

# RFID Journal LIVE! 2006

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### Las Vegas, Nevada



Putting RFID to Work



May 2, 2006



# Technology Demonstration: Using EPC Network Standards to Build an E-Pedigree Across a Supply Chain

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Putting RFID to Work

May 2, 2006



**“Using EPC Network standards to build an electronic pedigree across a supply chain”**

**A conference session at RFID Journal Live!  
Tuesday, May 2<sup>nd</sup>, 2006 – Las Vegas, NV  
IBM WebSphere RFID Information Center Team**



**Putting RFID to Work**

May 2, 2006

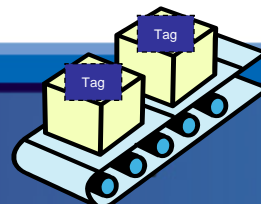
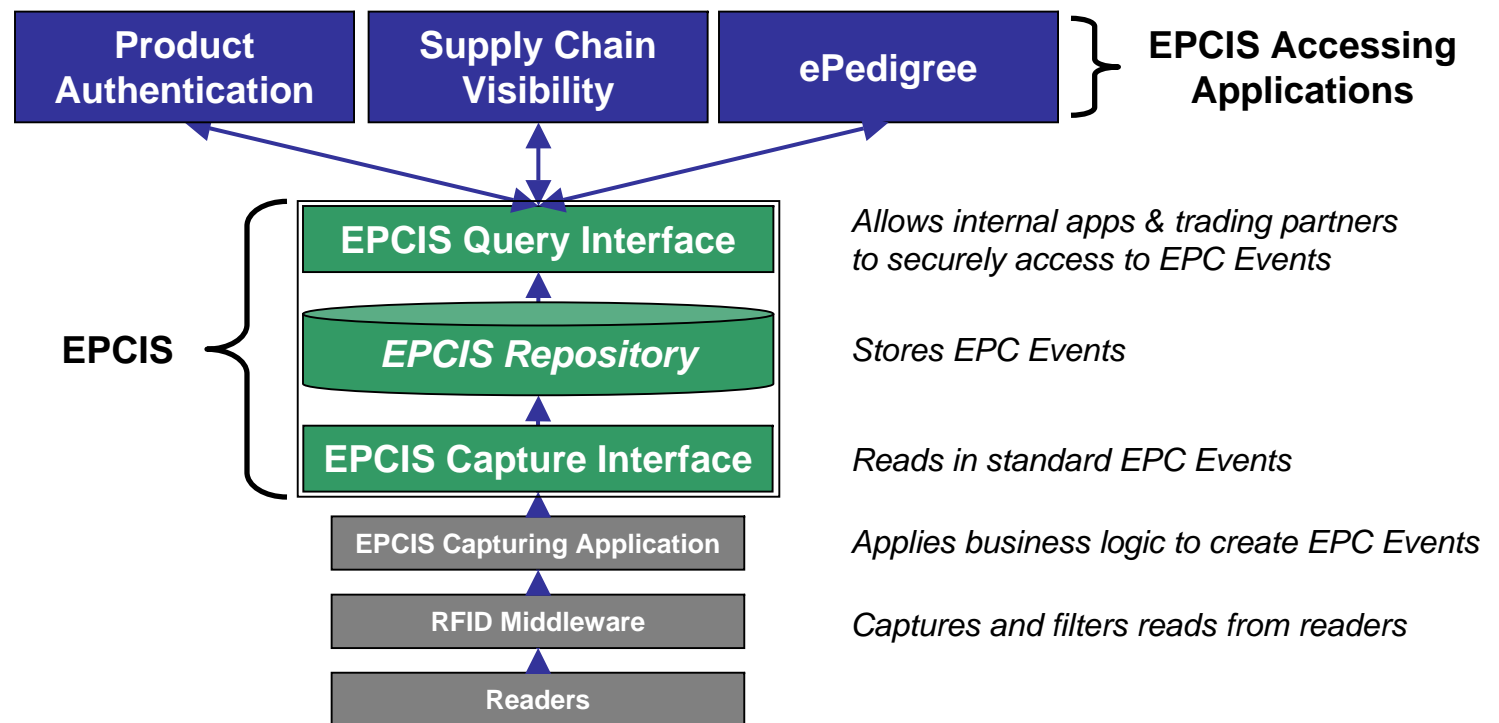


# What this demonstration represents

- How EPC progress is achieved: “Learn by doing”
- Trading partners securely sharing data via EPCIS on a win-win basis
- Working together to deliver a safe and secure pharmaceutical supply chain
- Based on the standards from the EPCglobal working groups
- In alignment with emerging government e-pedigree regulations
- Simultaneous demonstration of both HF and UHF RFID technologies

# The Role of EPCIS in EPC Networking

Services Oriented Architecture for separating RFID data capture from data routing (internal) and sharing (external)



# The Role of EPC Networking

- Cardinal is committed to providing a safe and secure supply chain for pharmaceutical distribution
- Cardinal believes that a standards-based EPC Network is a data infrastructure that will work for this industry
- Pedigree is one application that can be enabled by the EPC Network
- Cardinal believes that the EPC Network can be leveraged for many other business applications beyond pedigree compliance
- A scalable, standards-based network architecture is critical to the adoption of RFID technology

# Why are Manufacturers investing in EPCIS?

1. ePedigree
2. Product Authentication
3. Targeted Recall
4. Returns Processing
5. Chargeback Resolution
6. Shipment Verification
7. Inventory Visibility/Inv. Reduction
8. Expiration Management
9. Labor Savings
10. Forecasting and Planning
11. Diversion Tracking
12. Supply Chain Visibility



Cross Industry Benefits



Manufacturer Specific Benefits

# Demonstration of the Manufacturing Process

## Preconditions:

1. ePedigree application has “subscribed” to all case association events that the EPCIS records
  2. Units have been tagged with High Frequency RFID tags
  3. Cases have been tagged with Ultra High Frequency RFID tags
- 
- Worker logs in so that some transactions can be digitally signed
  - Worker enters Lot Number, Batch Number, and Expiry date into system
  - Worker packs the units into the case
  - Worker puts the case into the tunnel reader
  - The tunnel reader sends the read events to the EPCIS
  - The EPCIS creates an association of each Unit EPC to the Case EPC  
(NOTE: Case and pallet aggregation could also be enabled)
  - The EPCIS sends the case association to the ePedigree application  
(NOTE: Other applications could also subscribe to case association events)

# Demonstration of the Case Shipping Process

## Preconditions:

1. ePedigree application has “subscribed” to all case shipment events that the EPCIS records
  - Worker uses handheld UHF RFID reader to read each case EPC
  - The reader sends the read event to the EPCIS
  - The EPCIS records the case shipment event with a digital signature
  - The EPCIS forwards the case shipment event to ePedigree application

(NOTE: All other applications that are subscribed to case shipment events would also receive the event)

# Why are Wholesalers investing in EPCIS?

1. ePedigree
2. Product Authentication
3. Targeted Recall
4. Returns Processing
5. Chargeback Resolution
6. Shipment Verification
7. Inventory Visibility/Inv. Reduction
8. Expiration Management
9. Labor Savings
10. Cycle Counting
11. Lot/Batch Management
12. National DC to Regional DC Transfer
13. Automated Replenishment

Cross Industry Benefits

Wholesaler Specific Benefits

# Demonstration of the Case Receiving Process

## Preconditions:

1. ePedigree application has “subscribed” to all case receiving events that the EPCIS records
  - Worker uses handheld UHF RFID reader to read case EPC
  - The handheld reader sends the read events to the EPCIS
  - The EPCIS records a case receiving event with a digital signature
  - The EPCIS sends the case receiving event to ePedigree application

(NOTE: All other applications that are subscribed to case receiving events would also receive the event)

# Demonstration of the Order Picking Process

Preconditions:

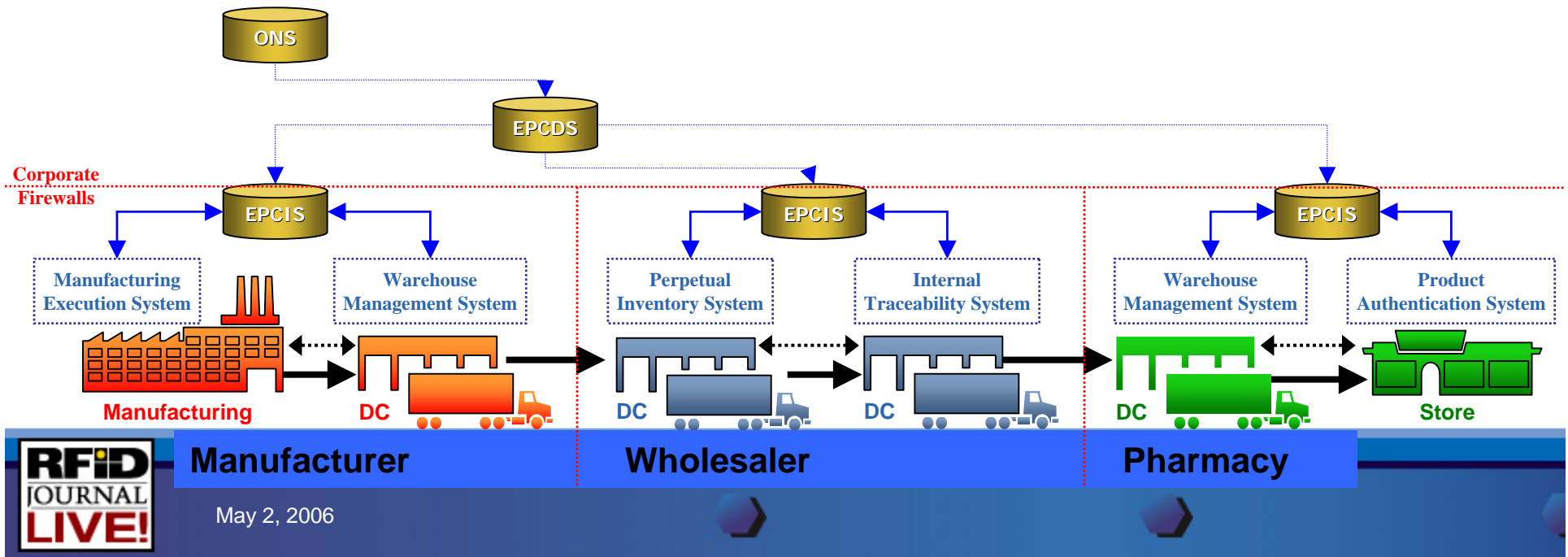
1. ePedigree application has “subscribed” to all tote association events that the EPCIS records
  2. Tote has been tagged with Ultra High Frequency RFID tags
- Worker unpacks units from the case
  - Worker packs the units into the tote
  - Worker puts the tote into the tunnel reader
  - The tunnel reader sends the read events to the EPCIS
  - The EPCIS creates an association of each Unit EPC to the Tote EPC
  - The EPCIS sends tote association event to the ePedigree application

# Why are Retail Pharmacy Chains investing in EPCIS?

1. ePedigree
  2. Product Authentication
  3. Targeted Recall
  4. Returns Processing
  5. Chargeback Resolution
  6. Shipment Verification
  7. Inventory Visibility/Inv. Reduction
  8. Expiration Management
  9. Labor Savings
  10. Cycle Counting – FDA Compliance
  11. Store-to-Store Transfers
  12. Automated Replenishment
  13. “Smart Pharmacy” – Improved Customer Service
- 
- Cross Industry Benefits
- Pharmacy Specific Benefits

# Creating distributed ePedigree with EPC Network standards

- Only data to be shared is stored in EPCIS – private data remains in private systems
- All significant events in EPCIS are digitally signed and could be logged
- All requests for data require authentication and could be logged
- Data provided grows or shrinks based on authorization (FDA = super user)
- Multiple layers (ONS, EPCDS) based on Internet naming standards will provide efficient access to information on *trillions* of tagged products
- ✓ In production (full speed manufacturing line, etc.) and publicly demonstrated at a recent FDA Conference on Counterfeit Detection



**Thank you...**

**For more details please visit  
the IBM Booth 621**

