

# You say you want a Revolution



**Retail & Manufacturing Forum 2008**  
**Phoenix, AZ**

# Richard Mader

- Executive Director, Association for Retail Technology Standards (ARTS)
- 30+ Years as Retail IT Executive
  - Boscov's Department Stores
  - Bon-Ton Department Stores
  - Federated (Macy's) Department Stores
  - McCrory's Variety Stores

# National Retail Federation (NRF)

The world's largest retail trade association with membership that comprises all retail formats and channels of distribution including department, specialty, discount, catalog, Internet, independent stores, chain restaurants, drug stores and grocery stores as well as the industry's key trading partners of retail goods and services.

Represents an industry with:

- \$4.5 trillion sales in 2007
- 1.6 million U.S. retail companies
- 25 million employees



# ARTS

- Association for Retail Technology Standards (ARTS) the standards division of NRF
- Mission
  - To enable the low cost, rapid deployment of technology in retail by reducing integration efforts through platform independent, vendor neutral standards.

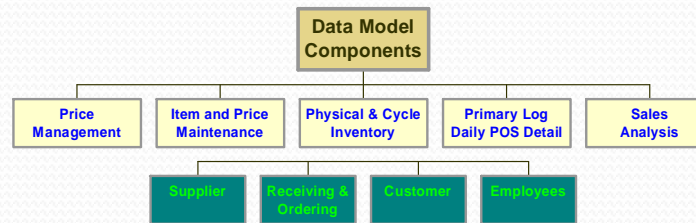


[WWW.NRF-ARTS.ORG](http://WWW.NRF-ARTS.ORG)



# ARTS Standards

- Data Model



- UnifiedPOS Standard Device Interface
- ARTS-XML Standard XML Messages
- Standard Requests for Proposal (RFP's) (ITT's)

# Today's Presentation

- Some thoughts on Retail
- Previous Revolutions
- Technologies to increase sales and profit
  - Mobile transactions
  - Video Analytics
  - SOA
- Keys to Success

# Thoughts on Retail

**Exciting**

**Constantly  
changing**

**Highly  
competitive**

# Thoughts on Retail

- USA has been over “stored” for many years
- Next generation shoppers are “on-line”
  - Kids do not talk they text
  - Growth of e-commerce
  - Future stores are display screens
- IT is no longer just expense reduction, it drives the business.

# Retail Operations

- Sales \$4.5 trillion
  - 55% debit and credit
  - 50% organized retail
- 10.4 million POS terminals
  - Average life 7+ years
  - Windows is principal OS

# Multiple Sales Channels

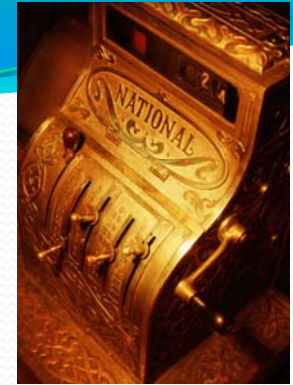
- Stores
- E-commerce, 20%+ growth rate, \$175 billion 2007  
3% total retail sales
- Catalog
- Kiosk

**Success requires consistent policies in all channels**

# Previous Revolutions

- **Fred Lazarus Jr**
  - Moved Thanksgiving
  - Fixture by size
- **Jeff Bezos**
  - E-commerce
- **Sam Walton**
  - EDLP/discount retailing
  - Logistics and IT support
- **UCC**
  - Bar Codes for product identification

# A Brief History of Retail IT



## 1960s

- Little, if any, automation
- Card and paper tape based system
- General & Class level stock ledgers
- Payroll

## 1970s

- Replenishment
- Databases Software
- Inventory at class or SKU
- First Electronic POS

## 1980s

- First retail specific applications.
- First data warehouses
- Inventory via bar code scanning
- Merchandise planning

## 1990s

- ERP Systems come to market
- Price Management Applications
- Demand replenishment
- Loyalty and CRM

# Today...

All retail business functions supported by IT

- **Enabled by...**

- Standardized Bar Codes and EDI
- Larger, faster and cheaper computers
- High-Speed networks
- **Internet**

# 3 - Tomorrow's Technologies

- Mobile Phones
- Video Analytics
- Service Oriented Architecture

# Mobile Transactions

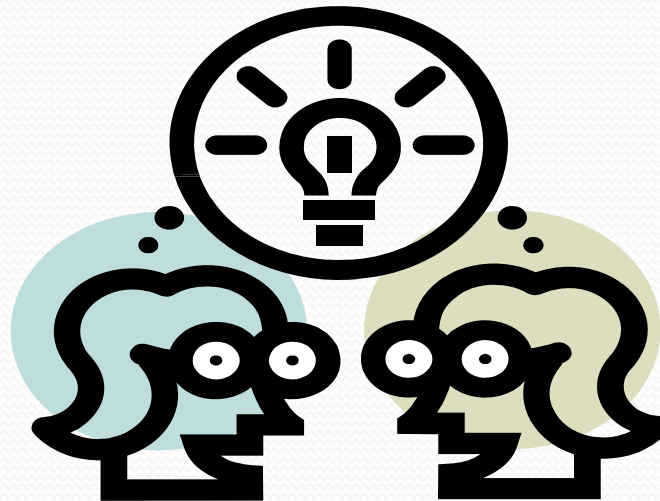
Forecast \$3.3 Billion by 2013

# Mobile in Retail

- **The mobile phone is the most widely-used technology ever**
  - **3.3 billion people have a mobile phone**
  - **1.4 billion have a credit card**
  - **1.3 billion use internet**

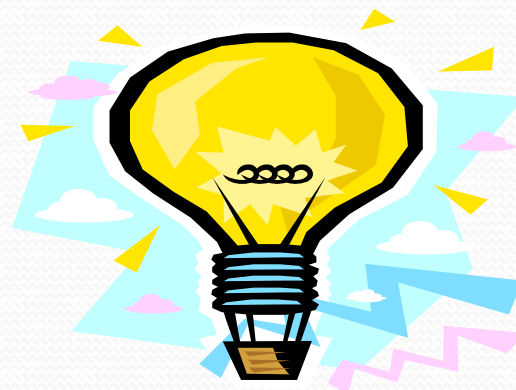
# Mobile Transactions

- Payments and Returns
  - Debit
  - Credit
  - Giftcards
  - Coupons
- Loyalty
- Inquires
- ???



# New Functionality

- Electronic receipts & warranties
- In-Store Promotions
  - Alerts as you walk by
  - Surprise in store specials
- Automate coupons (2D)
- Electronic wallet, stores all cards
- Text messaging for customer contact
  
- Your innovative Ideas



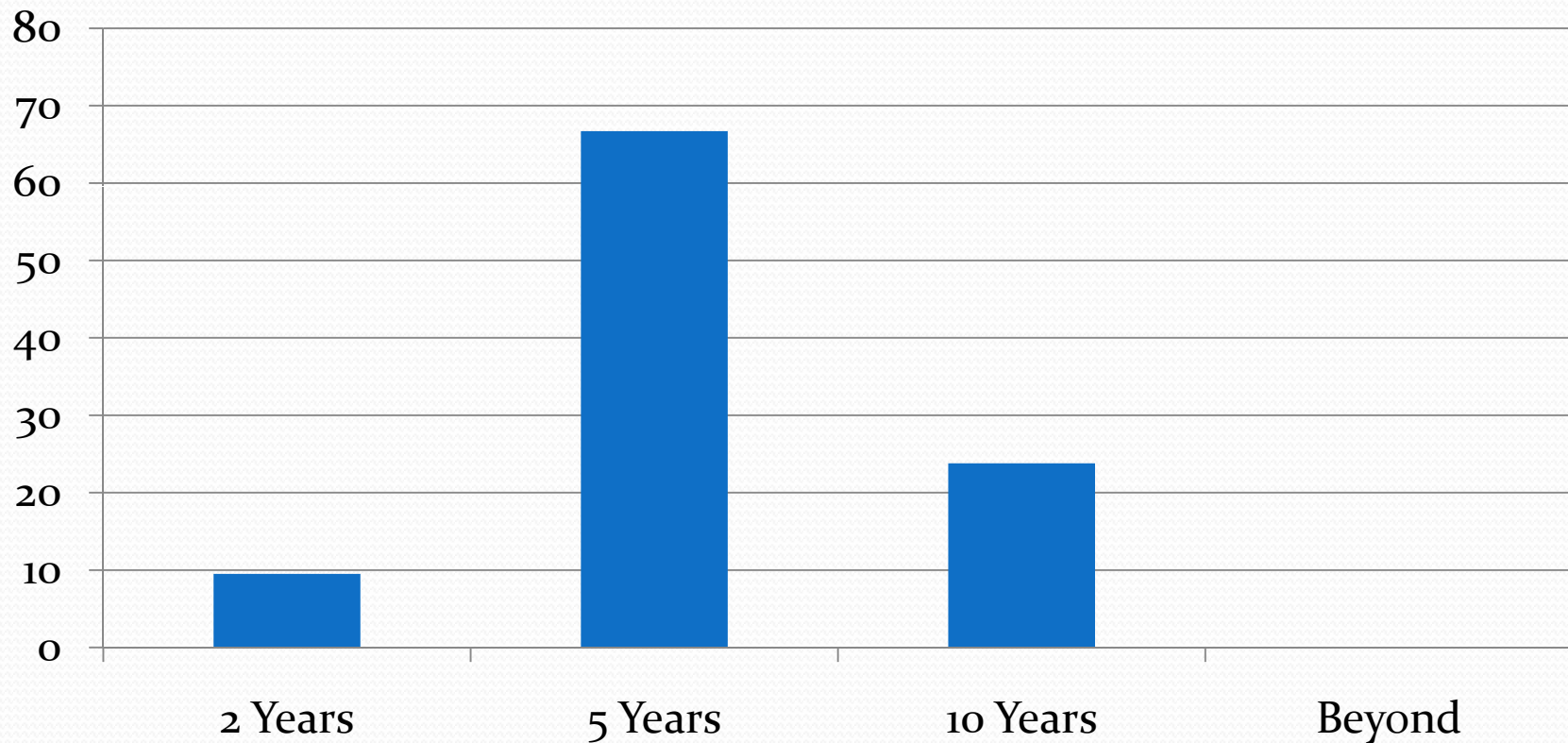
# Retailer Mobile Requirements

- Full transaction set
- No additional security regulations, PCI
- Include PIN number for Debit
  
- New Payment options
  - ACH – preferred
  - Phone Account

# Who is Testing Mobile

- Polo
- P&G
- Kroger
- Wells Fargo
- Visa

# When will it Happen



# Video Analytics

## Web Advantages with Personal Touch

# Video Analytics

- Cameras observe behavior and store conditions
- Convert images to data
- Issue real time alerts
  - Clean a spill
  - Open a checkout
  - Item out of stock
  - Organize display
- Store data for analysis

# Video Intelligence for Retail

## Marketing / Merchandising

- Localize planning
- Understand in-store customer behavior

## Loss Prevention

- Detect & Prevent shoplifters
- Combat ORC
- Control employee theft

## Store Operations

- Improve customer service
- Reduce waiting
- Improve efficiency
- Customer safety

## Supply Chain

- Input to Stat-forecasting
- Out-of-Stock alerts



Video Analytic  
Application and  
Network



# VA: Capabilities to Employ

- Cisco teleconferencing – communicate from anywhere
  - Screen is on-line
  - Converse and watch from anywhere
  - Imagine, digital signs that talk to customers
- Harrah's – action kiosk
  - Swipe card
  - Order drink
  - Will delivery to you anywhere on casino floor
- NEC facial recognition at POS

# Challenge - Privacy

Negotiate  
services versus  
intrusion



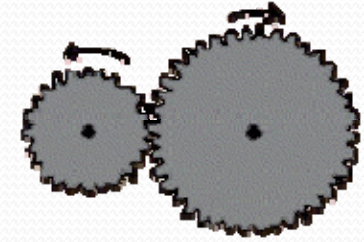
# ARTS has Standardize VA Data

- Integrate multiple VA application
- Mix camera and software providers
- Use existing BI tools
- Incorporate new data into Model and Warehouse

# Service Oriented Architecture

## SOA – Tying it all together

# A company's most important strategic asset is its ability to respond to change

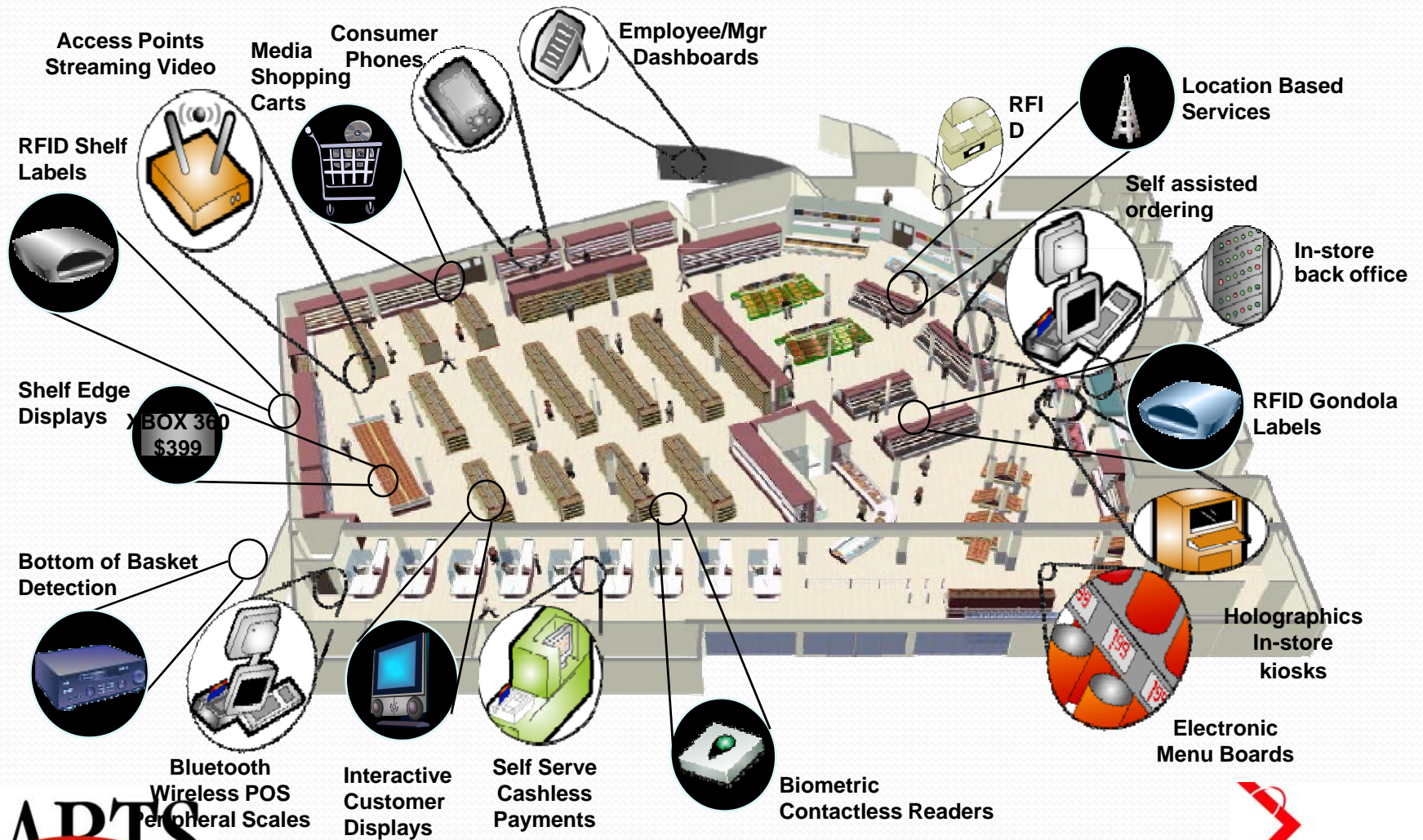


- ➔ This requires *Speed* and *Agility*...
- ➔ Which is enabled by:
  - ➔ a well defined, **agile IT infrastructure**...
  - ➔ And an Enterprise View **of IT as a strategic assets** to meet new business challenges,

**Brian Kilcourse , RSR, 2001**



# The Future Connected Store...



# A Solution for Interoperability

## SOA is a Strategy, Not a Product!

Service-oriented architecture (SOA) is an *architectural style* for building *distributed systems* that deliver application functionality as services to be used for end-user applications, **that is built on OPEN STANDARDS**

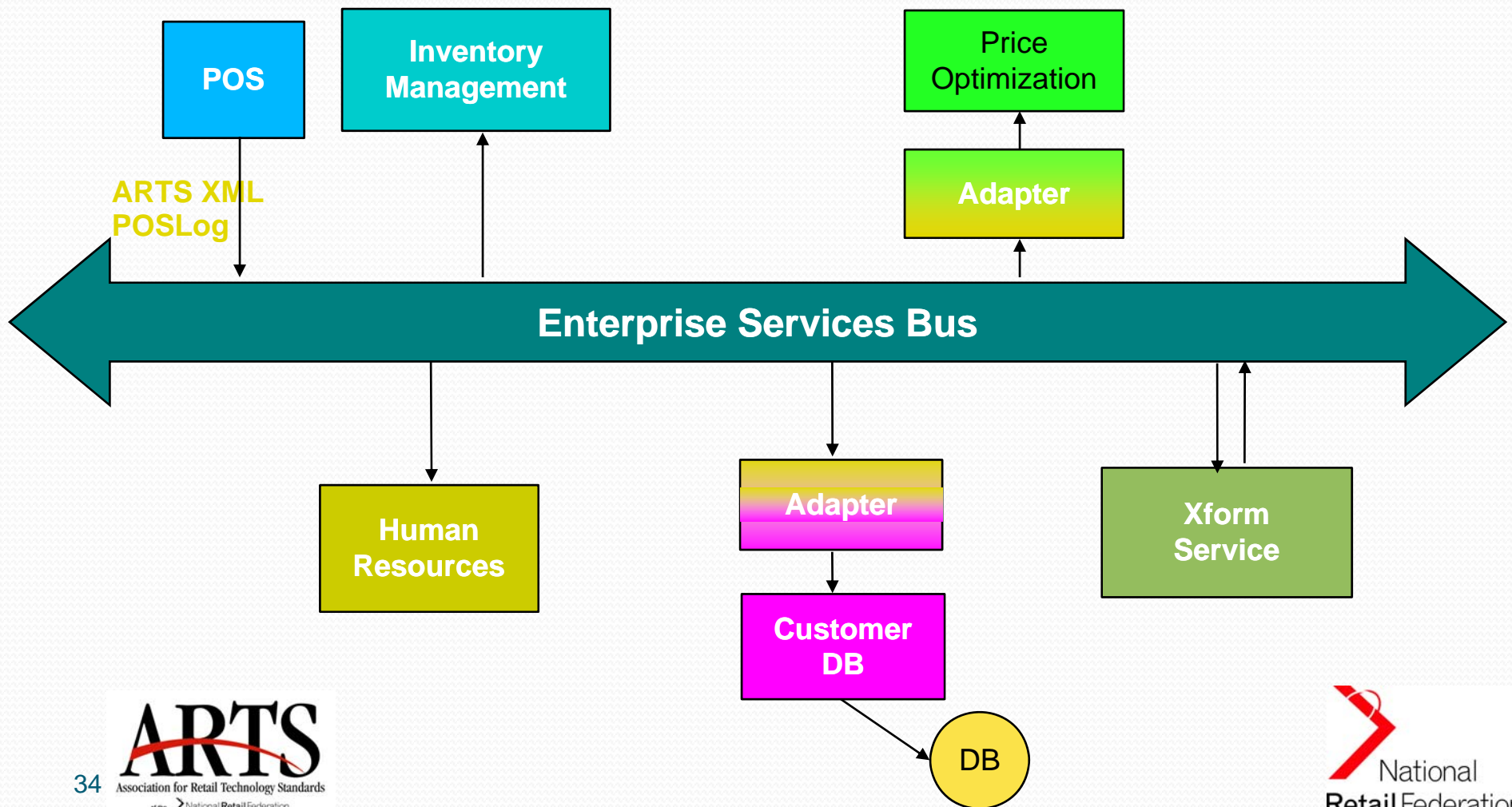
SOA is ideal for use in an IT environment with software and hardware from multiple vendors

# SOA Objectives

- **Agility** – Faster response to changing business practices
- **Integration** – Rapid implementation of new business applications
- **Reusable Business Logic** – assemble applications from “services”
- **Channel & Platform Transparency**

# ESB: A SOA Integration method for Retail IT Components

## Standardized Retail IT Components



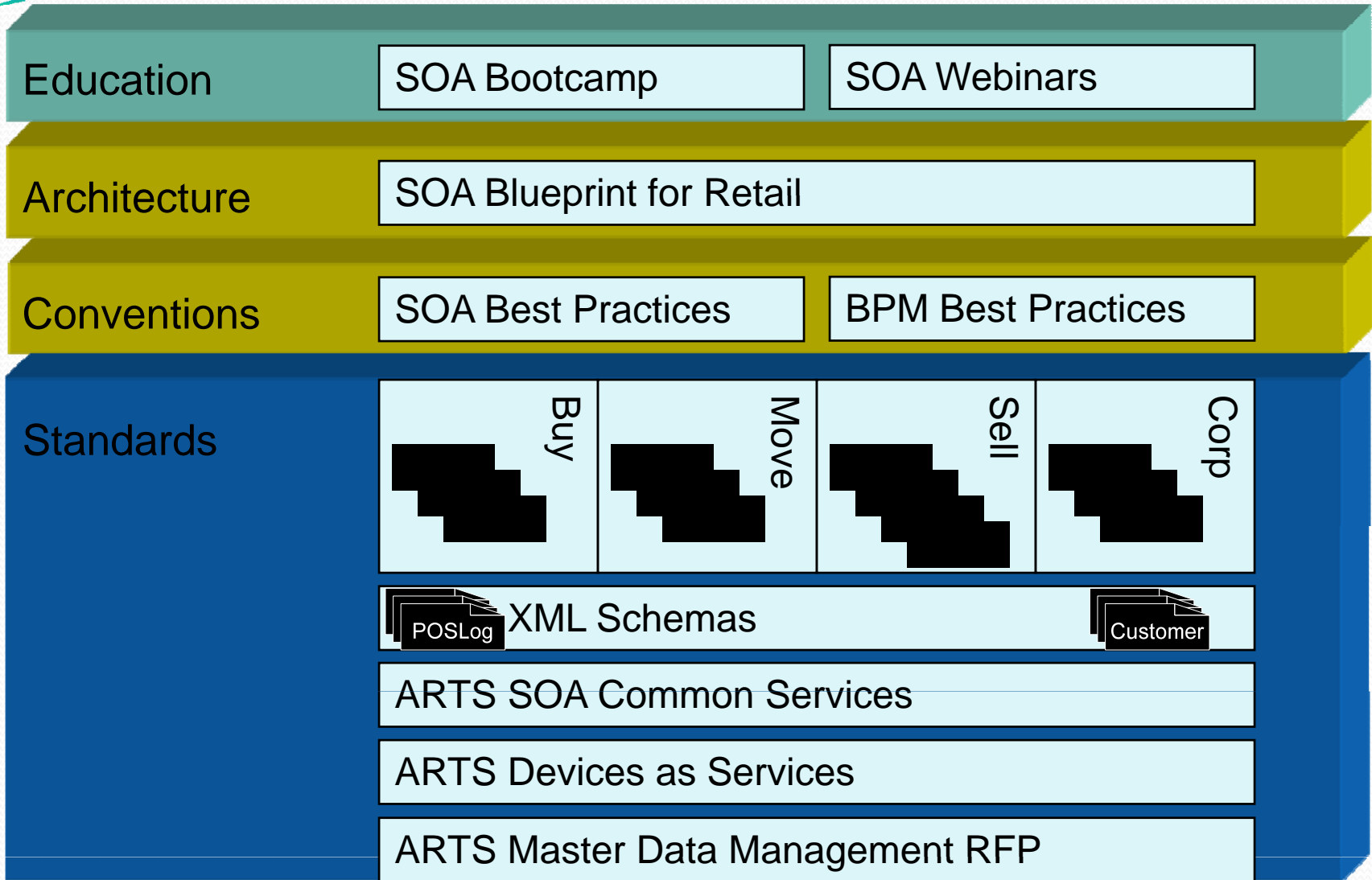
# SOA Implementations

- **The Home Depot**
- **Pier 1**
- **Harrods**
- **Nordstrom**
- **World Duty Free**
- **WH Smith**
- **Carrefour**
- **J. Sainsbury**
- **JC Penney Co.**
- **Galleries Layette**

# Retail and SOA

- **Harrods:** created a single view of customer information
- **Carrefour:** migrated 42 legacy applications to SAP Retail and centralized their product databases into a single repository
- **Sainsbury:** created consistent supply chain information.

# ARTS Support for SOA



# Applicable ARTS Standards

- ARTS –
  - Data Model and Dictionary for Retail context
  - XML Schemas for retail transactions
    - POS
    - Stored Value
    - Digital Receipt
    - Customer Loyalty
    - Video Analytics
  - UnifiedPOS
    - NRF reader connectivity
    - Electronic money

[www.NRF-ARTS.org](http://www.NRF-ARTS.org)

# Questions and Discussion

Thank You for Opportunity

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