

FMI 2002 DISTRBUTION CONFERENCE

THE NEXT INFORMATION REVOLUTION: THE NETWORKED PHYSICAL WORLD

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INFORMATION IS THE ENABLER





HOW MUCH INFORMATION?

Auto-ID Center End User Sponsors Include

Procter & Gamble, The Gillette Company, Uniform Code Council (UCC), CHEP International, Coca-Cola, Dai Nippon Printing, Department of Defense, EAN International, Globeranger, International Paper, Johnson & Johnson, Kimberly-Clark, Pepsi, Pfizer, Philip Morris Group, Target Corp., Tesco Stores Ltd., Unilever, United States Postal Service, United Parcel Service, Wal-Mart Stores Inc., Westvaco, Yuen Foong Yu Paper Mfg. Co., LTD.

Auto-ID Center Vendor Sponsors Include

 Accenture, AC Nielson, Alien Technology, Avery Denison, Cash's, Checkpoint Systems, Inc., Ember Corporation, Flexchip AG, Flint Ink, Intel, Invensys PLC, Markem Corp., Matrics RFID, NCR Corporation, Philips Semiconductor, PriceWaterhouseCoopers, Rafsec, RF SAW Components, SAP, Savi Technologies, Sensormatic Electronics Corp., Sun Microsystems, Symbol Technologies, TAGSYS, ThingMagic



HOW MUCH INFORMATION?

END USER	ESTIMATE NO. OF UNITS IN SUPPLY CHAIN (BILLIONS)
CHEP	0.2
JOHNSON & JOHNSON consumer goods division	3.0
KIMBERLY CLARK*	10.0
WESTVACO*	10.0
THE GILLETTE COMPANY	11,0
YFY*	15.0
TESCO	15.0
THE PROCTER & GAMBLE COMPANY	20.0
UNILEVER	20.0
PHILIP MORRIS GROUP*	25.0
WAL-MART*	30.0
INTERNATIONAL PAPER	53.0
COCA-COLA*	200.0
SUB-TOTAL	412.2
(Adjust for double counting @15%)	- 61.8
United States Postal Service	205.0
TOTAL INCLUDING USPS	555-4



HOW DO WE OBTAIN THE INFORMATION?



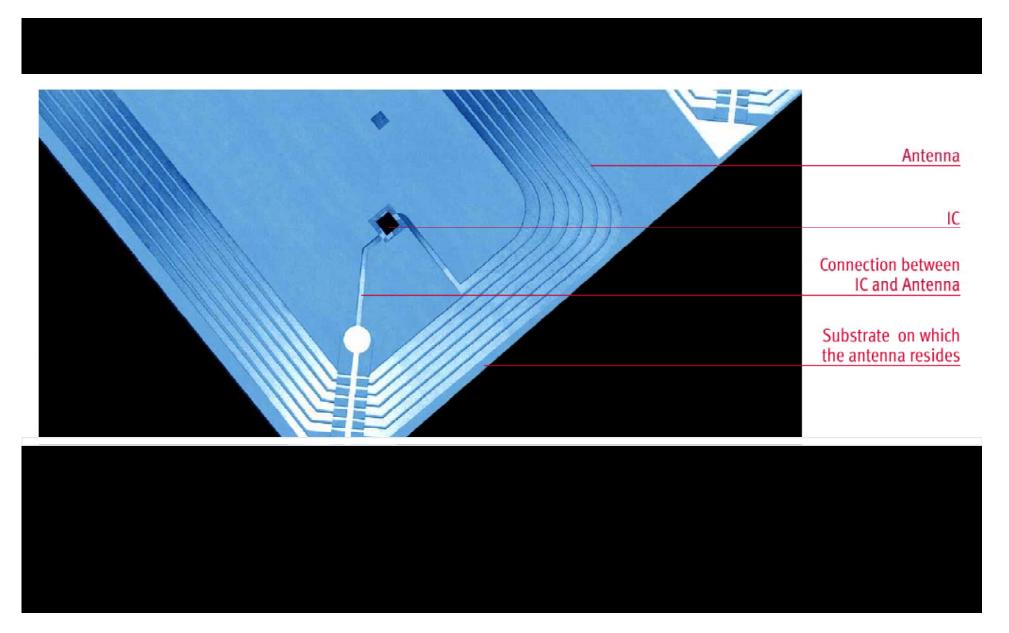


NETWORK WITH BAR CODES? NO.





NETWORK WITH RF TAGS? YES.





LOW COST RF TAGS



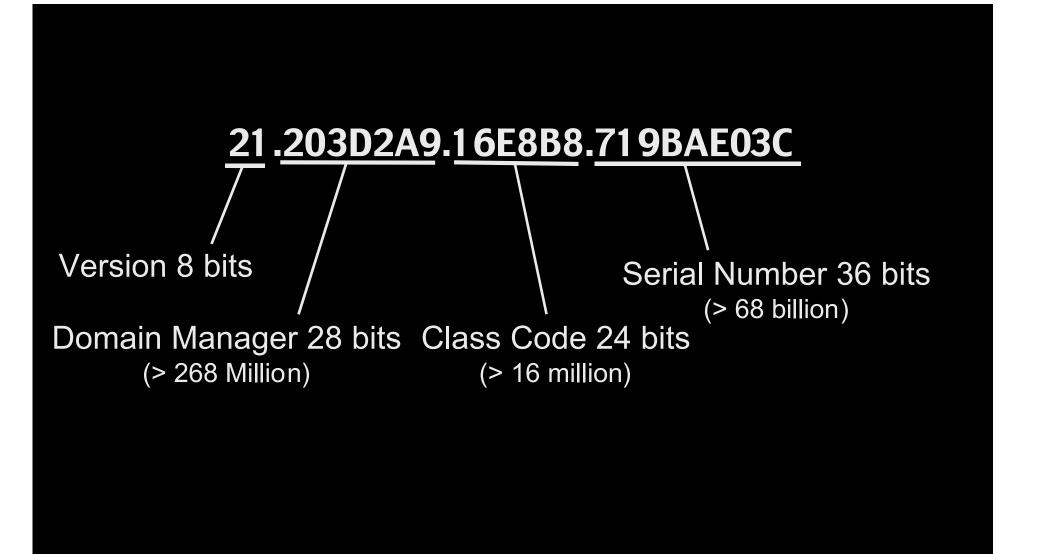


NETWORKING THE PHYSICAL WORLD



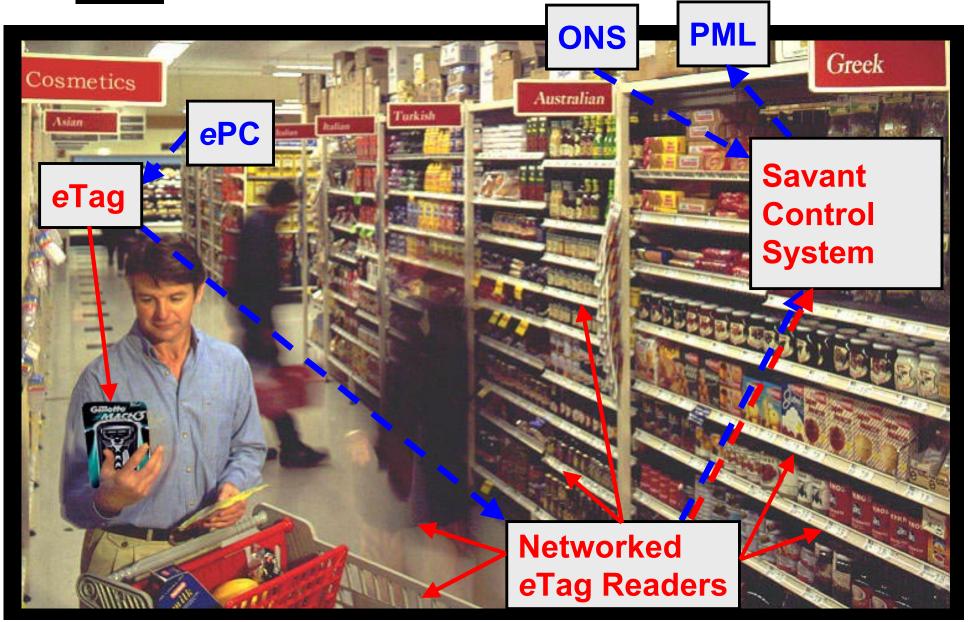


EPC: 96-BIT VERSION





THE NETWORKED PHYSICAL WORLD





EXAMPLE RFID APPLICATIONS

Security and Access Control

Control access to restricted areas, vehicle immobilization systems, theft prediction/detection

Supply chain applications

 Asset tracking, reduce out of stocks, reduce inventory, reduce bull-whip effect, speed up delivery, check freshness, track and trace, produce to demand, identify sources of diversion, identify counterfeiting, theft prediction, faster recalls

Consumer applications

- Direct order from home, smart appliances, (e.g. microwave, washing machine, refrigerator), smart healthcare, assisted living

New and less expected applications

- Customized products, smart recycling, checkout-less stores

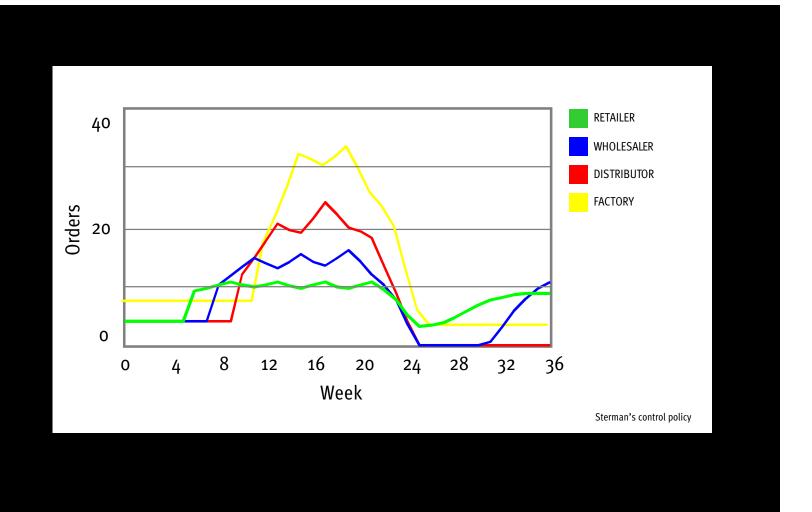


APPLICATION: SUPPLY CHAIN MANAGEMENT



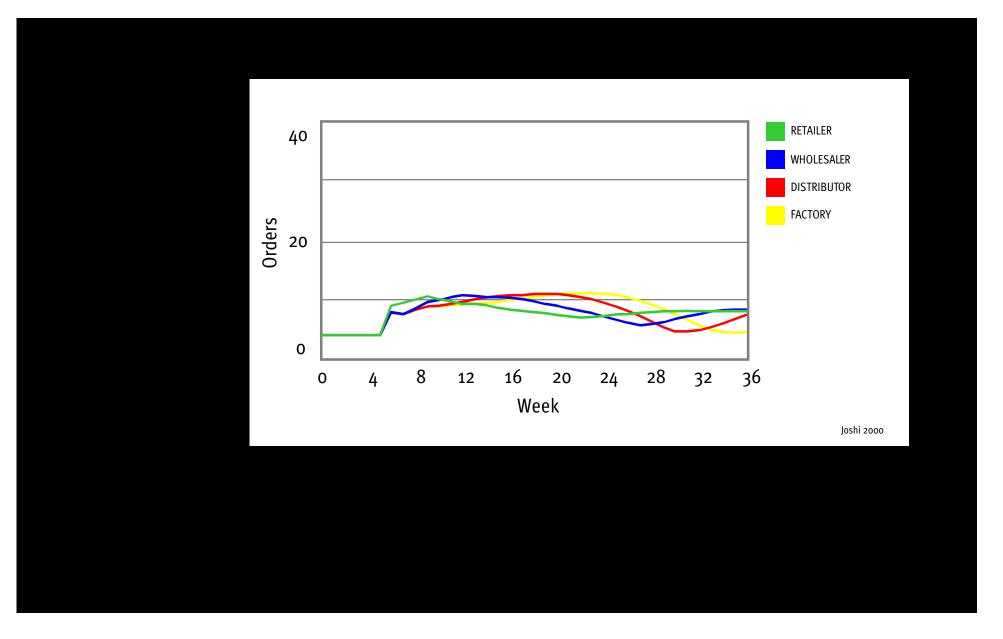


BULL-WHIP TODAY





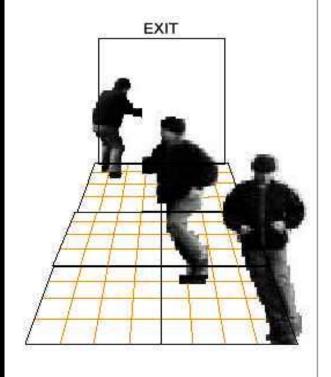
BULL-WHIP WITH AUTO-ID TECHNOLOGY



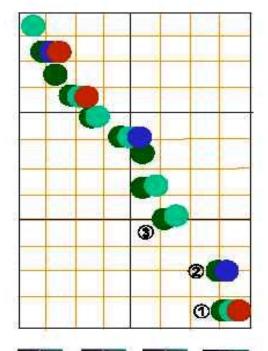


APPLICATION: THEFT PREDICTION

What happens in store



What the system sees















What the system thinks

Tead: 3 packs Mach3

...very high risk item
...normal purchase 1-2 units
...not yet paid for
...selected 4.21 mins ago
...all removed within 34 secs

...95% risk: products together ...70% risk: theft in progress

2 Read: additional pack Mach3

...not yet paid for ...selected 4.21 mins ago ...with pack from previous group

...95% risk: products together ...50% risk: moving towards exit ...75% risk: theft in progress

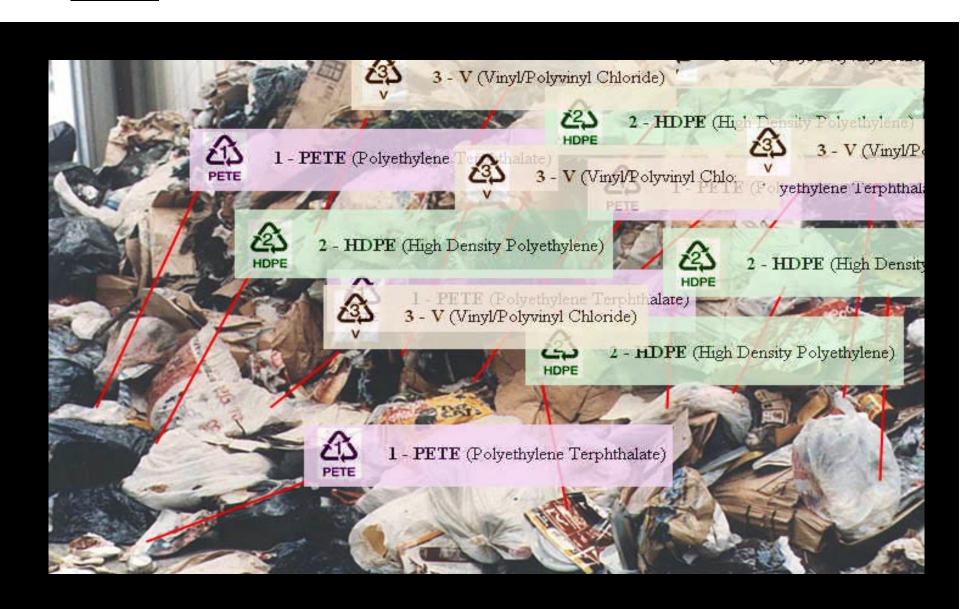
(S) Read: 2 packs from Mach3 group

..95% risk: products together ...75% risk: moving towards exit ...85% risk: theft in progress

Action: ALERT SECURITY



APPLICATION: SMART RECYCLING





FIELD TRIAL BEGAN 1 OCT 2001, 9:41AM EDT





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