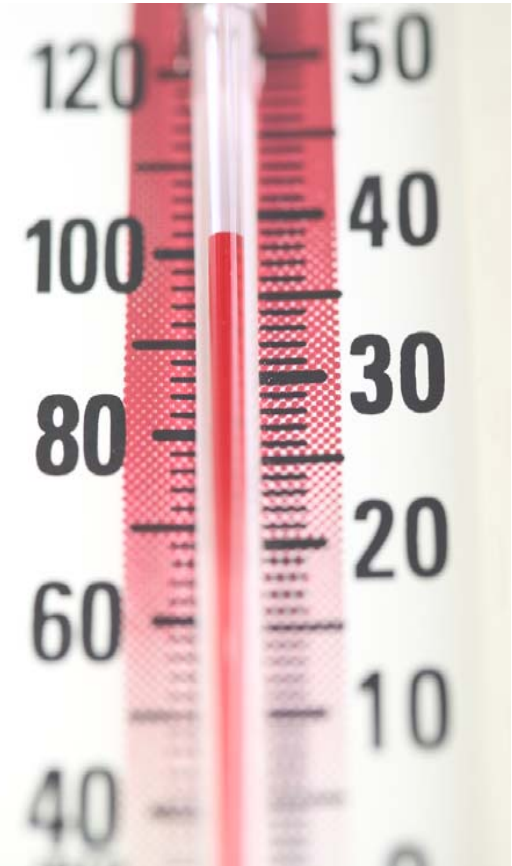
- Inappropriate Sizing of Pick Bins
  - Inventory Shortages Slowed Pick Release
  - Use of Ship Sets Compounded Inventory Issues
  - Avoided Situation when Testing
- Controlled Release of Orders for Picking

# Chaos!

- Accidental Release of All Orders
  - Over 2,000 Orders
  - Partially Picked Orders
  - Lack of Staging Space
  - Inventory Problems Magnified
  - Overload Consolidation Stations
- Continued RF Problems
- Problems with LPNs

# Chaos!

- Extended Hours
- All Hands On Deck
- Weather
  - 8<sup>th</sup> Hottest July on Record
  - Average Daily Temperature 86.3° F
  - 15 Consecutive Days over 100° F
  - No A/C





# Customers Suffered

- Late Orders
- Reduced Fill Rates
- Multiple Partial Shipments per Customer Order
- Shipped 50% of Planned Orders in July

# Resolutions

- Never Any Consideration to Retreat
- Mass Pick Release
  - Worked Through
  - Personalizations to Prevent
- Ship Sets
  - Expanded to All FGSMALL Customers
  - Spread Sheet to Simulate Pick Rules and Support Pick Release
- Radio Frequency Network
  - Addition and Relocation of Access Points and Antennas

# Resolutions

- Performance Problems
  - Patches
  - Data Purges
  - Label Printing
- Staffing Changes
  - Release Pit
  - Consolidation / Confirmation
- Resizing of Pick Bins

# Release Pit



# Success

- August 2006
  - Shipped Twice the Amount Planned
  - Eliminated Backlog
  - Record Shipping Month
- September 2006
  - Little Residual Effect on Customers
  - Distribution Costs Still Higher than Expected

# Today

- WMS Works Extremely Well
- Increased Knowledge
  - WMS System
  - Our Business
- Fast, Narrow Pipeline
- Don't Choke It

# Today

- 2007 Most Successful Shipping Year in Our History
- Distribution Labor Costs per Sales Dollar Has Decreased by more than 30%
- Labor Cost per Customer Order Has Decreased by 35%
- Measuring Efficiencies by Shift and Employee

# Today

- Increased Inventory Accuracy
- 25% Reduction in Finished Goods Inventory
- Improved Performance in Distribution
- Better Able to Support Changing Customer Demands



# Future

- Satellite Warehouses
- Replenishment
- Directed Put-Aways
- Increase Productivity
- Reduce Shipping Errors
- Inventory Accuracy
- Customer Satisfaction

# Questions and Answers