Defense Logistics Agency

AIT and passive RFID

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Agenda

• About RFID
• RFID in DoD
• WAWF
• Tagging
• RFID in DLA
• Benefits
• Resources
• Summary
How Does passive Radio Frequency Identification (RFID) Work?

- **Tags** emit radio signals
- Devices called **Readers** pick up the signal
How Does DoD Uses RFID

Active Freight Container (SEAVAN and 463L Pallet) Tag associated to a…

Passive Palletized Unit Load Tag associated to a…

Logistics systems receive the data from various RFID data collection points and create the nested associations

Active Freight Container Tag
• Palletized Unit Load Tag
• Exterior Container Tag
• UID Unit Pack Tag
• UID Item

Source: 8/2/05 Briefing by Mr. Alan Estevez
Assistant Deputy Under Secretary of Defense (Supply Chain Integration)
AIT Layers

Layer 0 UID – Product Item

Layer 1 – Package

Layer 2 – Transport Unit (cartons, boxes)

Layer 3 – Unit Load (Warehouse pallet, tri-wall packaging, commercial fiberboard)

Layer 4 – Freight Container (sea vans, 463L pallets with net)

Layer 5 – Movement Vehicle (truck, aircraft, ship, train)

Baseline AIT

Primary

Back Up
Wide Area Work Flow (WAWF)

- Secure Web-based system for electronic invoicing, receipt and acceptance
- WAWF creates a virtual folder to combine the three documents required to pay a Vendor
  - Contract
  - Invoice
  - Receiving Report.
- Supports paperless acquisition process.
- Public Key Infrastructure (PKI) digital signature security

Streamlines the process from Weeks to Days or Minutes.
When are pRFID tags required?

Passive RFID tags at the case and pallet levels when the following three factors are true:

1. Contract contains passive RFID DFARS clause (DFAR 252.211-7006), specific language requiring RFID tags.
2. Your equipment/commodity falls under the classes of supply required to be tagged as described in the passive RFID DFARS clause.
3. Your equipment/item is being shipped to one of the RFID-enabled/implemented locations listed in the passive DFARS clause or a location specified by the contracting officer in your contract.

The most recent version of the passive RFID DFARS clause is available at http://www.acq.osd.mil/dpap/dars/dfars/html/current/252211.htm#252.211-7006.
Tagging Options

**Automated Labeling**
- Applicators / RFID encoders can program and apply tags automatically on production lines.

**Print and Apply**
- Similar to standard printed labels, RFID-enabled printers can print human readable information (barcode, etc) as well as program embedded RFID tags.

**Pre-Programmed Labels**
- Tags are printed and programmed to comply with DoD
## DoD Tag Construct

- Must encode an approved RFID tag data structure
- Suppliers that are EPCglobal subscribers and possess a GS1 company prefix may use any of the EPC Identifiers and encoding instructions described in the EPC™ Tag Data Standards document to encode tags.
- Suppliers who choose to employ the DoD construct will use their previously assigned Commercial and Government Entity (CAGE) code and encode the tags per the rules that follow.

<table>
<thead>
<tr>
<th>Header</th>
<th>Filter</th>
<th>Gov't Managed Identifier</th>
<th>Serial number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identified DoD Construct</td>
<td>identifies the hierarchy represented using the following values:</td>
<td>Supplier CAGE Code</td>
<td>68+ Billion Unique</td>
</tr>
<tr>
<td>8-bits</td>
<td>4-bits</td>
<td>48-bits</td>
<td>36-bits</td>
</tr>
<tr>
<td>Hex</td>
<td>Binary</td>
<td>Desc</td>
<td></td>
</tr>
<tr>
<td>2F</td>
<td>00101111</td>
<td>DoD Construct</td>
<td>ASCII &quot;space&quot; + 5 ASCII characters</td>
</tr>
</tbody>
</table>

- **Hex**: 0 0000 pallet
- **Binary**: 0001 case
- **Desc**: 0010 unit pack
RFID-enabled labels are to be applied to shipping containers or palletized unit loads, in accordance with the standards presented in MIL-STD-129.
Leverage Automatic Identification Technology in our logistics operations to better support the warfighter by reducing cost and improving service.

Suppliers: Leverage Tagging Today

Distribution: Improve Operations

Customer: Improve Service
Defense Distribution Centers

Distribution Depots receiving tagged RFID cases and pallets today

- CONUS: All Distribution Depots
- OCONUS: DDPH and DDGM
# RFID Benefits

## Supplier Benefits
- Improved planning
- Faster demand responses
- Reduced Bull Whip Effect
- Streamlined business processes
- Improved efficiency in the recall of defective items
- Increased ability to ensure that product(s) remain stocked on DoD’s shelves
- **Faster receipt of payments for supplied goods**

## DoD Benefits
- Improved inventory management
- Improved labor productivity
- Elimination of duplicate orders
- Replacement of manual procedures
- Automated receipt and acceptance
- Improved inventory and shipment visibility and management
- Reduced shrinkage
- Enhanced business processes within the DoD
- Improved asset tracking
Resources

- WAWF: https://wawf.eb.mil/
- WAWF Training: http://www.wawftraining.com/
- epcGlobal: http://www.epcglobalinc.org/standards
- MIL Packaging Standards: http://assist.daps.dla.mil
Summary

• Passive RFID has benefits for DoD and its suppliers

• DoD Policy requires suppliers to tag cases and pallets for certain products into specific destinations

• By improving velocity and reliability, DLA will help make the defense supply chain a more effective weapon for use by the warfighter
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