

# RFID at Electronics Arts

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# Agenda

- **Supply Chain Challenge**
- **RFID Implementation Perspective**
- **Electronics Arts Implementation**

# Supply Chain Challenge

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# Business Challenges

- **Product costs, shrinkage and waste**
  - Spoilage in the supply chain
  - Global shrinkage from expiry, loss, damage before delivery
- **Imbalance between supply and demand**
  - Stock outs
  - Inventory positions and visibility
- **Safety and counterfeiting**
  - Product diversion
  - Counterfeiting
  - Food and drug pedigree

# Business Processes with RFID Promise

## ▪ Claims Adjustment

- Prevent deductions with information reconciliation
- Reduced processing cost

## ▪ Asset Track and Trace

- Improved asset visibility, utilization and deployment
- Ownership, Ship, Receipt Process automation

## ▪ Promotion Monitoring

- Monitor and manage promotion plan based on actual sales
- Reduce processing with promotion display

## ▪ Enhanced Inventory Visibility

- Improved product velocity
- Improved code date management

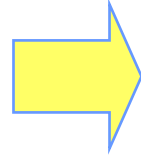
## ▪ Brand Protection

- Maintaining product authenticity consistent with brand image
- Counterfeit reduction

# Key Technology Capabilities Needed

## Information Granularity

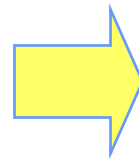
- Supply, Inventory, Demand



**RFID**

## Improved Response Time to Customer

- Enterprise architecture to bring together data, processes, and systems
- Exception identification and Management through business context
- Distributed intelligence



**Event driven architecture**  
**Service oriented architecture**

**RFID Integration is single biggest concern – 41%**

Source: CGEY Survey, 275 CPG respondents

# RFID Implementation Perspective

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# Uniquely TIBCO Heritage

## History Repeats Itself

- **RFID will create a fire hose of events**
  - Similar to what happened on Wall Street in the 80's
  - Moving from analog data to digital data
- **Software needed to manage and store small events, all in real-time**
- **Software needed to contextualize RFID events with business context**
- **Distributed intelligence to make local decisions**

# TIBCO's Leadership Today and Tomorrow

## Over 2,000 world-class customers



## Powerful ecosystem of strategic partners



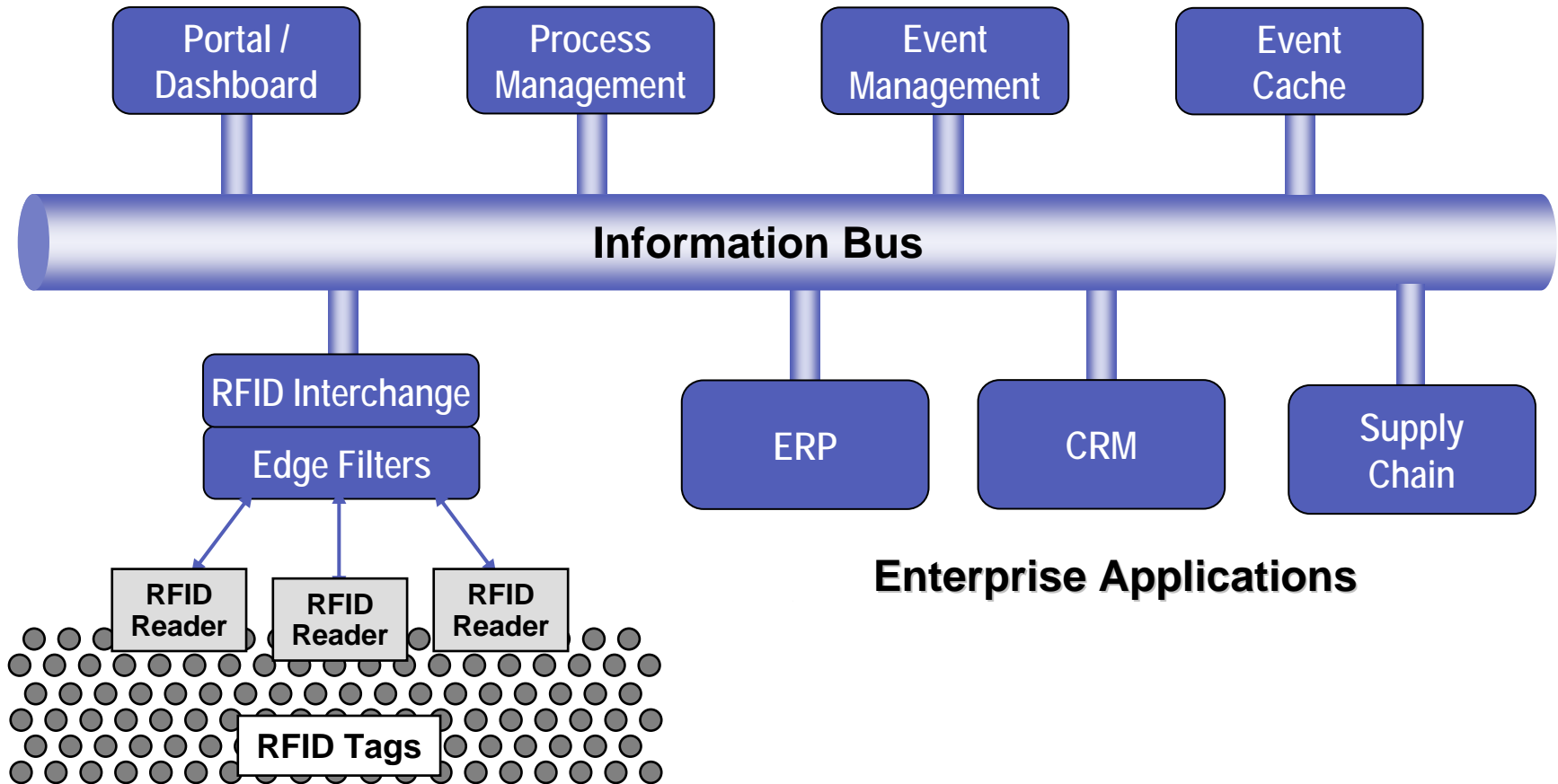
## Solid business performance

- #1 market share of independent integration companies
- Ranked as leader by analysts: Gartner, Forrester, IDC
- ~1400 Employees Worldwide
- 2004 revenues \$387.2 million, YOY Growth 47%
- \$474 million cash

# The Waves of RFID

	Wave	Business Drivers	Technology Focus	Timeframe
<b>1</b>	<p>“Slap and Ship”</p> <p>Concerned only with getting tags on units</p>	<p>Protect initial investment</p> <p>Scale for future mandates</p>	<p>Manageability of RFID infrastructure</p> <p>Infrastructure to support future data volume</p>	2004-05
<b>2</b>	Integrate	<p>Get real ROI on earlier investment</p> <ul style="list-style-type: none"> <li>▪ Operation efficiency</li> <li>▪ Reconciliation</li> </ul>	<p>Data storage and movement</p> <p>Contextualization with business process</p>	2004-06
<b>3</b>	Re-engineer	Event driven to take advantage of real-time, accurate identification; regulatory compliance	<p>Business context to RFID events</p> <p>Configurable business process</p> <p>Exception management</p>	2005-07
<b>4</b>	<p>Optimize</p> <p>Increase velocity of business</p>	Complete visibility of your business in motion	Complex Business Event Processing	2005-08

# TIBCO Architecture





# TIBCO Offering

## ▪ Information Bus

- Distributed architecture
- 15+ years experience in enterprise class messaging and monitoring
- Proven, very high RAS
- Location transparency and network independence

## ▪ Business process management

- Web services based distributed architecture
- Define and manage flow of activities across systems, organizations and people
- XML Framework and standard support



# RFID Innovation

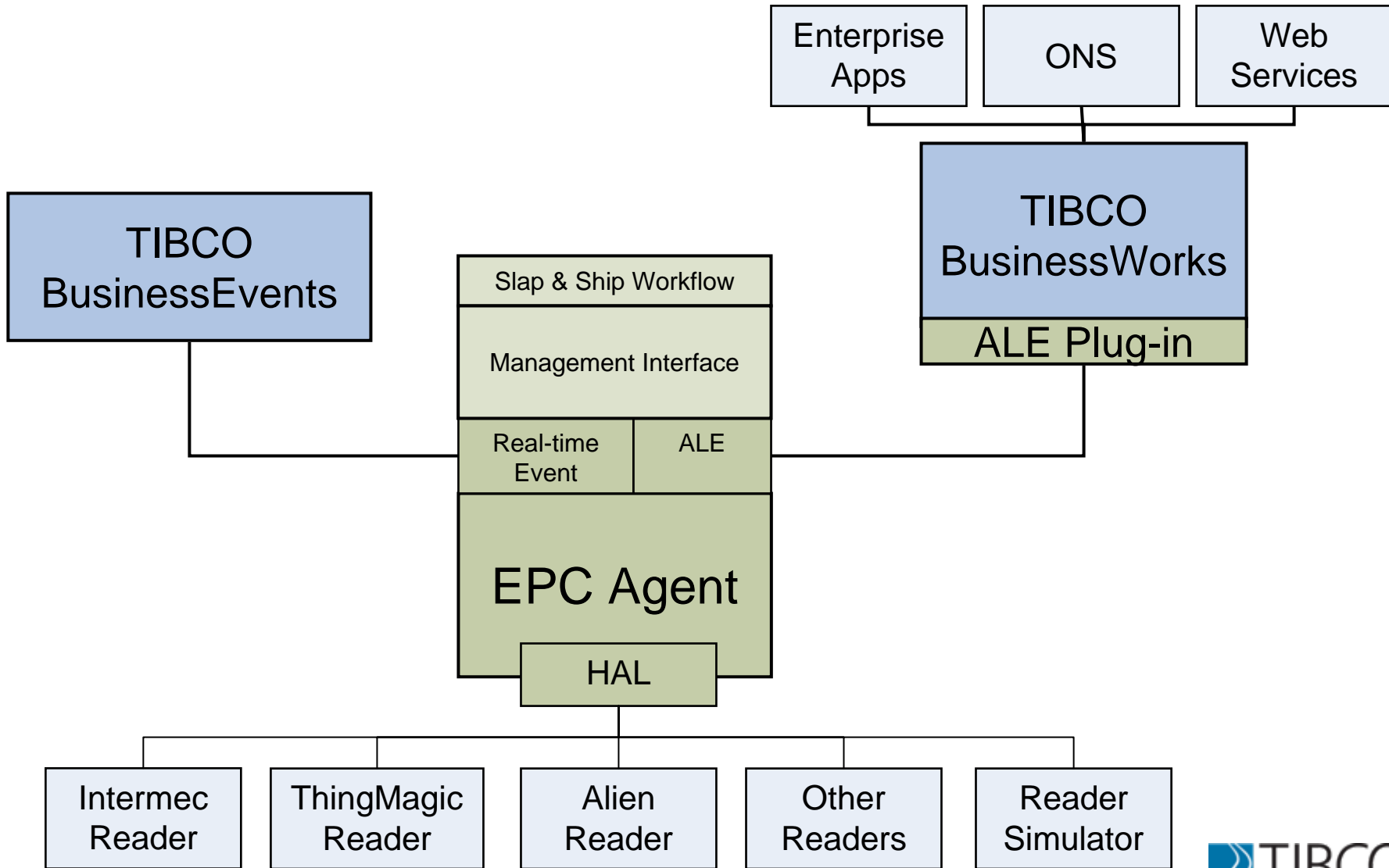
## ▪ RFID Interchange

- Intelligent data collection, abstraction from readers
- Smart collection and filtering of events
- Edge software management and monitoring

## ▪ BusinessEvents

- Centralized and edge of the network processing and rule engine capability
- Smart aggregation, and correlation for business event inference
- Message and cache based persistence
- Exception based business event alerts, decision support and real-time response

# TIBCO RFID InterChange



# Application Level Event (ALE) Subscription Specification

## Define filtering and condition of Reader events using ALE ECSpec

- Specify when based on duration or trigger
- Specify the filter based in include/exclude patterns
- Specify how the data is grouped
- Specify how the data is reported

## Work with RFID Activities



Define ECSpec



Immediate



List Definitions



List Subscriptions



Poll



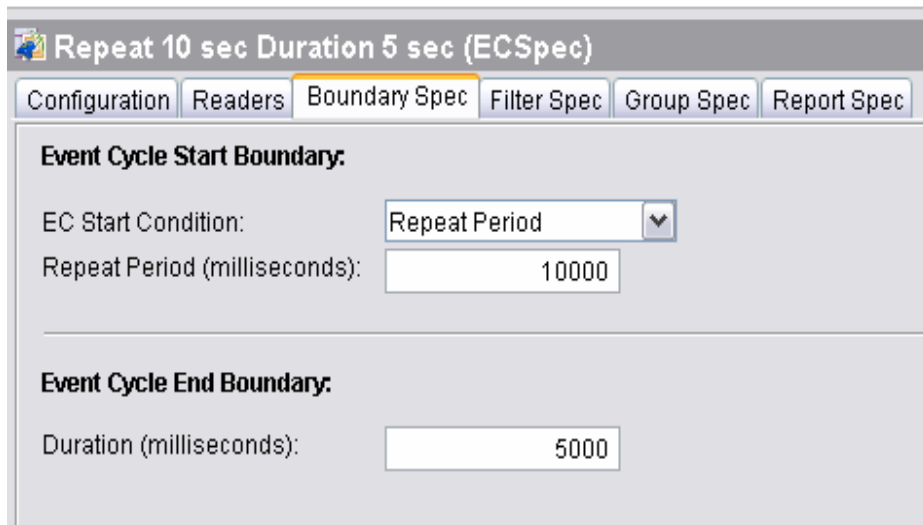
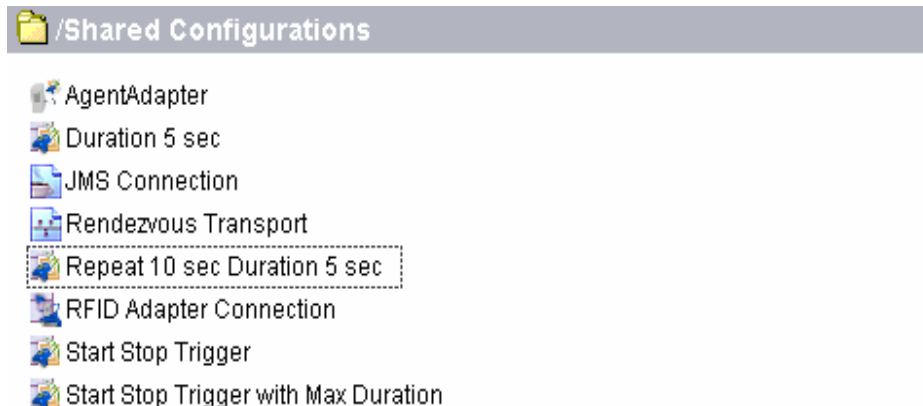
Subscribe



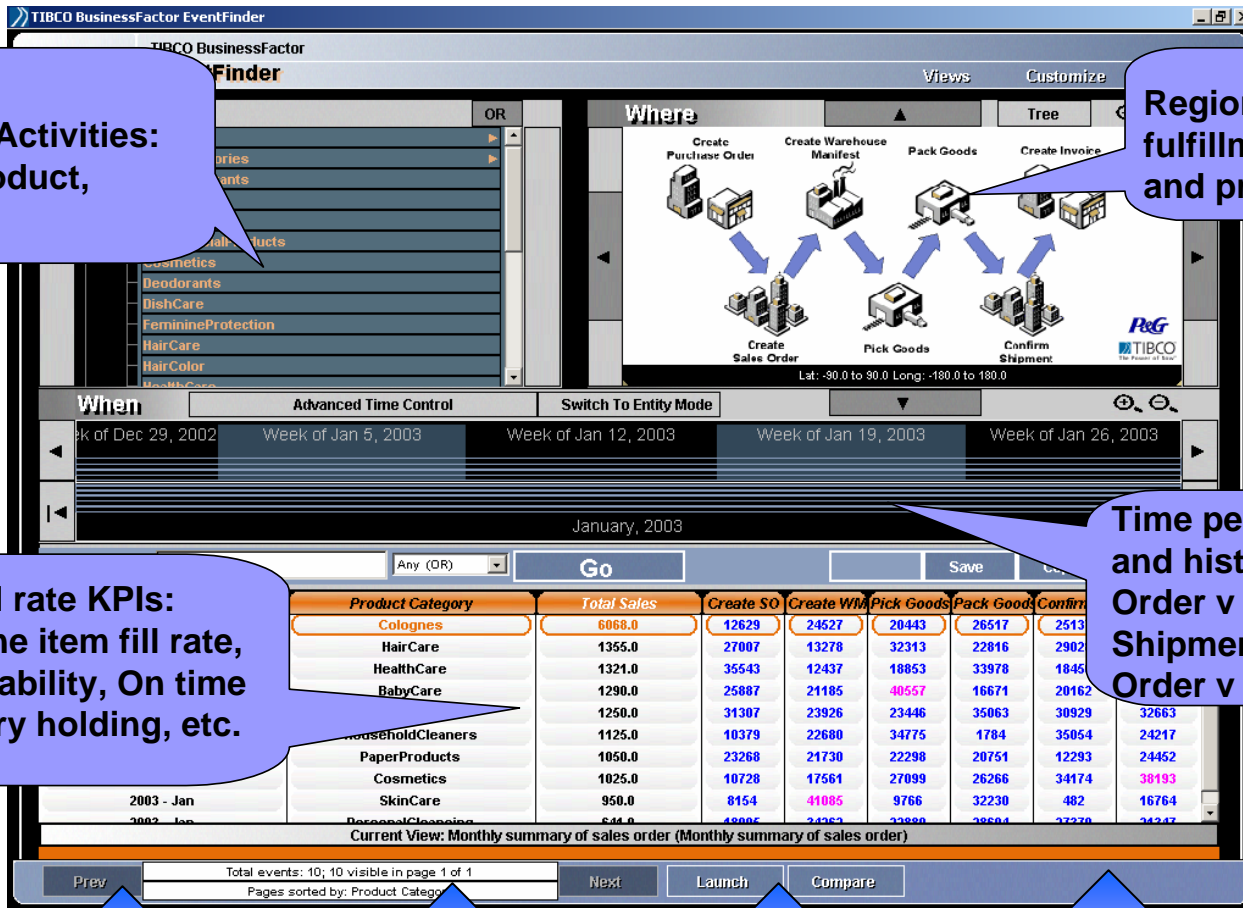
Undefine ECSpec



Unsubscribe



# Track and Trace Supply Chain



**Taxonomy of Activities:**  
Customer, Product, Region, etc.

**Regional / Global fulfillment locations and process**

**Lead time and fill rate KPIs:**  
Order fill rate, Line item fill rate, Cycle times, Variability, On time delivery, inventory holding, etc.

**Time periods for events and historical trending.**  
Order v forecast  
Shipment v forecast  
Order v inventory

Purchase order

Sales order  
Inventory  
PO  
Delivery Doc

Inventory  
Prod Order

Inventory Adj.  
Goods issue  
Packing Slip

Invoice  
Sales order

Order Mgmt

ERP

MES

WMS

Billing



# Pragmatic RFID Implementation Approach

- **“Slap and Ship” is only the beginning**
  - Software integration and services will be where more of your \$\$\$ will be spent
  - Software integration and services will also be where you get your ROI
- **Build upon a scalable, standards-based architecture**
  - Fire hose of events
  - Number of integration points
  - New applications you have not thought of
- **Begin with simple integration to understand all the issues, including ROI**
  - Shipment verification
  - Product velocity visibility

# Electronics Arts

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# Electronic Arts



**The world's leading interactive entertainment software company. Founded in 1982, Electronic Arts posted revenues of \$3 billion for fiscal 2004. The company develops, publishes and distributes interactive software worldwide for video game systems, personal computers and the Internet.**



# Profile

## ▪ Objective:

- Meet retailer mandate
- Implement extensible solution for business process management and product visibility

## ▪ Processes:

- Load RFID staging table with order details from WMS
- Create load by selecting the orders to be processed
- Print labels with SKU, tag mapping
- Apply labels to palettes and cases (Manual process should take care of single or mixed SKUs)
- Verify the tagging of the palette and case against the original load

## ▪ Systems:

- HK Systems/Irista WMS
- Zebra XML enabled printers
- Thingmagic Readers, Symbol tags

# Tag printing and shipping workflow

RFID-LTL1 - Remote Desktop

GI - Electronic Arts - Microsoft Internet Explorer

Address <http://eibtsap1.ea.com:12300/Rfid/projectsSLAPSHIP1.html>

ELECTRONIC ARTS™

Slap & Ship

Order List | Pallet List | Case List

Order ID # 17400465  Auto Refresh

Pallet ID # DCL0557516

SKU	Quantity	Print Success	Print Fail	Verify Count
14684	24	0	0	0
14685	24	0	0	0
14702	24	0	0	0
14703	24	0	0	0
14707	24	0	0	0
14710	24	0	0	0
14714	24	0	0	0
14715	24	0	0	0
14737	24	0	0	0
14738	24	0	0	0
14752	24	0	0	0
14758	24	0	0	0
14775	24	0	0	0

Quantity

start | Inbox - Microsoft Out... | American Diabetes As... | Slashdot | Back to Mo... | Midwest - distributor ... | rogerebert.com :: ... | RFID-LTL1 - Remote ... | 3:10 PM



- EA RFID Strategy
- Tag & Ship
- Integration Philosophy
- Q/A

# EA RFID Strategy

- **Compliment defined business practices**
- **Tag/Ship is the 'Big Learn'**
- **Full integration with enterprise middleware strategy**
- **Careful analysis of internal value add**
  - Infrastructure investment
  - Changing Business Practice
  - EPC Global
- **Real Value = Item level tagging**
  - Security
  - Confirmation
  - Push tagging to Manufacturing level



# Integration Philosophy

- **Best of breed integration approach**
- **Derive value by harvesting data**
- **Data needs to be seamlessly integrated with Warehouse & Transportation systems**
- **Proactive Event integration & Notification**
  - Email, Dashboards & Reporting

# Challenges

- **Tag Availability/Cost**
- **Tag Selection**
- **The Unknown**
- **Proving internal ROI**



# Q&A

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# Why TIBCO? TIBCO Heritage for RFID

- **TIBCO is uniquely positioned to take advantage of the emerging challenges of RFID technologies**
  - Early driver of RFID standards
  - Industry's most robust messaging products to support high throughput and scalability (already supporting stock exchanges)
  - Strong distributed architecture which enables information distribution and intelligence
  - Integration leadership to unlock Enterprise Applications content

