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RFID: The Next Big Thing?

FTC RFID Workshop
June 21, 2004

IDC
Analyze the Future

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Agenda

Promise vs. reality

RFID ecosystem

Adoption of RFID for retail supply chain

Consumer privacy

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RFID: Promise vs. Reality

Promise

- Reduce out-of-stocks
- Reduce safety stocks
- Reduce manual inventory management tasks
- Identify and reduce shrinkage
- Improve efficiencies
- Improve asset management
- Authenticate products against counterfeiting
- Improve responsiveness to product recalls

Reality

- High costs
- Standards in flux
- Lack of end-user knowledge
- Interference
- Inability to read 100% of cases on pallet
- One frequency and tag design does not fit all
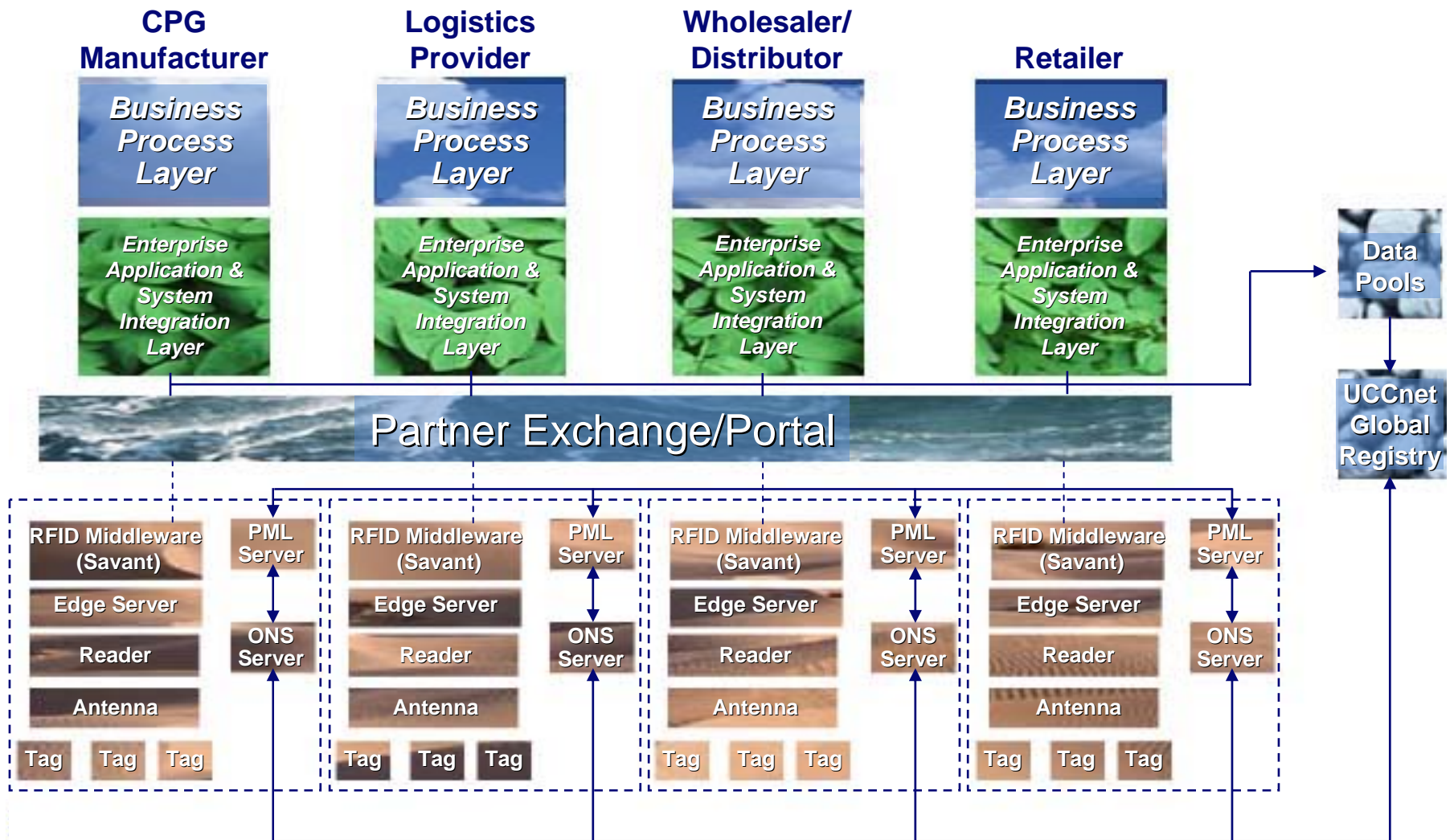- "Slap-and-ship" compliance vs. long-term business cases

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RFID Ecosystem for the Retail Supply Chain

CPG Manufacturer	Logistics Provider	Wholesaler/ Distributor	Retailer	
Business Process Layer	**Business Process Layer**	**Business Process Layer**	**Business Process Layer**	
Enterprise Application & System Integration Layer	*Enterprise Application & System Integration Layer*	*Enterprise Application & System Integration Layer*	*Enterprise Application & System Integration Layer*	**Data Pools**

Partner Exchange/Portal

UCCnet Global Registry

RFID Middleware (Savant)	PML Server	RFID Middleware (Savant)	PML Server	RFID Middleware (Savant)	PML Server	RFID Middleware (Savant)	PML Server
Edge Server	ONS Server	Edge Server	ONS Server	Edge Server	ONS Server	Edge Server	ONS Server
Reader		Reader		Reader		Reader	
Antenna		Antenna		Antenna		Antenna	
Tag Tag Tag		Tag Tag Tag		Tag Tag Tag		Tag Tag Tag	

Source: IDC, 2004 (Document #30311, *The RFID Ecosystem for the Retail Supply Chain*)

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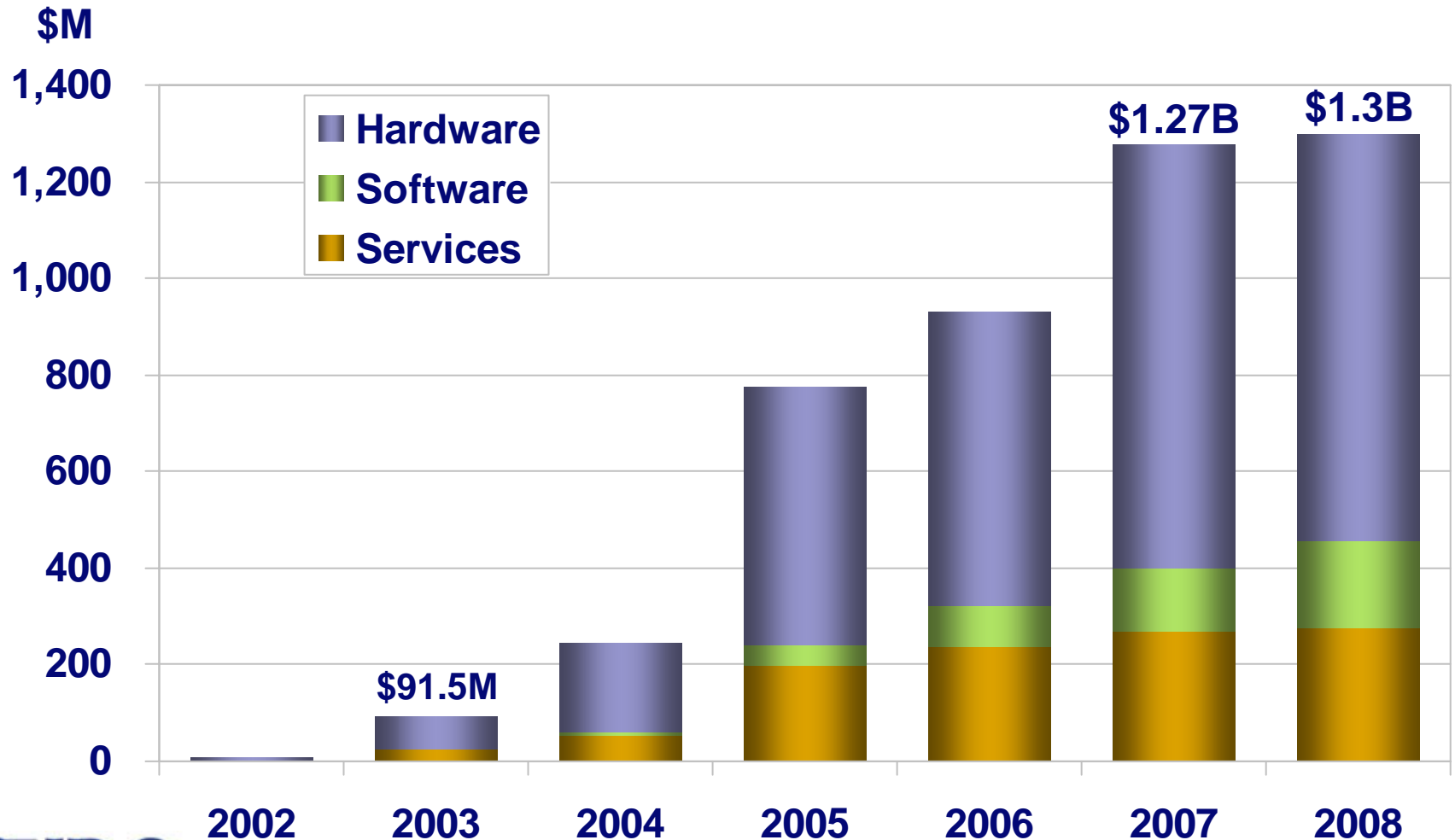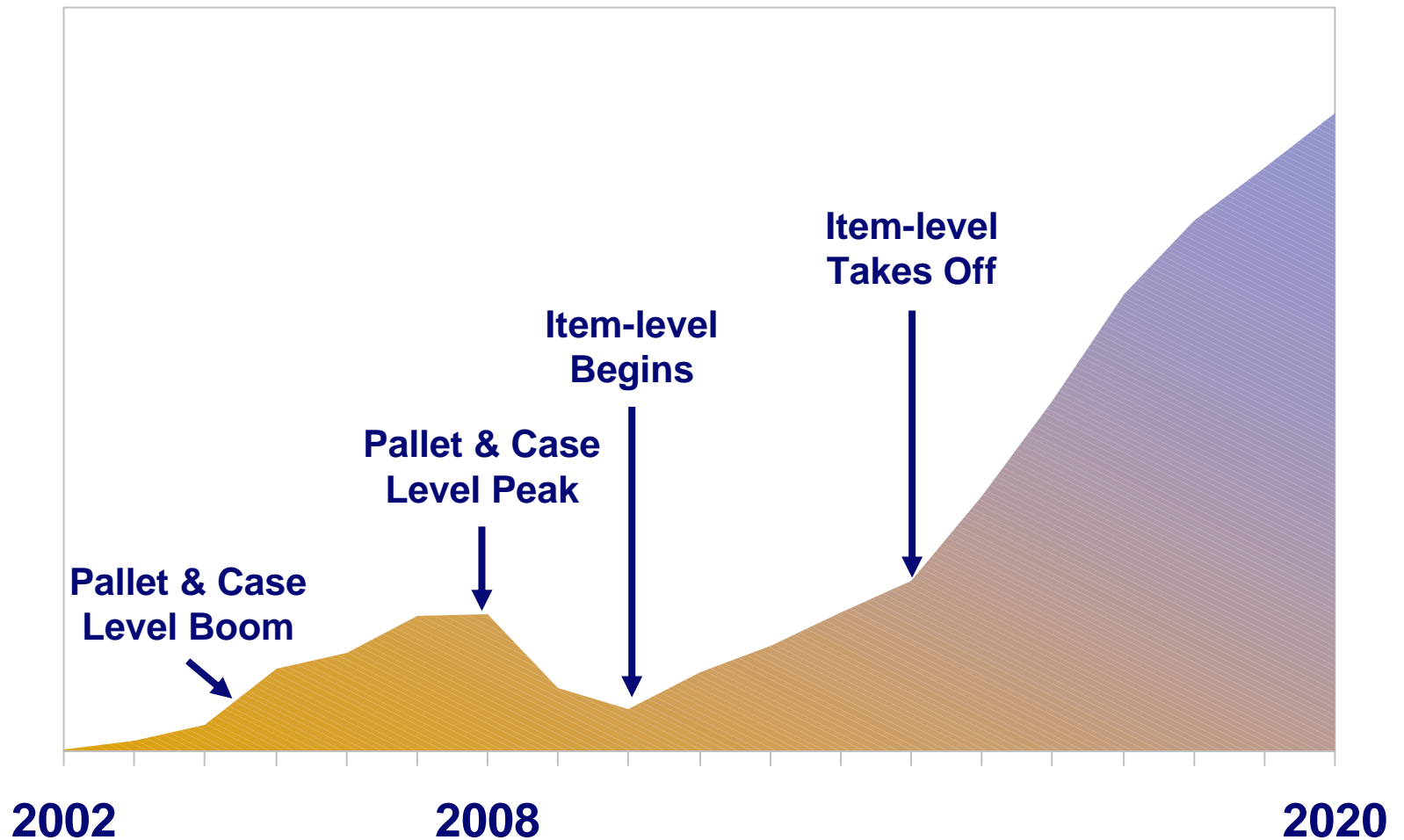**Adoption of RFID for retail supply chain**

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Timeline 2003–2008

2003	2004	2005	2006	2007	2008
• Pilots • Metro Future Store • Auto-ID becomes EPCglobal • Wal-Mart mandate, supplier mtg • DoD announcement • Passive EPC tag costs range between $0.50-$1.00	• Business cases and pilots • More retailer mandates • First C1G2 tags available late 2004 • Passive EPC tag cost average $0.50 • Holiday shipping/shopping season blackouts	• Jan: partial compliance with Wal-Mart • Best practices from 2004 identified & adopted • C1G2 tags more widely available • Reader and tag costs drop • Passive EPC tag cost average $0.35 • Holiday blackouts	• Majority compliance with Wal-Mart 2005, limited compliance across all suppliers • More retailers deploy RFID • Early deployments broadened • Firmware upgrades • Passive EPC tags cost average $0.15 • Holiday blackouts	• Wal-Mart close to 100% compliance from all suppliers • 25-30 additional retailers have RFID capabilities for pallet & case tracking • Reach early majority phase • Partial refresh of hardware from 2004 • Passive EPC tag cost average $0.10	• RFID spending flattens • Major deployments for pallet, case tracking complete • Spending on tags continues • Cost, technical limitations still too high for broad item-level tracking • Passive EPC tag cost average $0.05

U.S. RFID for the Retail Supply Chain, 2002–2008

Source: IDC, 2004 (#30490, *U.S. RFID for the Retail Supply Chain Spending Forecast and Analysis, 2003–2008*)

U.S. RFID for the Retail Supply Chain, Long View

Pallet & Case Level Boom

Pallet & Case Level Peak

Item-level Begins

Item-level Takes Off

2002   2008   2020

Source: IDC, 2004

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RFID and Privacy

- Top-of-mind concern
- State legislation introduced around consumers' right to know
- What retailers and their suppliers should **NOT** do with RFID as important as what they should do

Contact Info
Questions?

Please email me at cboone@idc.com

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