SAP Developer Network
– RFID Introduction

Tim Motter
Application Solution Management, SCM
Adaptability and RFID - Enabling Sense and Respond

**PLAN**
- Plan and re-plan resource needs based on business objectives

**SENSE**
- Sense and alert in real time the deviations caused by internal and external events

**EXECUTE**
- Execute plan based on available supply chain network resource capability

**RESPOND**
- Collaborate and Respond to internal and external deviations across the extended network

**LEARN**
- Continually learn from exceptions and incorporate knowledge into business processes

**VISIBILITY**
### RFID Value Proposition Spans Across Three Phases

<table>
<thead>
<tr>
<th>Data Capture (From Tags to Useable Data)</th>
<th>Date Use (today) Real-Time Data Accurate Data</th>
<th>Data Use (future) Real-Time Data Accurate Data More Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Hardware</td>
<td>• Visibility / Monitoring</td>
<td>• Revised Business Processes</td>
</tr>
<tr>
<td>- Tags</td>
<td>- Inventory Visibility</td>
<td>- SCM, CRM, ERP, etc.</td>
</tr>
<tr>
<td>- Readers</td>
<td>- Tracking and tracing</td>
<td>- Demand Planning</td>
</tr>
<tr>
<td>- Other devices</td>
<td>• Analytics</td>
<td>- Responsive Replenishment.</td>
</tr>
<tr>
<td>• Device Mgmt.</td>
<td>• Data Association</td>
<td>• Centralized Intelligence</td>
</tr>
<tr>
<td>- RFID Readers</td>
<td>- Business Data aggregation</td>
<td>• New Applications</td>
</tr>
<tr>
<td>- Bar Code Scanners</td>
<td>- Association to business applications (SCM, etc.)</td>
<td>- Tracking Medical Waste</td>
</tr>
<tr>
<td>- Printers</td>
<td>• ERP integration</td>
<td>• Across Multiple Industries</td>
</tr>
<tr>
<td>• RFID Physics</td>
<td>• Standard existing processes</td>
<td>• Master Data</td>
</tr>
<tr>
<td>- Environment</td>
<td></td>
<td>Synchronization</td>
</tr>
<tr>
<td>- Metal/Liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Data Filtering</td>
<td></td>
<td>• Scalability of RFID solution</td>
</tr>
<tr>
<td>- Security</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Accuracy / validation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Availability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Storage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Data writing on tag</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Hardware Providers**
- Symbol, Alien, Intermec

**Selected RFID Partners**
- ACSIS, Infineon

**SAP Auto-ID Infrastructure**

**SAP Business Applications**
- SAP core strength

**MAM**

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Potential Widespread RFID Proliferation

**Technology**
- EPC Global Standards
- UID & Other Standards
- Hardware Infrastructure/Device Mgmt
- Distributed Auto-ID Infrastructure
- Master / Transactional Data Systems
- Global Data Synchronization
- Data Security / Storage
- Collaborative Workflows

**RFID Enabled Processes**
- Logistics / Warehouse Mgmt
- Responsive Replenishment / VMI
- Product Tracking and Tracing
- True Demand Forecasting & Planning
- Asset Management / Tracking
- Preventive Maintenance / Tracking
- Manufacturing Assembly
- Resource Allocation / Planning
- Visibility and Analytics

**Industries**
- Aerospace and Defense
- Consumer Products and Retail
- Pharmaceutical Industry
- Automotive and Discrete Manufacturing
- Service Industries (LSP/Postal Services/Airports etc.)
- High Tech and Consumer Electronics
- Oil & Gas / Process Industries
- Others

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Technology is the Key Enabler

Composites / Pre-Configured Business Processes
- Scalable/Flexible Core Technology
- SAP NetWeaver Components
  - Auto-ID infrastructure
  - Exchange Infrastructure

Business Process Components
- Process Specific Capabilities
- Standards Management (EPC, UID, etc.)
- Shipping, Receiving, Picking, etc.

Technology
- Scalable/Flexible Core Technology
- SAP NetWeaver Components
  - Auto-ID infrastructure
  - Exchange Infrastructure
  - Business Activity Monitoring / Event Management
  - Master Data Management
  - etc.
What is the RFID Solution Landscape?

### Function

<table>
<thead>
<tr>
<th>Tags</th>
<th>Readers</th>
<th>Device Management</th>
<th>Auto-ID Infrastructure</th>
<th>Exchange Infrastructure</th>
<th>Enterprise Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold Data</td>
<td>Transmit data using radio waves</td>
<td>Read / write / Transmit data to systems</td>
<td>Manage multiple Readers &amp; standardizes data</td>
<td>Store and translate raw EPC data to business data</td>
<td>Route business data and events to applications</td>
</tr>
</tbody>
</table>

### Delivery

- Hardware Expertise Consulting
- System Integration Services: Value generation with RFID
- Tag Vendor
- HW Partner
- Partner

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SAP’s 2.1 RFID Solution Details

RFID enabled Outbound Processing
- Create Delivery
- Pick Delivery
- Commission Tags
- Pack with RFID
- Load with RFID
- Post GI
- Send ASN

RFID enabled Inbound Processing
- Receive ASN with UIDs
- Create Inbound Delivery
- RFID Read of Cases received
- GR Is recorded
- Inbound Delivery is confirmed

SAP NetWeaver™
- SAP BI 3.5
- WebAS 6.40
- XI 3.0

Device Controllers & Management
- SAP AII 2.1
- mySAP SCM 4.1 EM
- Adaptor
  - SAP R/3 4.6C, 4.7 ES 2.0
- mySAP ERP
- Non-SAP Systems (Project integration)

Partner Strategy

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Deployment Phases Processes Supported

**Phase I - Installation Option**
SAP Stand-Alone All

- SAP All 2.1
- SAP WebAS
- SAP Preconfigured BI

**Phase II - Installation Option**
SAP All integrated with Backend

- SAP All 2.1
- SAP WebAS
- SAP Preconfigured BI
- SAP Exchange Infrastructure
- Event Management
- R/3 Adaptors

- Tag Commissioning
- Pack
- Load
- ASN

- Manual RFID enabled Outbound Processing
- Slap-and-Ship Technology

- RFID enabled Inbound Processing
- RFID enabled Outbound Processing

Infrastructure for future and successively enabled RFID enabled Standard Business Processes
Adaptable Value Based Approach

Flexible, Scalable, Configurable,

- Flexible – Able to support multiple industries
- Configurable – Able to support multiple processes
  - Installation Options and a Migration path from a Pilot to a Roll-out solution help to manage your Investment Risks
  - Rules based infrastructure independent of the transaction system.
- Scalable – Easy to Deploy and Expand
  - Enables pilot / compliance deployments up to fully enabled RFID business processes

Low Total Cost of Ownership

- A Platform and Technology that supports successive business process integration enables progressive leverage of your investment
- Easy RFID device configuration, deployment and maintenance
- Central administration tools
- Progressive availability of RFID enabled processes and industry scenarios
- Long-term hardware and firmware component support and upgrade management
- A solution that supports RFID standards evolution
- Stability and robustness of SAP as your RFID Technology Business Partner