

# RFID Channel Seminar RFID Journal Live! 2006

May 1, 2006

MGM Grand Conference Center  
Las Vegas, Nevada



Putting RFID to Work

May 1, 2006



# Identifying and Integrating Vertical Market Opportunities: RFID Business Case

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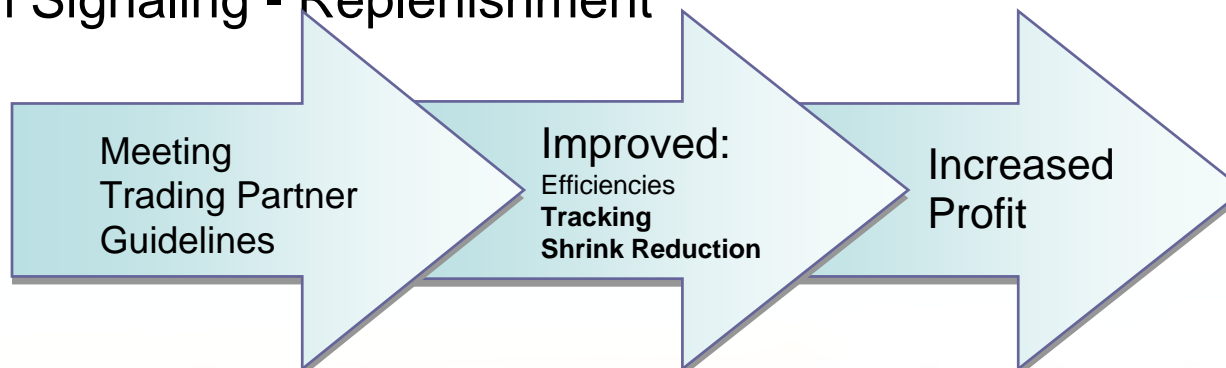
# RFID Business Case

- Why RFID?
- Why now?
- ROI ??
- Opportunities for System Integrators

# What is the RFID business case?

## Primary reasons why organizations adopt RFID technology:

- Improved control of stock and other assets
- Improved efficiencies in the supply chain
- Tracking of shipments
- Reduced shrinkage/theft
- Meeting major customer RFID initiatives (Mandates)
- WIP Tracking
- Just-In-Sequence Tracking
- Kanban Signaling - Replenishment



Sources: "Planning for Proliferation: The Impact of RFID on the Network", IDC, Mar '05; epcSolutions, Inc.

## Why organizations adopt RFID?

- Improved control of stock and other assets
  - “In Store, On Shelf”
  - At any given time, a typical retail store has 6% - 8% out-of-stock resulting in sales losses of about 4%.
  - Wal-mart estimates that a 1% improvement in their out-of-stock situation will result in over \$1 billion in additional sales per year.
  - At any given time, a typical retailer doesn't know the location of up to 20-30% of their merchandise.



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# Why organizations adopt RFID?

- Improved efficiencies in the supply chain
  - Enterprises gain through faster, more accurate and automated exchanges of information among collaborating enterprises.
  - Collaborative business environments are enhanced through the integration of data and documents to create business context.
  - Increased accuracy and visibility
  - Real-time decision making
- Greater Throughput
  - Faster than Barcodes
- More Data Flexibility
  - Able to share data with Business Partners
- Greater Data Collection Flexibility
  - Passive Data Collection (operator)
  - Does not normally require human intervention



# Why organizations adopt RFID?

- Tracking of shipments
  - RFID allows tracking throughout the supply chain, with suppliers, retailers and even end-users potentially tracking the location of goods on order.
  - Many organizations must comply with strict regulations regarding the manufacture and sale of restricted goods.
  - RFID improves the traceability of goods in the manufacturing process and can assist in conducting product recalls as a result of safety concerns (Smart Recalls)
- Information can be updated on the tag
  - Follow a shipment from beginning to end

## Why organizations adopt RFID?

- Reduced shrinkage/theft
  - Tags can be attached to high value items to validate authenticity, or guard against theft—within the supply chain of the organization or at retail outlets.
  - Most theft occurs in the supply chain
    - A case of Gillette razor blades has a value of \$1400
    - 40% of the razor blades used in Europe are “unpaid for”

#1 reason

## Why organizations adopt RFID?



- Meeting mandates

- Retailers like Wal\*Mart, Target and Best Buy, along with organizations like the US DoD are setting RFID specifications and guidelines
- Suppliers are “*asked*” to meet these specs
- For the suppliers affected, Wal\*Mart, the DoD and others is their business case.





# Solutions & Applications



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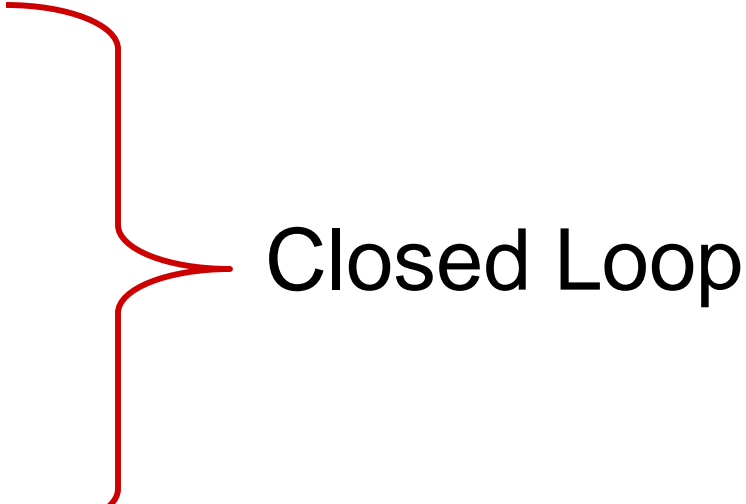
# *Open and Closed Loop Applications*



## Open and Closed Loop Applications

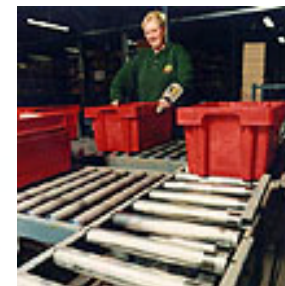
- Open Loop – using RFID tags to track the movement of products while allowing others to use/share this information.
- Closed Loop – applications that are considered standalone, only benefiting the primary company using the RFID tags.

# Open and Closed Loop Applications

- Examples:
    - Supply Chain Inventory – Open Loop
    - Baggage handling
    - Work in Process
    - Asset Tracking
    - Access Control
    - Tote Management
- Closed Loop
- 

# Common RFID Applications

- Baggage Handling
- Returnable Container Tracking
- Inventory Control
- Animal Identification
- Point of Purchase
- Toll Roads – Parking Garages
- Utility Companies
- Security Access Control



# Aviation & Airports

## Airlines

- Track food trolleys at multiple locations around the world.
- Baggage tracking from check-in to inspection machines, conveyors, loading piers, ULDs, and planes.

## Aviation Companies

- Track transportation vehicles, material handling equipment and other assets in the facility as they are received and move from shop to shop.
- Track the paperwork that goes with airplane parts as they move through the production process. Both teams hit on RFID and soon began working together
- Monitoring required maintenance of parts

# Hospitals

RFID system can be used to track patients, doctors and expensive equipment in hospitals in real time. RFID tags can be attached to the ID bracelets of all patients, or just patients requiring special attention,

Tracking of critical equipment and personnel locations is also possible through RFID technology.



# Healthcare Counterfeiting

- FDA has seen its counterfeit drug investigations increase to over 20 per year since 2000
- The WHO estimates 8 – 9% of drugs worldwide are counterfeit
- In some countries up to 50% of drugs are counterfeit
  - 192,000 deaths in China attributed to counterfeits
  - 33% of malaria drugs in Southeast Asia counterfeit

To the naked eye, counterfeit products can appear identical to authentic medications.



Source: FDA, Auto-ID Center



# Brand Authentication

Counterfeit brands have become a sad fact of life for many industries.

The apparel and entertainment industries have been particularly hard hit as counterfeit brands bleed off substantial sales and damage carefully crafted brand images.

RFID has recently taken the spotlight as a powerful brand protection solution, capable of identifying product pedigree and ensuring brand legitimacy down to the individual item level.



# Retail

Department Stores, Clothing Boutiques

- Apparel tracking

Fast Food Restaurants, Gasoline Stations

- Cashless payment systems

Grocery Stores

- Tracking trolleys

Hardware Stores

- Tracking lumber

Restaurants

- Convey belt plate tracking to identify spoiled sushi

Jewelry

- Tracking high value jewelry items to combat theft

# Manufacturing

Manufacturers can track and record in-process assembly information into the RFID tag as an item progresses along the line.

For example, as features are added to a personal computer assembly, they could be recorded on the tag.

In this case, the tag would keep a current "inventory" of the PC's contents.

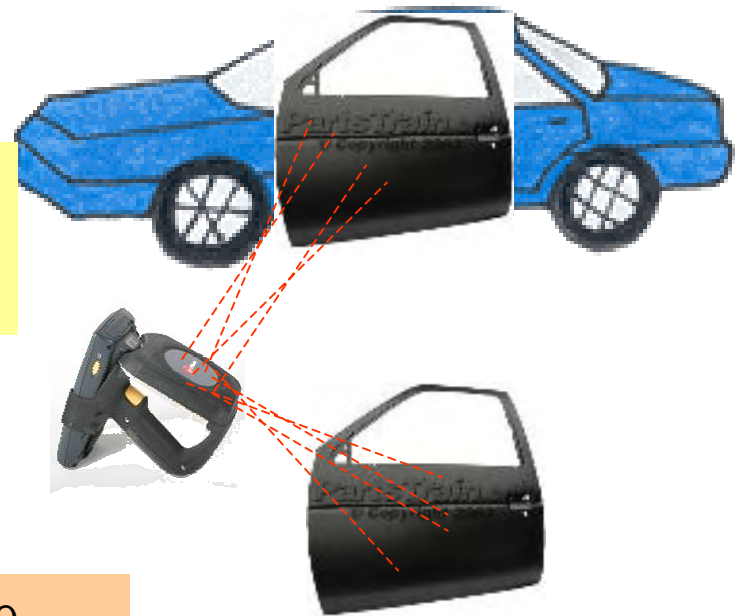


# Work in Process

- The work in progress solution focuses on the passage of components down an assembly line.

- An RFID tag is attached to components as they go through the manufacturing process.

Car chassis has just been spray painted.



Car Chassis and doors tags are read to marry them.



When the door is ready to be placed on the chassis the door and chassis tags will be read to insure they belong together.

Doors are removed to work on separately.

# Rental Car \ Car Dealership Lots

RFID systems can be used to manage inventory of automobiles in new and used car dealerships and in rental car lots.

RFID technology can automatically check cars into and out of the lot in real time.

RFID technology to track the location of each car in the lot at any time.



# Fleet Management

RFID technology, commercial, government, and private fleets can provide hands-free access to their maintenance depot.

RFID can *enable gate access, authorize fueling, and automate weighing operations*, while allowing all associated record-keeping to be automated.



# Library

Library can use RFID to check out books, videotapes, audiotapes, magazines, and CDs tagged with RFID labels.



# Agriculture & Livestock

- Food Distributors
  - Track and trace spoilage
  - Collect a shipment's temperature history
  - Take inventory of produce stored in freezer
  - Track high-value carts used to ship bedding plants
  - Track fresh produce through the retail supply chain
- Food Processors
  - Track weights on incoming nuts shipments
- Ranchers
  - Herd tracking allows pinpoint response to food recalls and herd management to control outbreaks of diseases
- Scientists
  - Animal tracking for monitoring wildlife studies

# Government

## Agency

- Department of Energy
- Department of Health and Human Services
- Department of Homeland
- Department of Labor
- Department of State

## Application

- Detection of prohibited articles
- Tracking the movement of materials
- Physical access control
- Border control, immigration and customs (U.S. Visitor and Immigrant Status Indicator Technology (US-VISIT))
- Location system
- Smart containers
- Tracking and identification of assets
- Tracking and identification for use in monitoring weapons
- Tracking and identification of baggage on flights
- Tracking and locating case files
- Electronic passport

# Government

## Agency

- Department of Transportation
- Department of the Treasury
- Department of Veterans Affairs
- Environmental Protection Agency
- General Services Administration
- National Aeronautics and Space Administration
- Social Security Administration

## Application

- Electronic screening
- Physical and logical access control
- Records management (tracking documents)
- Audible prescription reading
- Tracking and routing carriers along conveyor lines
- Tracking radioactive materials
- Distribution process
- Identification of contents of shipments
- Tracking assets
- Tracking of evidence and artifacts
- Hazardous material management
- Warehouse management

# RFIDEdge Customer's Applications



The business process is a customer will sign up online for an unlimited car wash program. The customer will get a vehicle Intermec Intellitag for the car. The IF5 reader at the car wash will detect the tag and start the car wash automatically after checking that the customer's account is current.

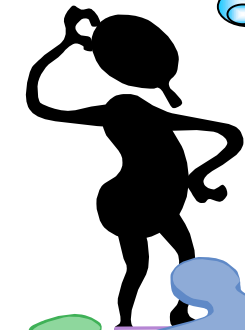


# *Reseller Opportunities*



# How big is the RFID opportunity?

Who knows?



Wal-Mart & Target  
10,000 to 20,000 ?

US Dept. of Defense  
45,000 to 60,000

Albertson's & Kroger  
???

Best Buy  
???

**100,000 Companies  
By 2010**

CVS Drugs  
???

Circuit City, Frye's  
Penny's, Sears,  
K-mart, Macy's,,  
Toys R Us,  
CostCo, Walgreen's,  
Home Depot, Lowes  
& Safeway (Tier 1)

US  
F.D.A.  
???

Closed Loop

(Still waiting on a cheap tag)

??????????????

# *Reseller Opportunities?*

**Get started!**



# How to get started even if you already have



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# Where do I start?

- First, be intentional.
- Gather intelligence on trends, standards and mandates
- Connect with the “Drivers” of initiatives
  - DoD - Wal\*Mart – EPCGlobal – others...
- Don't follow short term hype
- Look for the long term impact

# Internal Audit

- Reality check of internal competencies
  - Staffing – can we take on the new market?
  - Marketing – can we address the market?
  - Technical assets – can we make it work?
  - Financial viability – can we afford it?
- Risk / reward assessment
  - What happens if this fails?
  - What happens if this works?

# Filling the holes

- Hire new staff with expertise (if possible)
  - Hard to find and afford
- Train existing staff
  - Time away from current tasks
- Training available
  - From ScanSource
  - From Educational providers
  - From vendors
- Partner!

# Solution Expertise

- Think in terms of Whole Solutions
  - Examine the quality and completeness of your RFID solution
- This is not an opportunity for fulfillment
  - Keep your margins up
- Be ready to expand your horizons...
  - Lots of new “Edge” devices
- (More on solutions later...)

# Make a plan...

- Write down your RFID business plan
  - keep it handy - refer to it often
- Be intentional and hold your people accountable
- Set check-points and Sunrise dates
- Identify your potential customers
  - Existing customers first
- Be prepared to knock on some new doors

# Develop Key Partnerships

- Partner with key Vendors
- RFID vendors want good partners
  - Quality and reputation are important
    - their reputation is your hands
  - Commitment is required
    - no “tire-kickers”
  - Get certified (if required)
    - no “cheap-skates”
- Understand vendor strategies
  - get aligned - be a good partner

# Develop Key Partnerships

- Partner with other **SPs & ISVs**
- Think “Whole Solutions”
  - Hardware - Software – Testing – Services
  - Specialty hardware and services – Cabling
- “Not invented here” is dangerous
- RFID Solution Partner Program - ScanSource

# Develop Key Partnerships

- Partner with Trade Associations
- AIM - AI/DC companies
- CompTIA - IT companies
- All working together on an RFID certification program
  - CompTIA RFID+

# The Value of Certification

- *“Everybody’s an expert & nobody’s an expert”*
- End Users are looking for credibility
- Need experience to get experience
  - (every College Grad’s dilemma)
- The best answer is to get education from trusted sources.
- CompTIA is that trusted source
  - A+, Network+, and 9 others
- CompTIA RFID+ certification exam is set to go live March 28



# Develop Key Partnerships

- Partner with **ScanSource**
  - accelerate your plan
  - resources to make you successful
    - **Qualification Course**
      - **Short-cut to vendor authorizations**
    - **RFID Help Desk**
      - **Tech Support Team**
    - **Solutions Engineering Team**
      - **Consultation and implementation support**
  - an unbiased view
  - access to all the other relationships you need
    - Hardware - Software - Services - Media - Education