



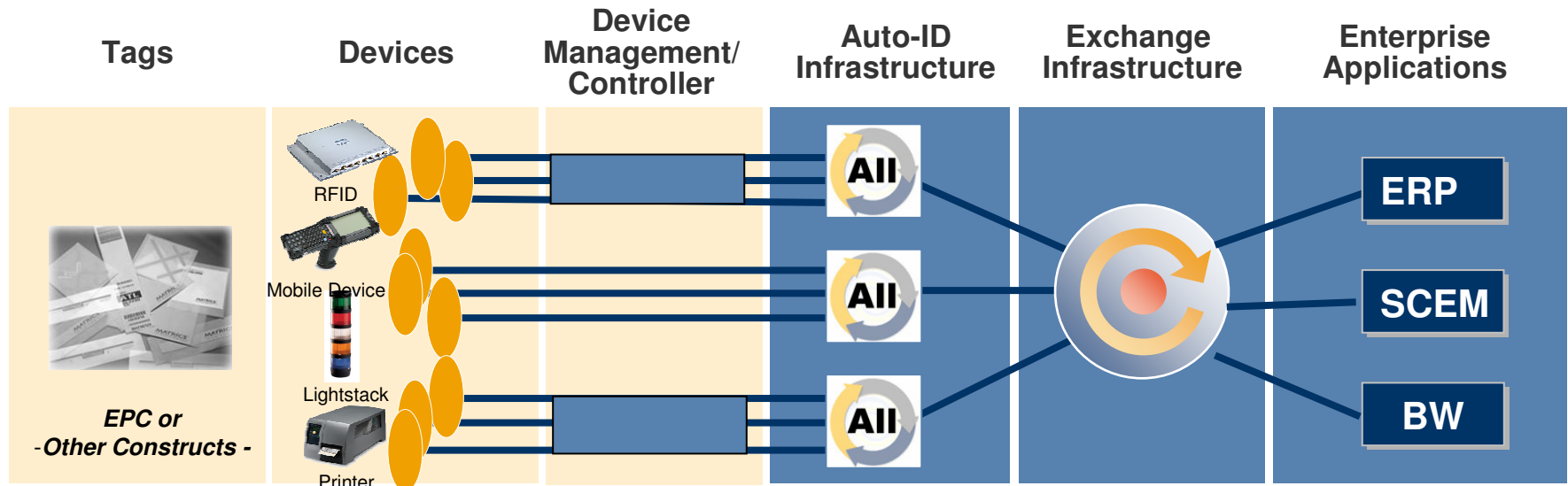
SAP RFID Solution

Product Overview and Roadmap

Priyanka Khaitan
SCM Solution Mgmt



The RFID Solution Landscape



Function

Hold Data Transmit data using radio waves	Read / write / Transmit data to systems	Manage multiple Readers & standardizes data	Store and translate raw EPC data to business data	Route business data and events to applications	Provide Decision Support and execute transactions
--	---	---	--	--	--

Delivery



 = SAP Offering
 = Partner Offering

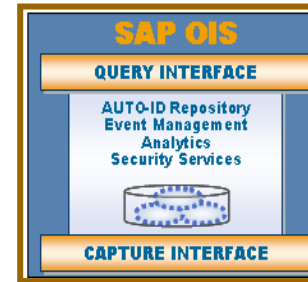
SAP Auto-ID Infrastructure Product Profile

Business Processes	<ul style="list-style-type: none">■ Automatic inbound/outbound processes with integration to back-end system■ Automatic validations of inbound/outbound processes to Advanced Shipping Notification (ASN) based on EPCs■ Returnable transport items, Kanban
Tag Commissioning	<ul style="list-style-type: none">■ Write an Electronic Product Code (EPC) on each individual tag■ Write EPCs in batch mode using an RFID label printer■ Support multiple-tag commissioning modes, multiple hierarchies
User Interface (UI)	<ul style="list-style-type: none">■ Has mobile/desktop UI■ Offers enhanced execution guidance in both mobile and desktop UI
Master Data	<ul style="list-style-type: none">■ Import master data for integrated scenario■ Maintain product, location, and business master data locally for standalone deployment
EPC Number Ranges	<ul style="list-style-type: none">■ Maintain EPC number ranges locally in SAP Auto-ID Infrastructure (All)■ Configure EPC encoding according to current and emerging standards
Deployment	<ul style="list-style-type: none">■ Integrate deployment on SAP application system■ Deployable with integration to non-SAP back-end■ Deployable standalone
Reporting	<ul style="list-style-type: none">■ Business Monitoring and Reporting<ul style="list-style-type: none">◆ Stock situation at different locations◆ Movements across/within locations◆ Dwell time/cycle time◆ Current status of tracked objects■ Technical Monitoring and Reporting<ul style="list-style-type: none">◆ Read/write rate quality reports■ BW extractors from SAP All

Three layers of EPC Data Management

Use example

Provides information to the Enterprise and to the Enterprise partners on EPC data



Enterprise



Facility or Location



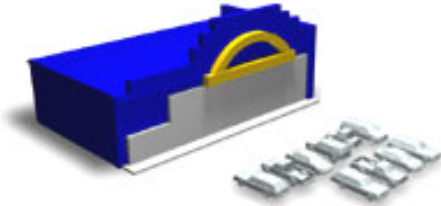
Edge Server
Provides business context to RFID data.
Local track & trace



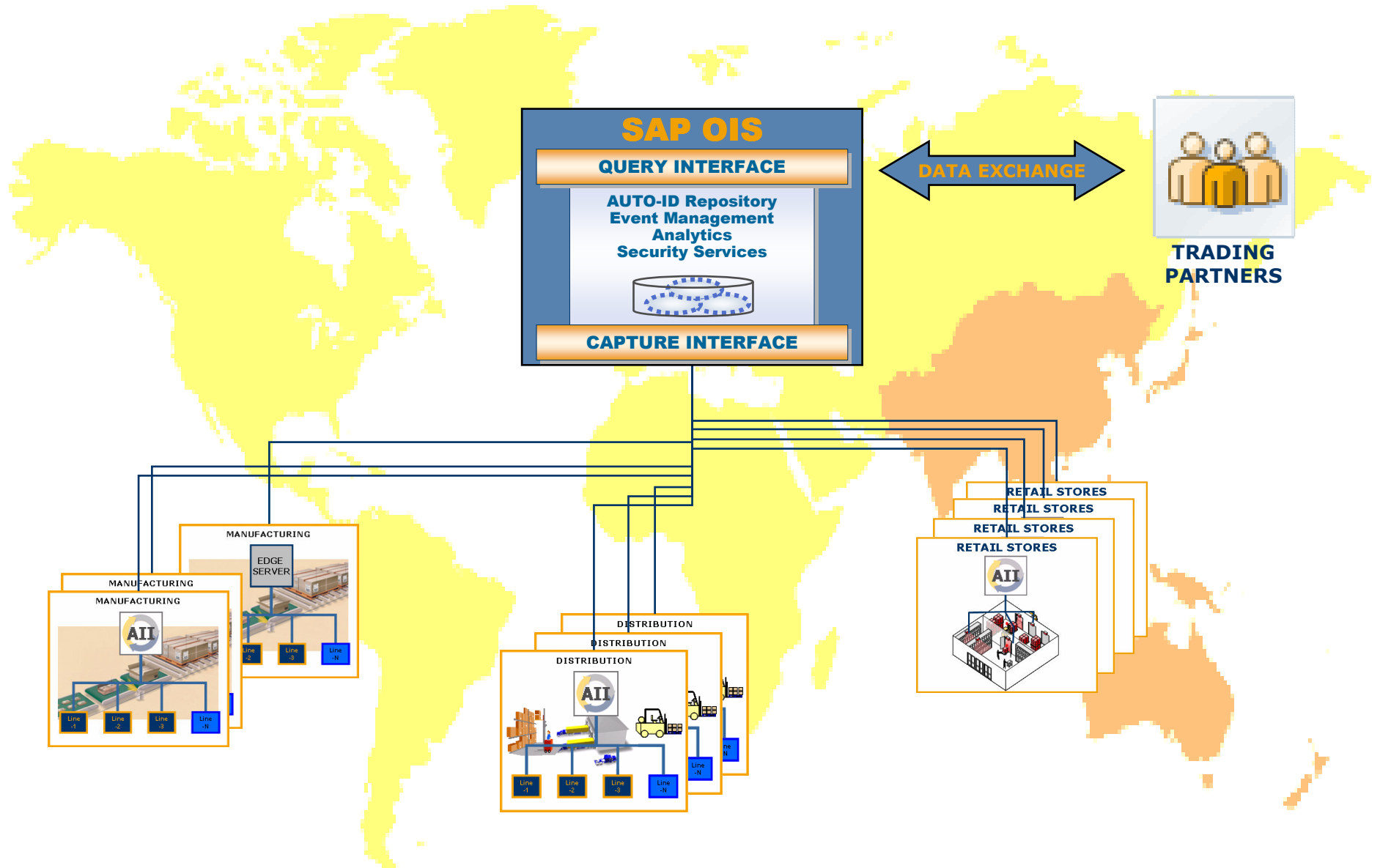
Reader



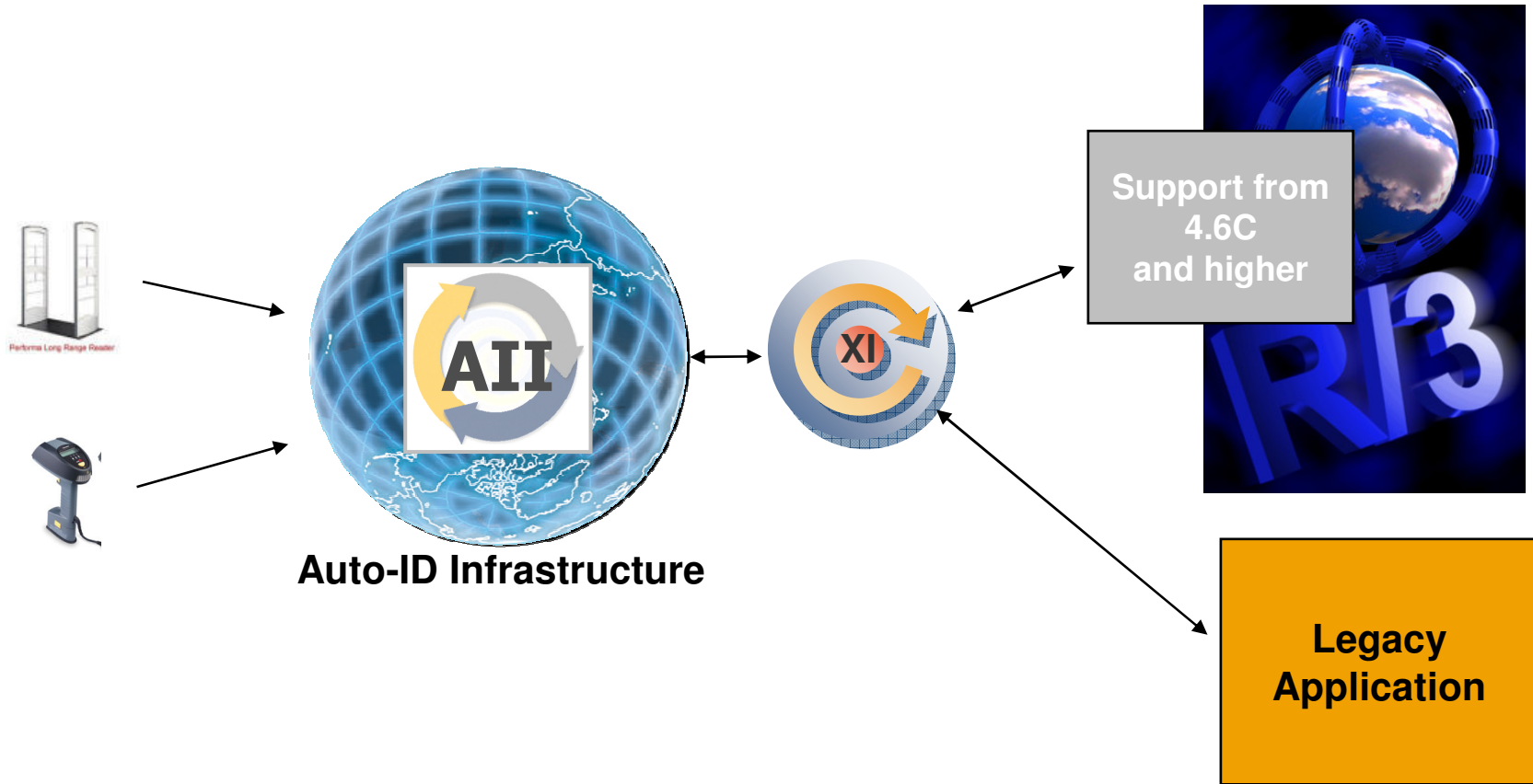
Collects and validates RFID read data.



Supporting Enterprise Wide Deployments



Auto-ID Infrastructure – Standalone or Integrated



Generic Processes

Outbound Processing

- optionally integrated with Event Management

Inbound Processing

Reusable Transport Item Tracking

Extended Processes

Wal*Mart / DoD Mandate Support

- Case-level tagging
- Item level tagging

Supply Chain Visibility

Pharma-Specific Processes

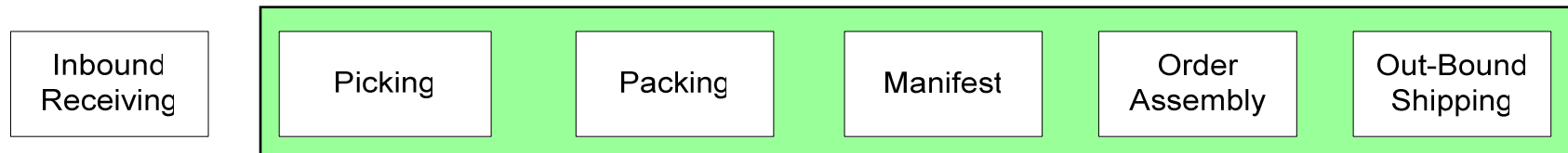
E-Pedigree Support

- In conjunction with Partner

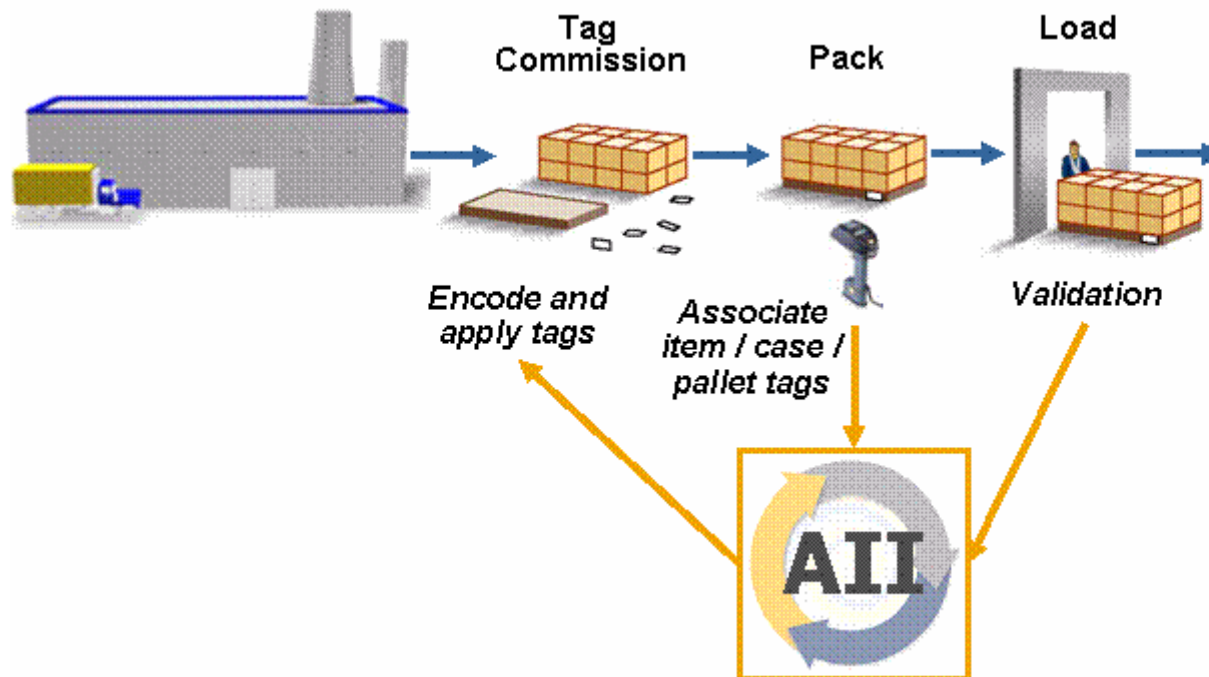
Product Tracking and Authentication

SAP RFID Enabled Process Overview

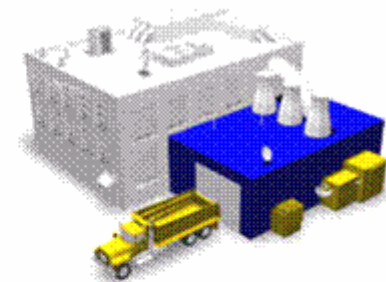
Distribution Center Process Flow



Distribution Center



Store



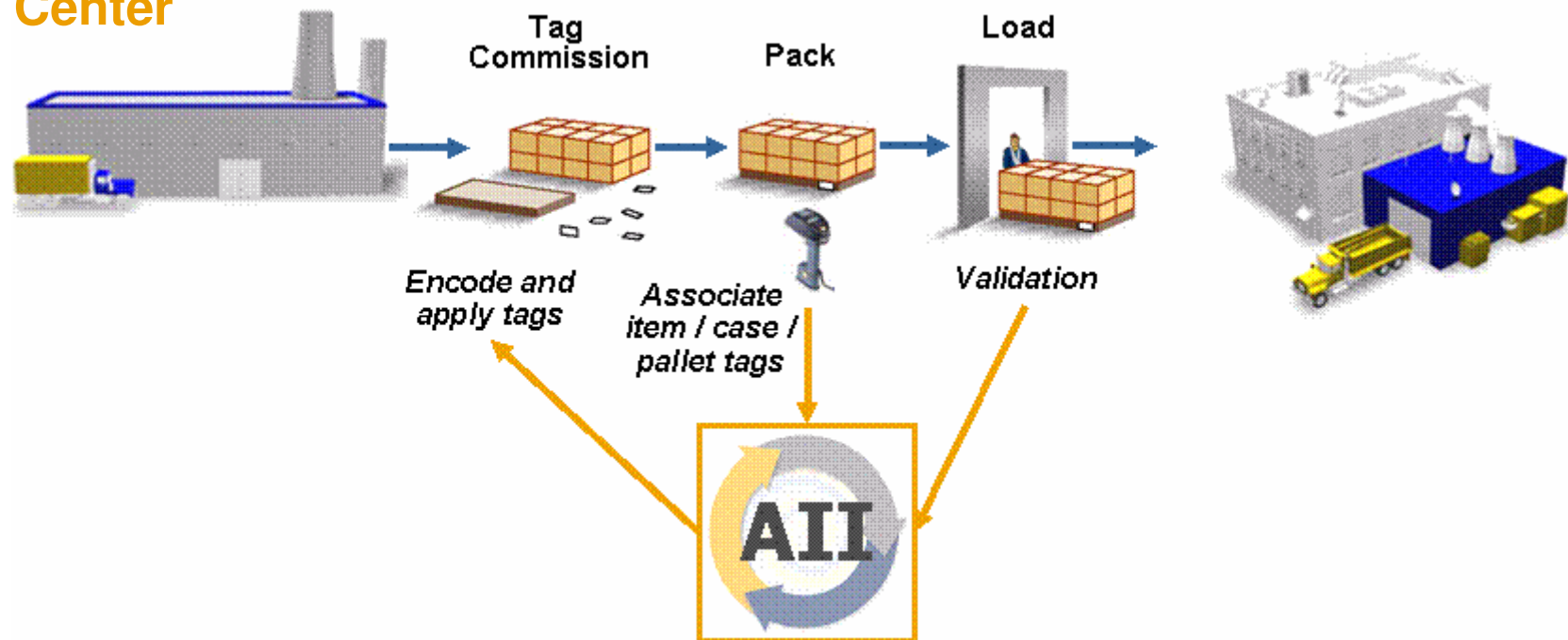
SAP RFID Enabled Process Overview

Distribution Center Process Flow



Distribution Center

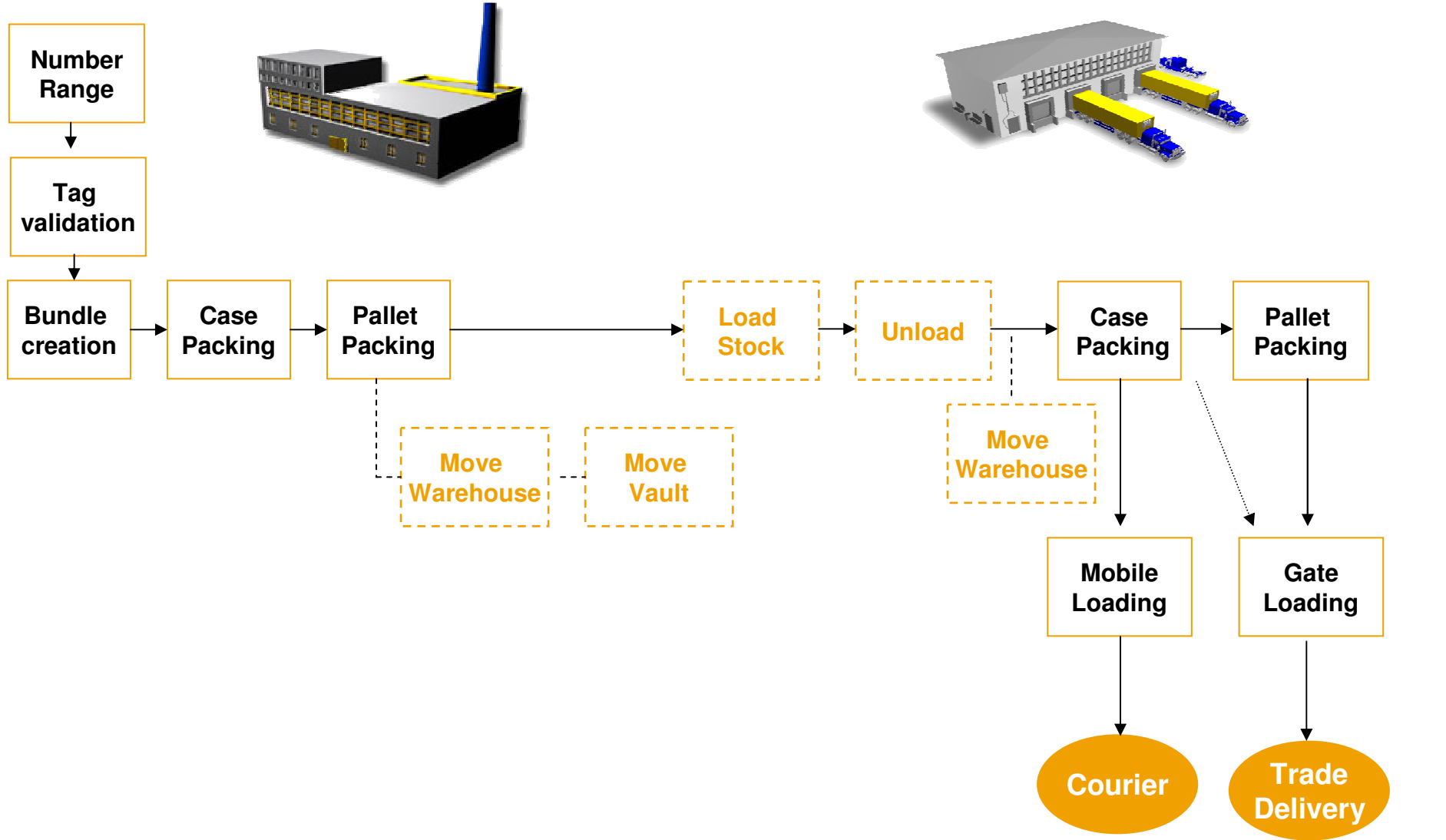
Store



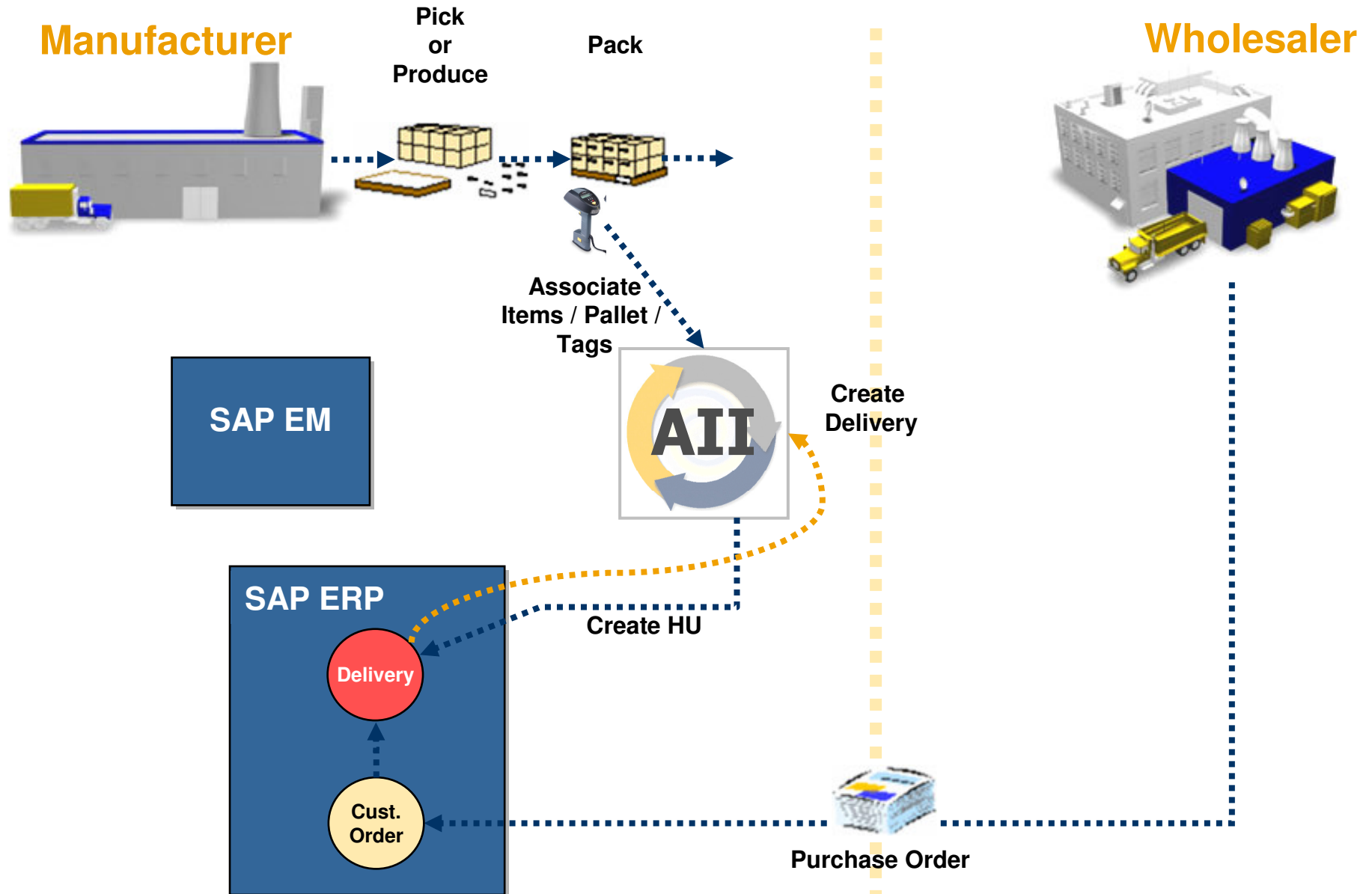
Overall Process

Manufacturing and Packaging

Distribution



RFID enabled Outbound Processing



EPC Attributes

DesktopApp - Microsoft Internet Explorer

Address: http://rmatdc00.wdf.sap.corp:50100/webdynpro/dispatcher/sap.com/ain~so~desktop/DesktopApp

Menu: Log Off, Auto-ID Infrastructure, Execution, Monitoring, Exception Management, Searches, Document, Object, Observation, Unexpected Event

Searches: Object

Filter By ID: urn.epc.tag:sscc-96:0.003 Go Open Advanced Search

Level	ID	Product	Unit	Location	RFID Device	Created On	Updated On
▼	urn.epc.tag:sscc-96:0.0037000.0000000031			RKT01_LOC_PK	RKT01_DG_PK	2006-02-24 11:27:28	2006-02-24 11:27:28
▪	urn.epc.tag:sgtin-96:0.0037000.012348.203	RKT-MAT		RKT01_LOC_PK	RKT01_DG_PK	2006-02-24 11:27:28	2006-02-24 11:27:28
▪	urn.epc.tag:sgtin-96:0.0037000.012348.204	RKT-MAT		RKT01_LOC_PK	RKT01_DG_PK	2006-02-24 11:27:28	2006-02-24 11:27:28
▪	urn.epc.tag:sgtin-96:0.0037000.012348.205	RKT-MAT		RKT01_LOC_PK	RKT01_DG_PK	2006-02-24 11:27:28	2006-02-24 11:27:28

Average Time Since Objects Were Created: 48 days, 15 hrs, 40 min, 38 sec
 Average Time Since Objects Were Last Read: 48 days, 15 hrs, 40 min, 38 sec

User Data | Object Location | Product for Object | Short-Term History of Object

Field Name	Field Value	Updated By	Update Time
EPC in URN format	urn.epc.tag:sgtin-96:0.0037000.012348.203	RKT01_DEV_PK(1802349)	2006-02-24 11:27:28
Batch Number	1235	RKT01_DEV_PK(1802349)	2006-02-24 11:27:28
Shelf Life Expiration Date	2010-11-06T13:04:34.86-06:00	RKT01_DEV_PK(1802349)	2006-02-24 11:27:28
Tag ID	1111235	RKT01_DEV_PK(1802349)	2006-02-24 11:27:28

Multilevel Hierarchy in AII 4.0

Menu Searches: Observation

Log Off Filter By ID Go Open Advanced Search

- ▼ Auto-ID Infrastructure
 - ▼ Execution
 - Commission Tag
 - Pack Using Conveyor
 - Assign Document
 - Maintain Document
 - ▼ Monitoring
 - Execution Status
 - ▼ Exception Management
 - Exception Handling
 - ▼ Searches
 - Document
 - Object
 - Observation
 - Unexpected Event

Form View

Action Type	Document	Document Type	Location	Location Type	Status	Execution Start	RFID Device Gro
ATCW - Tag Commissioning			RKT01_LOC_TC	Staging Area	Write	2005-11-23 23:09:31	RKT01_DG_TC
APL2 - Free Pack			RKT02_LOC_MOB	Staging Area	Read	2005-11-23 23:09:53	RKT02_DG_MOE

Row 1 of 2

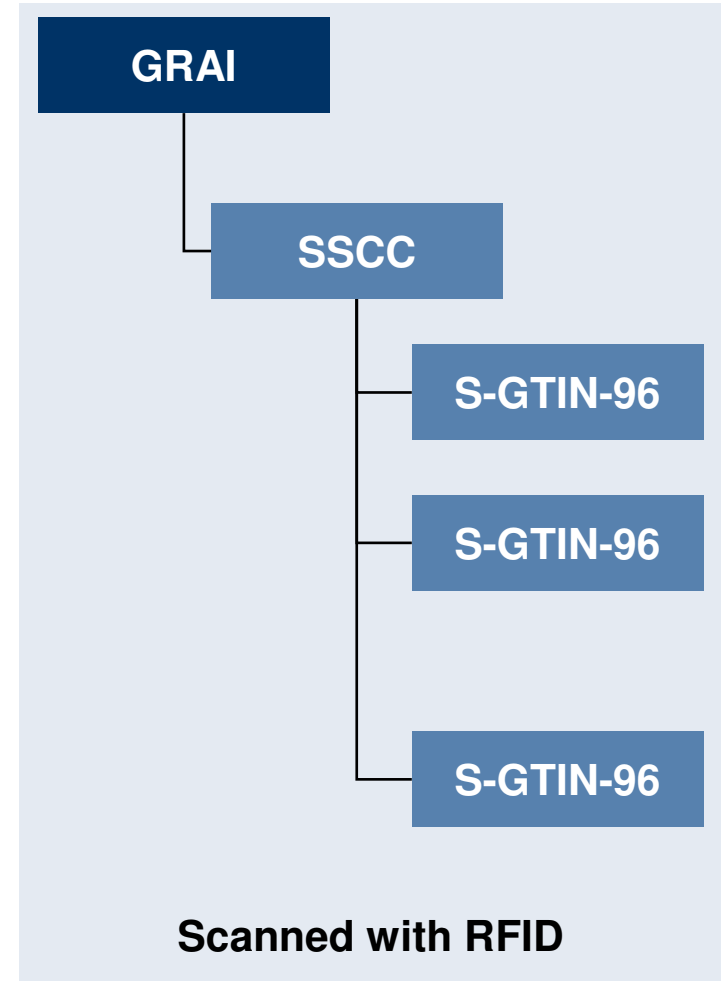
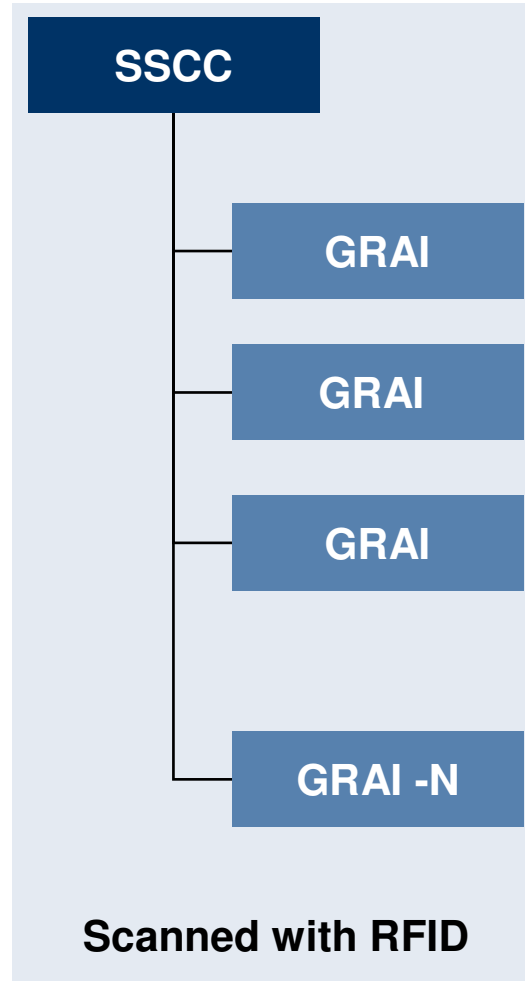
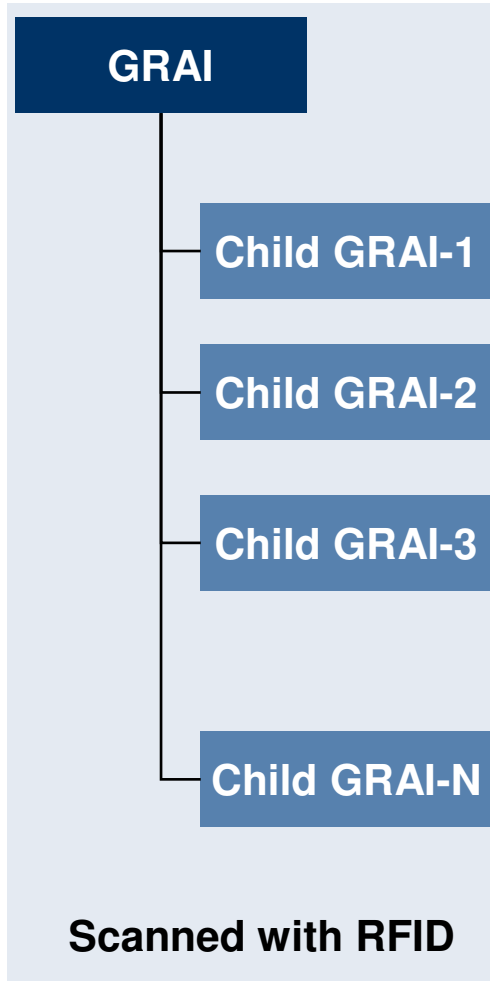
Action Objects

Form View View ID (Hex) Open Filter Row

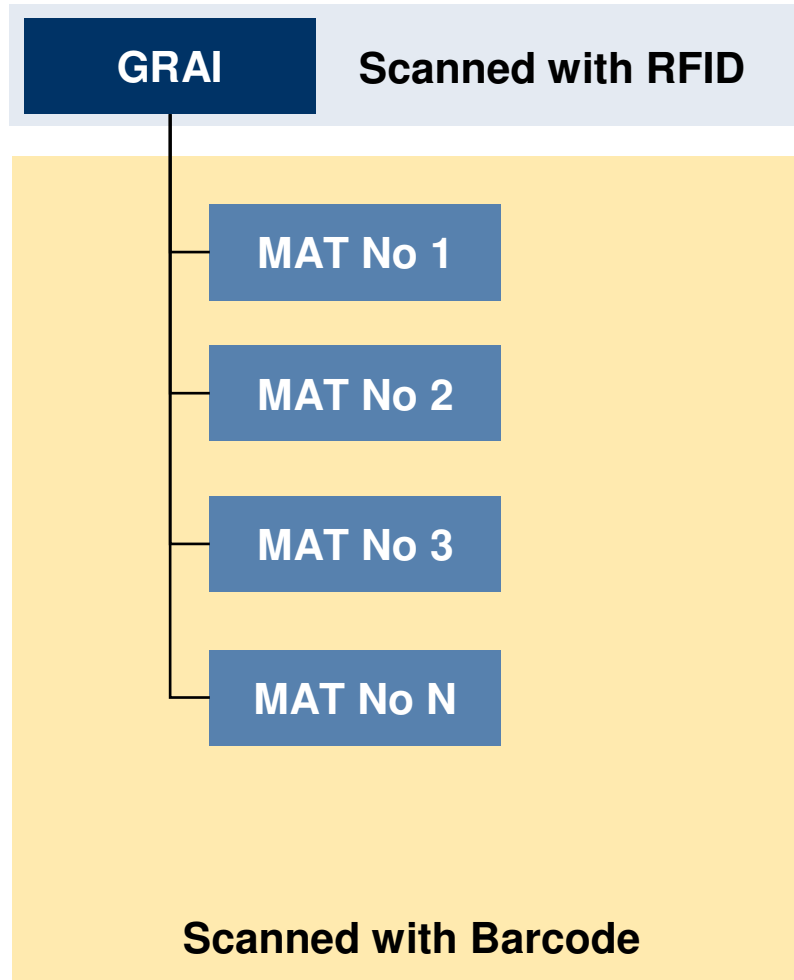
Level	ID	Product	Unit	Status	User Name	Execution Time
▼	urn.epc.tag:sscc-96:0.0001000.0000000112			Reported	I802349	2005-11-23 23:10:35
▼	urn.epc.tag:sgtin-96:0.0037000.012348.110	RKT-MAT	CS	Reported	I802349	2005-11-23 23:10:35
▪	urn.epc.tag:sgtin-96:0.0037000.012347.6	RKT-MAT	EA	Reported	I802349	2005-11-23 23:10:35

Row 1 of 3

Example – Hierarchies Supported



Example – Hierarchies Supported



Historical Observations

DesktopApp - Microsoft Internet Explorer

Address: <http://ld0439.wdf.sap.corp:52100/webdynpro/dispatcher/sap.com/ain~so~d>

Searches: **Observation**

Filter By: ID urn.epc.tag:grai-96:0.0037

Form View

Action Type	Document	Document Type
ATCW - Tag Commissioning		
APL2 - Free Pack	kw_grai_34	Outbound Ext. Doc.
ALBO - Load	kw_grai_34	Outbound Ext. Doc.
AUBO - Unload	kw_grai_34	Outbound Ext. Doc.
MOVE - Move		

Row 1 of 5

Action Objects

Form View View ID (Hex) Open Filter Row

Level	ID	Status	RFID Device	User Name	Execution Time
▼	urn.epc.tag:grai-96:0.0037000.00039.34	Reported		WANGQIO	2005-08-13 04:18:21
▪	urn.epc.tag:sgtin-96:1.0037000.062740.10	Automatically Confirmed		WANGQIO	2005-08-13 04:18:21
▪	urn.epc.tag:sgtin-96:1.0037000.062740.11	Automatically Confirmed		WANGQIO	2005-08-13 04:18:21
▪	urn.epc.tag:sgtin-96:1.0037000.062740.12	Automatically Confirmed		WANGQIO	2005-08-13 04:18:21

Row 1 of 4

SAP Event Management: Event Handler Details - Microsoft Internet Explorer

Address: http://pwwdf2612.wdf.sap.corp:50000/scem/q1p001/ehdetail?refresh=true&process=RTI10_OWNER&EH=GlrYm4YW1tRX00002X5ENm

Click here to refresh this page.

Event Description	Actual Date/Time	Loc. Type	Loc.	Document
Commission Tag	Aug 13, 2005 3:34 AM CET	DEFAULT	GWM-LOC-PRINT	
Packing	Aug 13, 2005 4:12 AM CET	DEFAULT	GWM-LOC-MOBILE	kw_grai_34
Loading	Aug 13, 2005 4:14 AM CET	DEFAULT	GWM-LOC-MOBILE	kw_grai_34
Unloading	Aug 13, 2005 4:16 AM CET	DEFAULT	ABA-LOC-UNLOAD	kw_grai_34
Movement	Aug 13, 2005 4:18 AM CET	STAGING AREA	AS_SHIPPOINT	

1 - 5 / 6

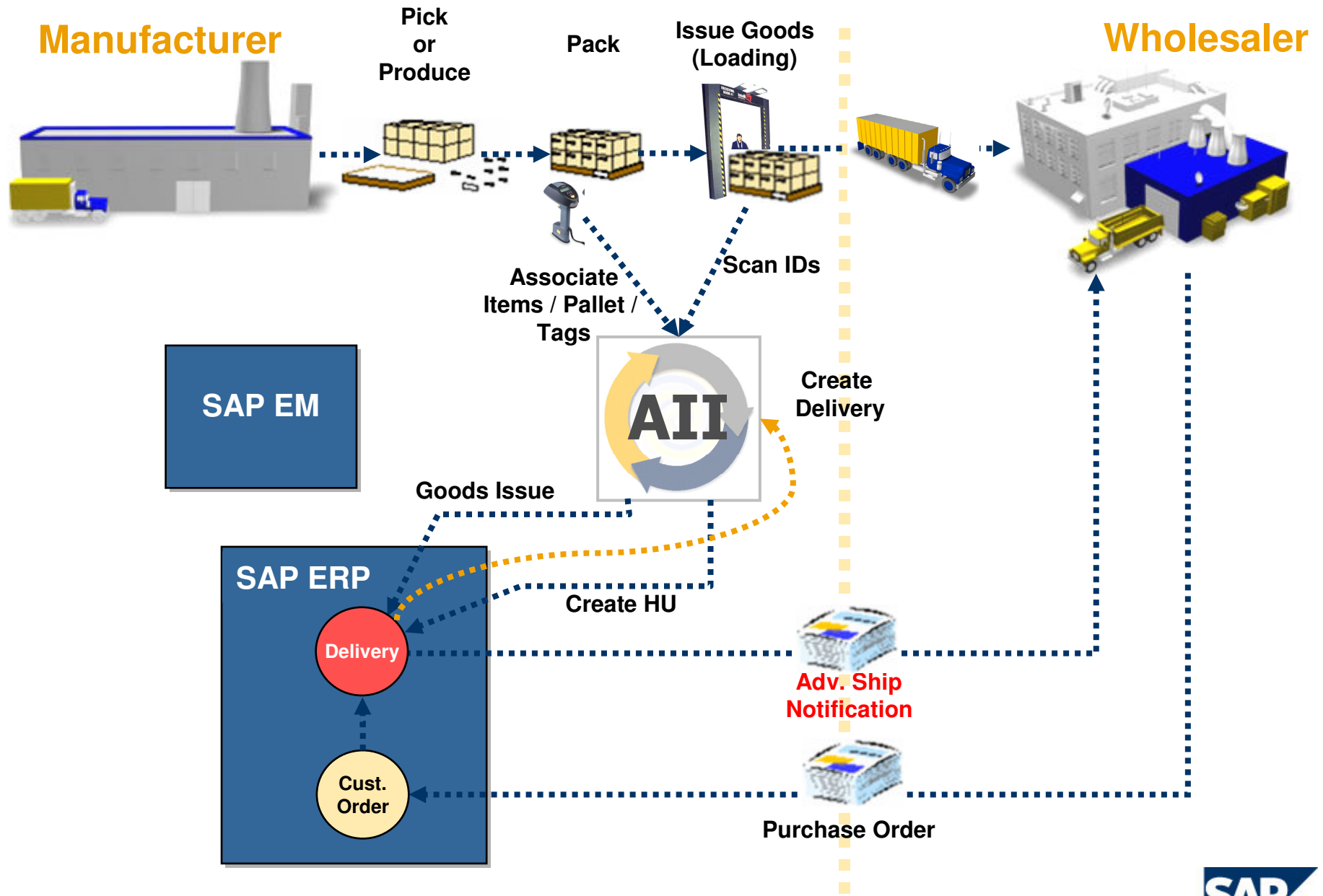
Action Type	Document	Document Type	Loc. Type	Loc.	Document
ATCW - Tag Commissioning			DEFAULT	GWM-LOC-PRINT	
APL2 - Free Pack	kw_grai_34	Outbound Ext. Doc.	DEFAULT	GWM-LOC-MOBILE	kw_grai_34
ALBO - Load	kw_grai_34	Outbound Ext. Doc.	DEFAULT	GWM-LOC-MOBILE	kw_grai_34
AUBO - Unload	kw_grai_34	Outbound Ext. Doc.	DEFAULT	ABA-LOC-UNLOAD	kw_grai_34
MOVE - Move			STAGING AREA	AS_SHIPPOINT	

Done

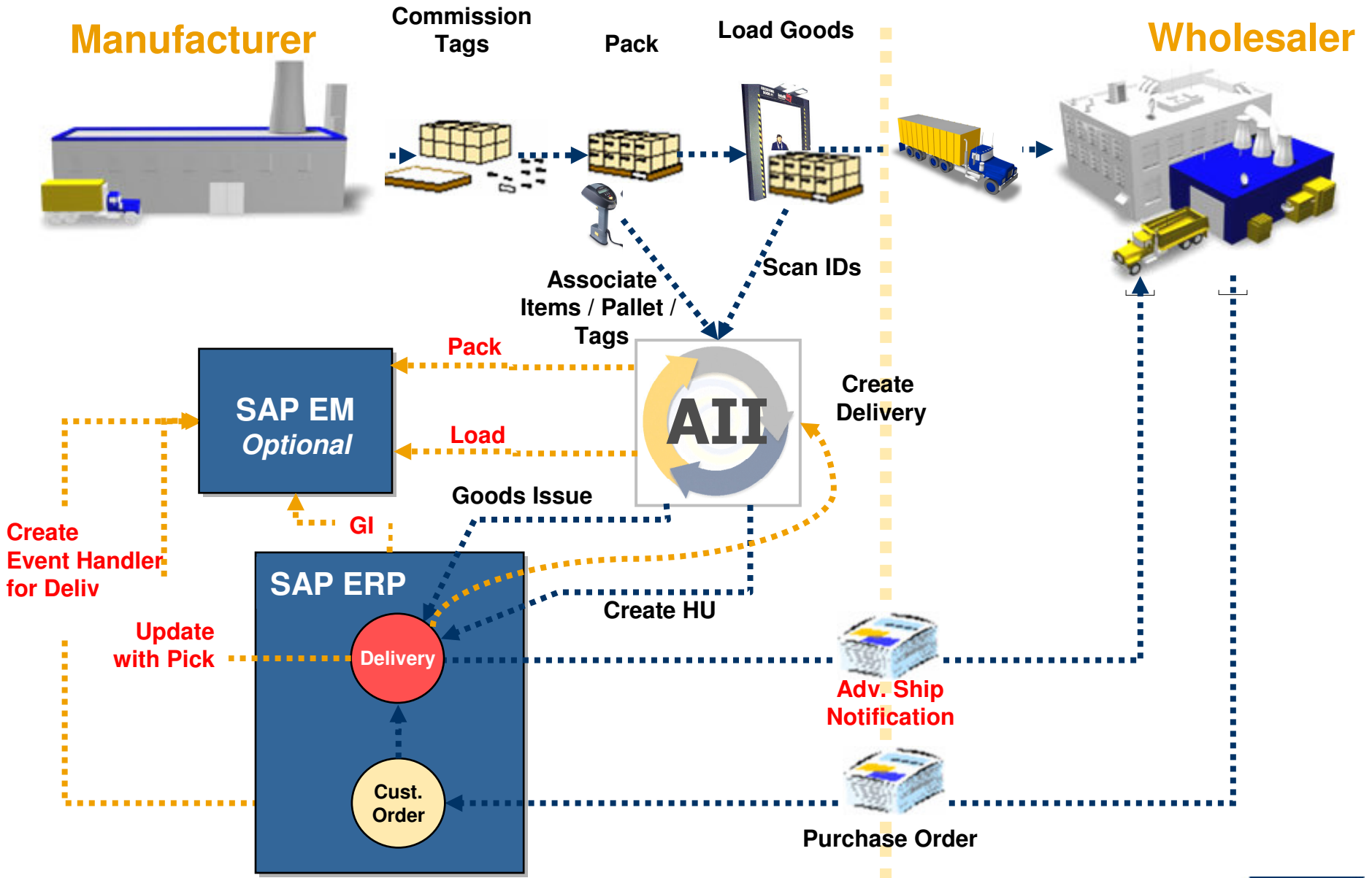
Action Type	Document	Document Type	Loc. Type	Loc.	Document
ATCW - Tag Commissioning			DEFAULT	GWM-LOC-PRINT	
APL2 - Free Pack	kw_grai_34	Outbound Ext. Doc.	DEFAULT	GWM-LOC-MOBILE	kw_grai_34
ALBO - Load	kw_grai_34	Outbound Ext. Doc.	DEFAULT	GWM-LOC-MOBILE	kw_grai_34
AUBO - Unload	kw_grai_34	Outbound Ext. Doc.	DEFAULT	ABA-LOC-UNLOAD	kw_grai_34
MOVE - Move			STAGING AREA	AS_SHIPPOINT	

Done

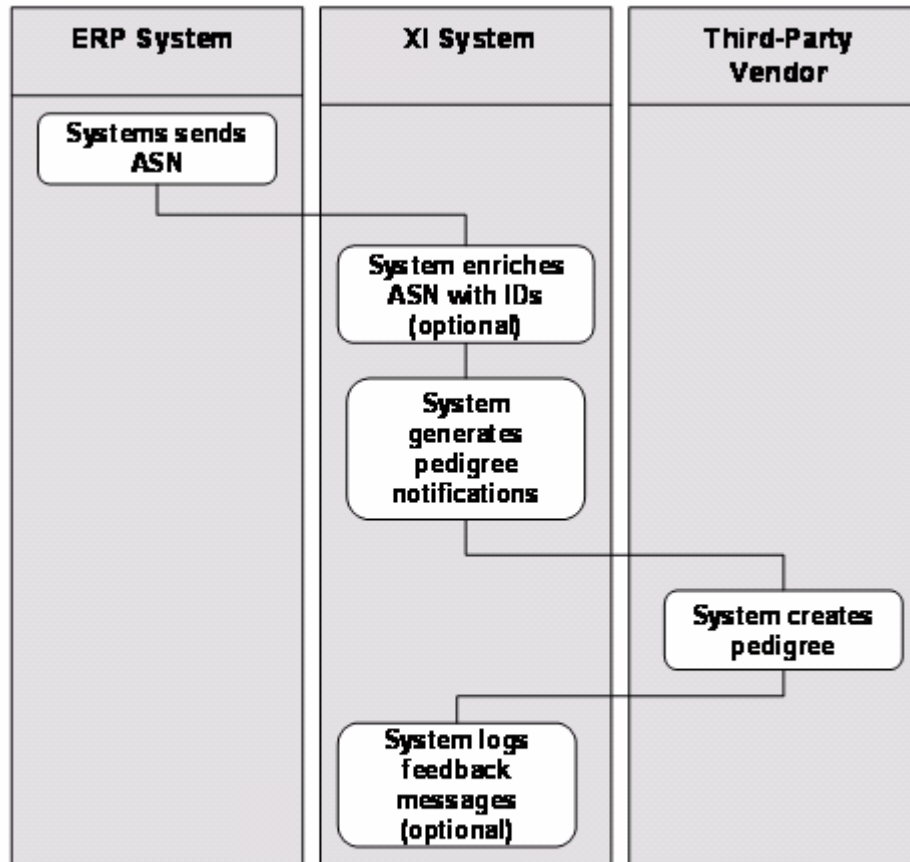
RFID enabled Outbound Processing



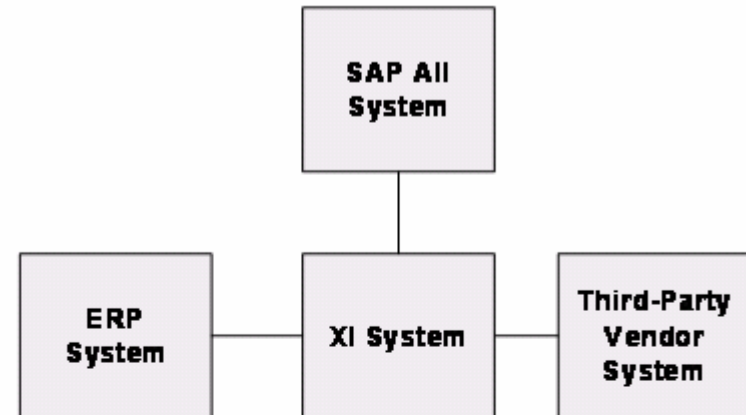
RFID enabled Outbound Processing



Pedigree Notification - Data Generation / Assembly



**Generation of Pedigree Notifications
Process Flow**



SAP Application Components

- SAP All 4.0 SP03 or higher
- SAP ECC 6.0
- SAP NetWeaver 2004s Usage Type Process Integrations (PI/XI) SP07 or higher
- XI Content for SAP All 4.0 SP03 or higher

**Pedigree Notification Generation
System Components**

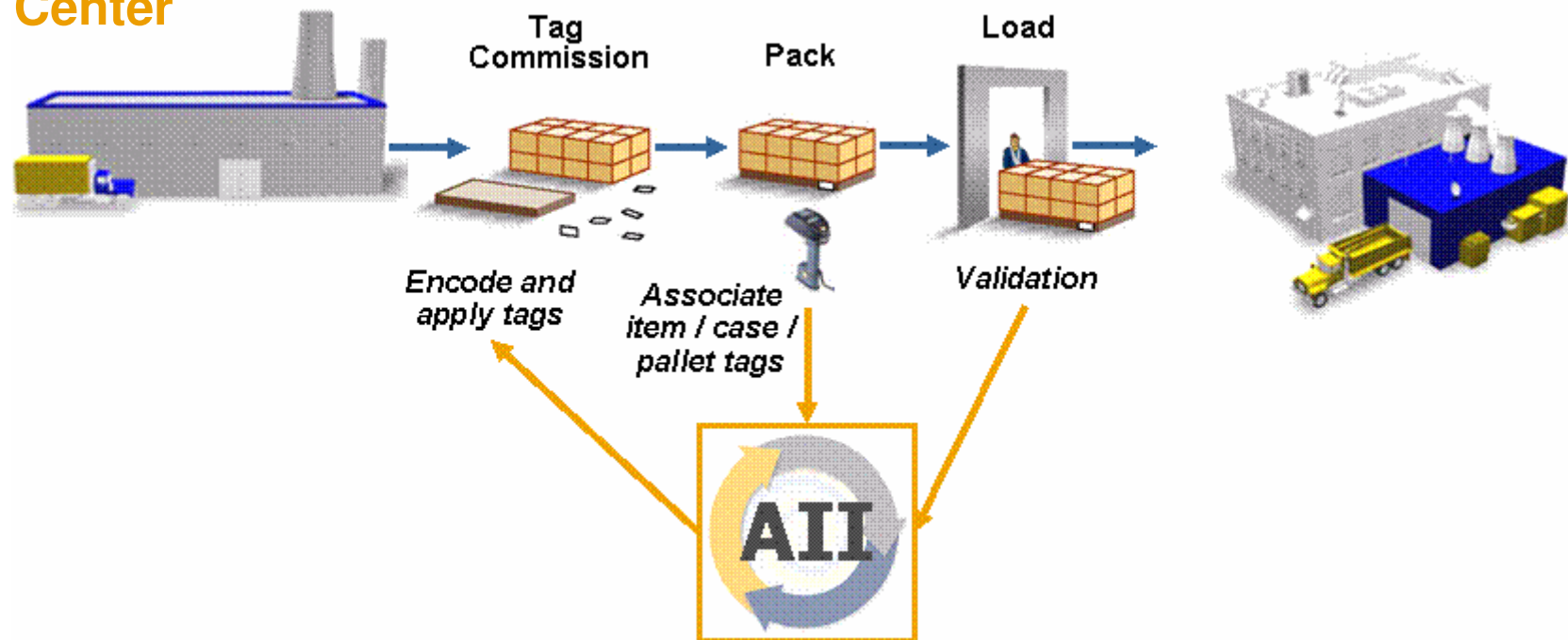
SAP RFID Enabled Process Overview

Distribution Center Process Flow

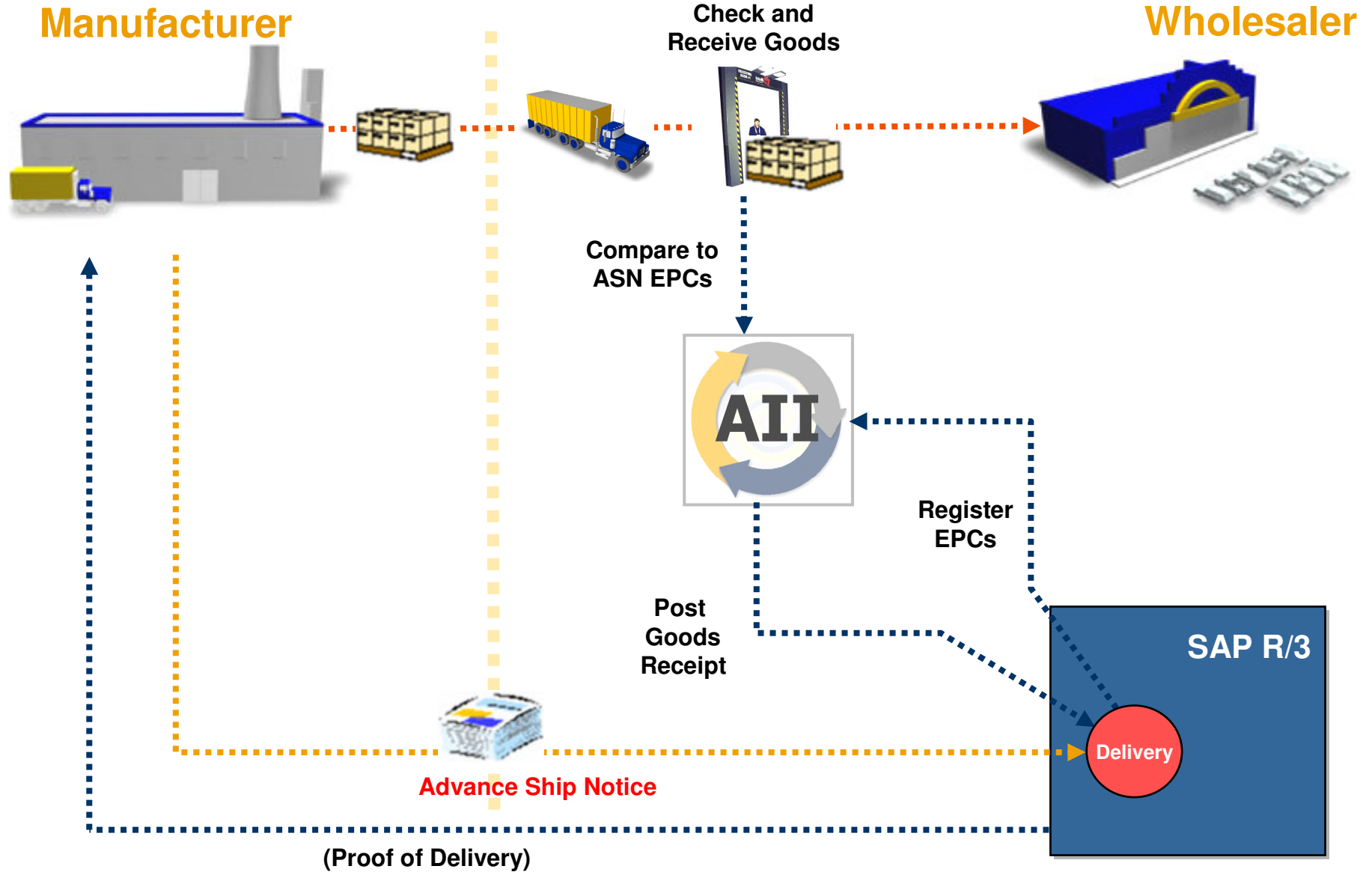


Distribution Center

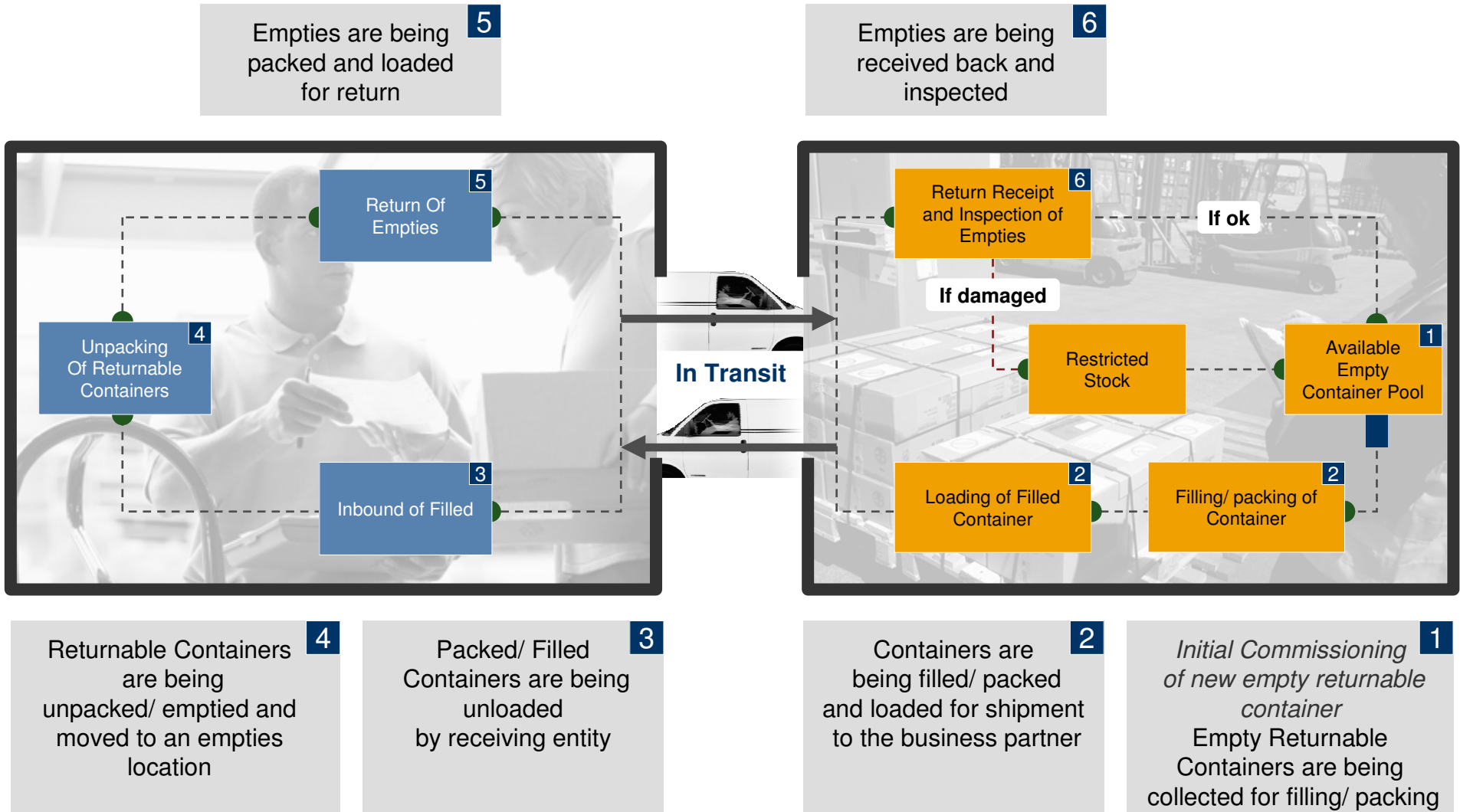
Store



RFID enabled Inbound Processing

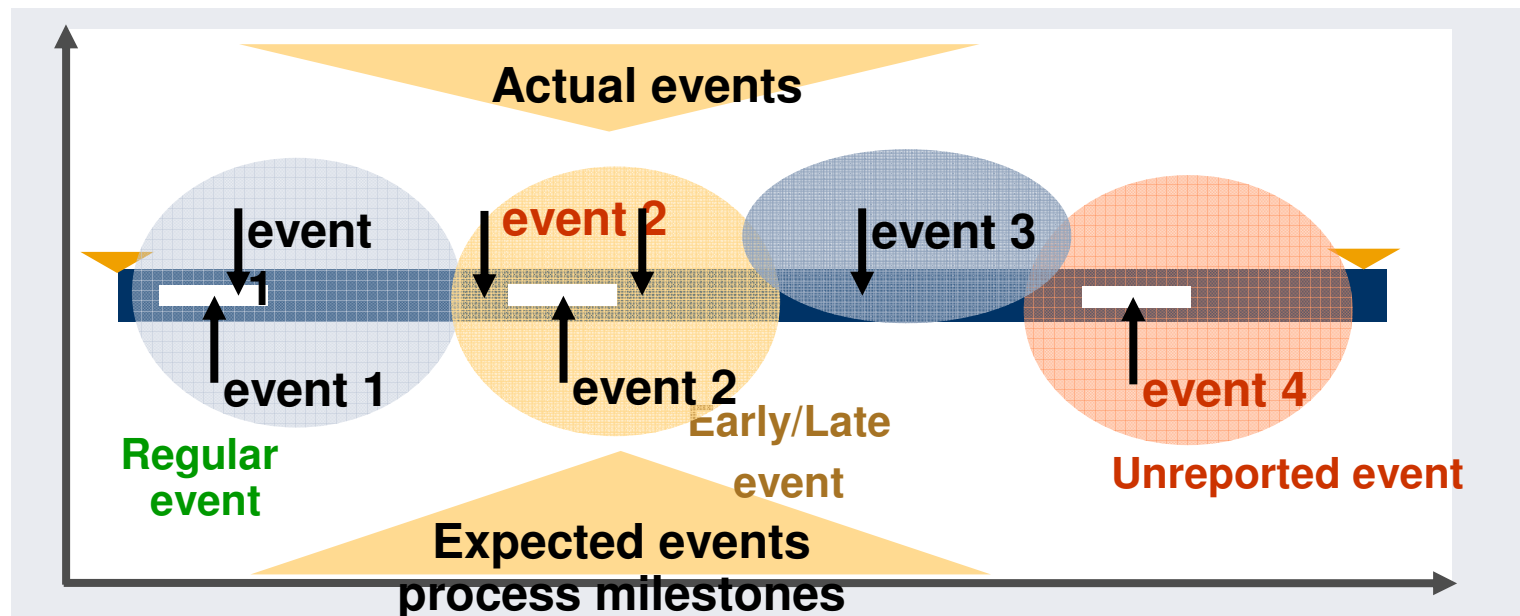


RFID enabled Returnable Transport Items (RTI) Process




How Event Management works

- Each relevant business object or process is represented by an event handler in SAP EM, including attributes (IDs, info/control parameters) and statuses
- Milestones and expected measurements contain information about what is planned to happen to the object or process
- Actual events and measurements are posted manually or from within another system (B2B exchange, web, handheld)



Process/Object Details



Search
Fast Entry
My List
Add to My List
Search Results

[Printable Version S](#)

Customer's Delivery Details

Detailed Information

Customer: 1400
 Your Purchase Order: pg-03
 Delivery Number: 80009549 **Tracking ID**
 Transportation Status: Arrived
 Delivery Status: On Time **Status**

To display detailed event information, click an item. To sort the list, click a column header.
[Click here to refresh this page.](#)

Status	Event	Planned Date/Time	Actual Date/Time	Reason Code
●	Picking Begin	May 28, 2003;7:00 AM	May 28, 2003;7:00 AM	
●	Picking End	May 28, 2003;9:00 AM	May 28, 2003;9:00 AM	
●	Packing	May 28, 2003;11:00 AM	May 28, 2003;11:00 AM	
●	Arrival Carrier	May 30, 2003;5:00 AM	May 30, 2003;5:00 AM	
●	Loading Begin	May 30, 2003;7:00 AM	May 30, 2003;7:00 AM	
●	Loading End	Jun 2, 2003	Jun 2, 2003	
M	Unplanned Event - Delay		Jun 3, 2003;12:08 AM	BREAKDOWN
●	Plant Departure	Jun 3, 2003;10:00 AM	Jun 3, 2003;10:00 AM	

⏪
⏩
⏴
⏵
⏶
⏷

Select one or more actions.

Report Proof of Delivery

Notifying the Stakeholders

Examples:
Overdue
Unexpected
event
Outside the
tolerances

Exception
Detected

Fax



Short
Message



Universal Work List

Tasks (21) Alerts (132 Unread / 144) Notifications Tracking

Show: My Open Tasks (21) <select a subview> Filter

Refresh New Task Personalize View

	Subject	Due	Priority	From	Sent	
<input type="radio"/>	Employee CARTMAN : Approve notification of absence		High	USCARTMAN	May 11, 2004	
<input type="radio"/>	Workflow verification: Create notification of absence		Normal	YUE	Oct 10, 2003	
<input type="radio"/>	Notification of absence from 16.10.2003: Revise		Normal	Cartman, Eric	Oct 23, 2003	
<input checked="" type="radio"/>	Employee CARTMAN : Approve notification of absence		Normal	USCARTMAN	Feb 19, 2004	
<input type="radio"/>	Employee CARTMAN : Approve notification of absence		Normal	Cartman, Eric	Feb 24, 2004	
<input type="radio"/>	Notification of absence from 16.10.2003: Revise		Normal	USCARTMAN	Feb 24, 2004	
<input type="radio"/>	Employee CARTMAN : Approve notification of absence		Normal	USCARTMAN	Feb 26, 2004	
<input type="radio"/>	Notification of absence from 18.02.2004: Revise		Normal	USCARTMAN	Feb 26, 2004	
<input type="radio"/>	Notification of absence from 18.02.2004: Revise		Normal	USCARTMAN	Feb 26, 2004	
<input type="radio"/>	Employee CARTMAN : Approve notification of absence		Normal	Cartman, Eric	Apr 21, 2004	

1-10 11-20 21-21 >>> / 21

Employee CARTMAN : Approve notification of absence

Launch SAP Task Forward Reserve Create Ad Hoc Request View Detail in SAP Gui

Priority: Normal
Description: Employee CARTMAN submitted a notification of absence on 10.10.2003. Make a decision about the request.
Sent: Feb 19, 2004 USCARTMAN
Status: If you reject the request, create an attachment explaining your reason for the rejection. generous! generous!
Attachments (4): LWA_Info Page (Nov 12, 2003 1:01 PM CARTMAN), LWA/WorkItemViewExecution (Nov 12, 2003 1:05 PM CARTMAN), CNN (Mar 5, 2004 3:37 PM CARTMAN), More

E-mail

Delayed Deliver of your order 10034 - Message (Rich Text)

File Edit View Insert Format Tools Actions Help

Arial 10 B I U

To: Tom.Smith@training.com

Subject: Delayed Deliver of your order 10034

Dear Mr. Smith,

unfortunately your order 10034 cannot be delivered on time. We apologize for any inconvenience caused.

Best regards, Your Supplier

Preconfigured Business SAP BI Reports

Movements across Locations (w/o. EPC) - Microsoft Internet Explorer

BEX Ad-hoc Analysis

Data Analysis Graphical display Information Information Broadcasting

Movements across Locations (w/o. EPC) Validity of Data

Save View Bookmark Variable Screen Exceptions and Conditions Comments Export to Excel Export to CSV

Rows		Pred. Location Description						0000000000000000
Exec. Date (local)		Pred. Location Identifier						#
Glob.TradeltmNo.		Pred. Location Type						#
		Not assigned						
Columns		Location Description						Walmart DC
Location Description	Exec. Date (local)	No. Inbound Movem.	Av. Inbound Movem.	No. Outbound Movem.	Av. Outbound Movem.	Result		
00000000500234	03/14/2005	6	6	3	3			
	03/15/2005	3	3	3	3			
Result		9	5	6	3			
0006880064324	11/29/2004							
Result								
#	11/29/2004							
	02/15/2005							
	02/22/2005							
	02/24/2005							
	03/02/2005							
	03/03/2005	2	2	0	0			
Result		2	2	0	0			
Overall Result		11	4	6	3			

Quality of Writes - Microsoft Internet Explorer

BEX Ad-hoc Analysis

Data Analysis Graphical display Information Information Broadcasting

Quality of Writes Validity of Data

Save View Bookmark Variable Screen Exceptions and Conditions Comments Export to Excel Export to CSV

Rows		Location Description		Device Description	Glob.TradeltmNo.	No. Exp. Writes	No. Succ. Writes	Percentage of Successful Writes
DC 1	Zebra Printer	00000000500234				4	2	50.00 %
		00037000000013				2	0	0.00 %
		00037000000020				1	0	0.00 %
		00037000222231				9	0	0.00 %
		00037000321132				3	0	0.00 %
		00037000342441				1	0	0.00 %
		#				10	0	0.00 %
Result						30	2	6.67 %
Result						30	2	6.67 %
DC 2	Allen Printer	#				1	0	0.00 %
		Result				1	0	0.00 %
		Result				1	0	0.00 %
Overall Result						31	2	6.45 %

Business Monitoring & Reporting

- Stock Situation at Different Locations
- Movements across Locations
- Movements at Location by Action Type
- Cycle Time across Locations

Technical Monitoring & Reporting

- Read Rate quality reports
- Write Rate quality reports

BW extractors from SAP All :

- BW relevant data is processed in SAP All and written to the BW delta queue in SAP All.
- BW pools the data out of the BW delta queue and writes it to the BW cubes.

- Available with SAP Auto-ID Infrastructure 4.0

■ **Questions?**



Q&A

THE BEST-RUN BUSINESSES RUN SAP™

