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WASHINGTON, DC 20301-3010

ACQUISITION,
TECHNOLOGY
AND LOGISTICS

FEB 20 2004

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Radio Frequency Identification (RFID) Policy - UPDATE

This memorandum updates the "Radio Frequency Identification (RFID) Policy", dated October 2, 2003. This policy update provides revised business rules for the use of high data capacity active RFID (Attachment 1) and an initial set of business rules for the implementation of passive RFID and the use of the Electronic Product Code (EPC) compliant tags within the Department of Defense (DoD) supply chain (Attachment 2). This policy and associated business rules will continue to be refined as we implement the active RFID capability and pilot the passive RFID capability over the next six months.

DoD Components will continue maximum effort to immediately implement and expand the use of high data capacity active RFID currently employed in the DoD operational environment. DoD Components will also plan for a January 1, 2005 implementation of the passive RFID business rules. These rules, which are in Attachment 2, include the requirement for DoD suppliers to put passive RFID tags on the cases and pallets of materiel shipped to the DoD as well as on the packaging of all items requiring a Unique Identification (UID). DoD Components will establish an initial capability to read passive RFID tags and use the data at key sites by January 2005. The Defense Logistics Agency has committed to making the strategic distribution centers (San Joaquin, CA, and Susquehanna, PA) capable of reading passive RFID attached to shipments received from suppliers and applying passive RFID tags on shipments to DoD activities and units by that date.

A key component to implementing RFID throughout our supplier base is the publication of a Defense Federal Acquisition Regulation (DFAR) rule governing the application of RFID to the case/pallet/item packaging for materiel purchased by the Department. To that end, I have directed the Deputy Under Secretary of Defense (Logistics and Materiel Readiness) (DUSD(L&MR)) to work with Defense Procurement and Acquisition Policy to develop a proposed rule for publication in the Federal Register by May 2004. The rule will require passive RFID tagging at the case, pallet and UID item packaging level for all new solicitations issued after October 1, 2004, for delivery of materiel on or after January 1, 2005.

Use of RFID to streamline our supply chain includes the integration of RFID event data into the DoD logistics information systems. To achieve this goal, the Assistant Deputy Under Secretary (Logistics Systems Management) will determine the requirements needed to integrate the RFID data into the DoD data environment in consonance with the Business Enterprise Architecture. The effort will include the integration with legacy/modernized logistics systems, middleware translation requirements, architecture and enterprise infrastructure requirements, and data security issues. The results of this effort will be available March 2004 and will assist DoD in decisions for legacy systems support as well as new systems development across the DoD.

In order to provide a capability to purchase passive RFID technology and leverage the purchasing power across the Department, the Army's Program Executive Office Enterprise Information Systems (PEO EIS) office will establish a multi-award contract mechanism to procure EPC compliant technology. Contracts will only be awarded to vendors who meet the published EPC tag specification.

Much remains to be completed prior to issuing the final RFID policy in July 2004. This requires your continued strong support of RFID policy development effort led by the Assistant Deputy Under Secretary (Supply Chain Integration). The RFID IPT will complete the following tasks and resolve the remaining issues outlined below:

- Finalize DoD requirements for use of the EPC (March 2004)
- Finalize DoD passive RFID technical specifications – tags and infrastructure (March 2004).
- Identify RFID budget requirements (March 2004)
- Conduct a second DoD RFID Summit for Industry (April 2004)
- Publish a proposed DFARS Rule for the application of passive RFID tags at point of origin (manufacturer/vendor) on items procured by DoD (May 2004)
- Complete an analysis of the initial RFID implementation projects (June 2004)
- Complete an analysis of applicable regulations and other requirements, such as Hazards of Electromagnetic Radiation to Ordnance (HERO) certification (June 2004)
- Provide a final RFID policy and implementation strategy (July 2004)
- Implement passive RFID contract schedule (August 2004)
- Develop an education and training plan for DoD RFID (September 2004)
- Issue final DFARS rule effective October 1, 2004 (September 2004)

We will continue to partner with our suppliers on this critical initiative. An RFID enabled DoD supply chain will reduce our operating costs, allow us to refocus critical manpower resources, and will provide a key enabler for the asset visibility support

needed by our warfighters. Your efforts are vital to our success in meeting this requirement. Additional information is available at http://www.acq.osd.mil/log/rfid/index.html.

Michael W. Wynne
Acting

Attachments:
As stated

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POLICY PRINCIPLES FOR USE OF ACTIVE RFID TECHNOLOGY IN THE DOD SUPPLY CHAIN
Active RFID Business Rules in support of Combatant Command Asset Visibility

General Overview

Active RFID tags are data rich and allow extremely low-level RF signals to be received by the tag (since the reader/interrogator does not power the tag), and the tag (powered by its internal source) can generate high-level signals back to the reader/interrogator. Active RFID tags can hold large amounts of data, are continuously powered, whether in the reader/interrogator field or not, and are normally used when a longer tag read distance is desired.

The DoD Logistics Automatic Identification Technology (LOG-AIT) Office is the DoD focal point for coordinating overarching guidance for the use of AIT within DoD. The Program Executive Office, Enterprise Information Systems (PEO EIS), Product Manager - Automatic Identification Technology (PM-AIT) Office is the procurement activity for AIT equipment (to include RFID equipment and infrastructure) within the DoD. The Defense Logistics Agency (DLA) is the procurement activity and single manager for all active RFID tags. Users will coordinate RFID equipment/infrastructure procurement through PM-AIT and tag procurement from DLA to ensure interoperability and compliance with this policy.

DoD users will develop internal active RFID CONOPS and implementing procedures by 1 July 2004 to ensure total interoperability and standardized implementation throughout their organizations.

Active RFID Business Rules for immediate implementation to meet Combatant Command Asset Visibility Requirements

Sustainment/Retrograde Cargo

All Layer 4[1] Freight Containers (e.g. 20/40 foot sea vans, large engine containers) and palletized (463L air pallets) sustainment/retrograde shipments must have active data-rich RFID tags written with content level detail (nomenclature, stock number etc.) and applied at the point of origin by

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[1] Layer 4 = Freight container (e.g. 20 or 40 foot SeaVans, 463L Pallets with net)

An article of transport equipment:

- Of a permanent character and accordingly strong enough to be suitable for repeated use.
- Specially designed to facilitate the carriage of goods by one or more modes of transport, without intermediate reloading.
- Fitted with devices permitting its ready handling, particularly its transfer from one mode of transport to another.
- So designed as to be easy to fill and empty.
- Having an internal volume of 1 m^3 or more.

The term "freight container" includes neither vehicles nor conventional packing.

Attachment 1

all activities (including vendors) stuffing containers or building air pallets. Containers and pallets reconfigured during transit must have RFID tags updated to accurately reflect new contents by the organization making the change.

Unit Movement Equipment and Cargo

All Layer 4 Freight Containers (e.g. 20/40 foot sea vans, large engine containers) and palletized (463L air pallets) unit move shipments, as well as all major organizational equipment, must have active data-rich RFID tags written with content level detail (nomenclature, stock number etc.) and applied at the point of origin by all activities (including vendors) stuffing containers or building air pallets. Exception to this requirement applies to self-deploying aircraft and ships.

Ammunition Shipments

All Layer 4 Freight Containers (e.g. 20/40 foot sea vans) and palletized (463L air pallets) ammunition shipments must have active data-rich RFID tags written with content level detail (nomenclature, stock number etc.) and applied at the point of origin by all activities (including contractors) stuffing containers or building air pallets. Containers and pallets reconfigured during transit must have RFID tags updated to accurately reflect new contents by the organization making the change.

Prepositioned Materiel and Supplies

All Layer 4 Freight Containers (e.g. 20/40 foot sea vans, large engine containers) and palletized (463L air pallets) prepositioned stocks or War Reserve Materiel (WRM), as well as all major organizational equipment, must have active data-rich RFID tags written with content level detail (nomenclature, stock number etc.) and applied at the point of origin by all activities (including vendors). Execution for current afloat assets will be completed during normal maintenance cycle or sooner as desired.

RFID Tag Files

All active data-rich RFID tag files will be written with content level detail (nomenclature, stock number, etc.) in accordance with approved formats and forwarded to the regional in-transit visibility (ITV) server(s) for further transmission to Global Transportation Network (GTN) and other global asset visibility systems as appropriate. Transmission must be in accordance with established DoD data timeliness guidelines.

RFID Infrastructure

USTRANSCOM will ensure that designated strategic CONUS and OCONUS aerial ports and seaports (including commercial ports) supporting military operations have RFID equipment (interrogators, write stations, tags, brackets) with read and/or write capability to meet Combatant Commander requirement for asset visibility. Military and commercial ports will be instrumented

with fixed or mobile capability based on volume of activity and duration of the requirement at the port.

Military Departments and Combat Support Agencies are responsible for end-to-end In-Transit Visibility and will ensure sufficient RFID infrastructure and equipment (interrogators, write stations, tags, and brackets) is appropriately positioned in order to fully support Combatant Commander OPLANs and military operations. As above, military and commercial ports will be instrumented with fixed or mobile capability based on volume of activity and duration of the requirement at the port.

To ensure users take maximum advantage of inherent efficiencies provided by this technology, RFID capability will be fully integrated into existing and future logistics automated information systems in order that RFID recorded events become automatic transactions of record. Geographical Combatant Commanders may direct Service Components/Combat Support Agencies to acquire, operate, and maintain other theater supporting RFID infrastructure to meet changing theater operations.

As a general rule, an organization responsible for port or logistics node operation is also responsible for installing, operating, and maintaining appropriate RFID capability. Additionally, when responsibility for operating a specific port or node changes (e.g. aerial port operations change from strategic to operational), the losing activity is responsible for coordinating with the gaining activity to ensure RFID capability continues without interruption.

RFID Funding

The cost of implementing and operating RFID technology is considered a normal cost of transportation and logistics and as such should be funded through routine Operations and Maintenance or Working Capital Fund processes. It is the responsibility of the activity at which containers, consolidated shipments, or air pallets are built or reconfigured to procure and operate sufficient quantities of RFID equipment (interrogators, write stations, tags, brackets) to support the operations. Working Capital Fund activities providing this support will use the most current DoD guidance in determining whether operating cost authority (OA) or capital investment program (CIP) authority will be used to procure the required RFID equipment. If the originating activity of the Layer 4 container/consolidated air pallet is a vendor location, it is the responsibility of the procuring Service/Agency to procure sufficient RFID equipment to provide to the vendor to meet the requirement. Additionally, Combatant Commanders are responsible for coordinating with their Service Components to ensure adequate enroute RFID infrastructure is acquired and operating at key logistics nodes.

RFID Tag Return

The DLA automated wholesale management system will provide tags through existing supply channels. The single Item Manager for the active RFID sustainment tags is the Defense Supply Center Philadelphia (DSCP), Inventory Control Point (ICP) Routing Identifier Code S9I. Only new Condition Code A tags will be sold to customers.

All returned tags that are serviceable after refurbishment will be received into wholesale inventory as Condition Code B and will be available as free issue from the DLA Defense Distribution Center (DDC) when they are placed on a pallet/container by DDC. This will spread the savings across the DoD Community of active tag users. When DDC requisitions tags, Condition Code B tags will be issued first. If there are no Condition Code B tags available for issue to the DDC, the DDC will pay the standard price for Condition Code A tags. Activities may use the Defense Logistics Management Supplement Materiel Returns Program (MRP) to return tags no longer required and receive reimbursement for packaging, crating, handling, and transportation (PCH&T) costs. Excess tags sent back without MRP transactions will not result in PCH&T reimbursement to the customer. The PCH&T reimbursement incentive for tags received with MRP transactions will result in reduced costs and savings to DoD from reusing the Condition Code B tags. The Military Services, other requisitioners and users may opt to establish their own retail operation for used tags and incur the cost of refurbishment themselves.

RFID Tag Formats

The DoD LOG-AIT Office is responsible for coordinating, establishing, and maintaining RFID tag formats and data content. The RFID tag procedures will be identified in the Defense Transportation Regulation (DoD 4500.9-R) and the format requirements published in MIL STD 129 (DOD Standard Practice for Military Marking for Shipment and Storage).

RFID ITV Server Management

The PM-AIT Office will manage the RFID ITV Servers. All Military Services, Combatant Commanders, and DoD Agencies operated RFID interrogators will forward their data to the ITV servers maintained by PM-AIT. This will enable the PM-AIT Office to program for funding and provide a centralized management structure for the regional ITV Servers, including the SIPRNET ITV server. PM-AIT is responsible for ensuring that ITV system performance and information assurance requirements are in accordance with DoDD 8500.1 and DODI 8500.2. The NIPRNET-based ITV servers must be interoperable with GTN, GTN 21, JTAV/IDE, and other DoD Logistics Systems as determined by the PM-AIT Office and the User Representative(s). The SIPRNET-based ITV server must interoperate with Global Combat Support System (GCSS) and Global Command and Control System (GCCS) and other classified systems as determined by PM-AIT and the User Representative(s). PM-AIT will be responsible for maintaining the accreditation and networthiness certification of all ITV servers.

POLICY PRINCIPLES FOR USE OF PASSIVE RFID TECHNOLOGY IN THE DOD SUPPLY CHAIN

Passive RFID Business Rules for the DoD Supply Chain

General Overview

Passive RFID tags reflect energy from the reader/interrogator or receive and temporarily store a small amount of energy from the reader/interrogator signal in order to generate the tag response. Passive RFID requires strong RF signals from the reader/interrogator, and the RF signal strength returned from the tag is constrained to very low levels by the limited energy. This low signal strength equates to a shorter range for passive tags than for active tags.

Semi-passive tags differ from passive in that semi passive tags possess an internal power source (battery) for tag circuitry which allows the tag to complete other functions such as monitoring of environmental conditions (temperature, shock) and which may extend the tag signal range.

Passive RFID Business Rules commencing January 1, 2005 for all materiel purchased by DoD

Case/Pallet Level Tagging/Marking

1. Cases/warehouse pallets of materiel (except bulk commodities such as sand, gravel or liquids) will be tagged at the point of origin (manufacturer/vendor) with passive RFID tags at the case/pallet level (2nd level packaging).

2. DoD sites where materiel is associated into cases/warehouse pallets will tag these materiel and supplies with an appropriate passive RFID tag at the case/pallet level (2nd level packaging) prior to further trans-shipment to follow-on DoD organizations, Agencies, or Services. The Defense Logistics Agency will ensure the strategic distribution centers at San Joaquin, CA and Susquehanna, PA will be passive RFID enabled by January 1 2005.

Item Level Tagging/Marking

1. All items that require a Unique Identification (UID), and items specified by the procuring activity, will be tagged on the item packaging at origin (manufacturer/vendor) with a passive RFID tag.

Note: Specific tag orientation and location, as well as physical mounting requirements are being reviewed and will be addressed in forthcoming revisions to both this policy and the appropriate DoD documentation.

Attachment 2

POLICY PRINCIPLES FOR USE OF PASSIVE RFID TECHNOLOGY IN THE DOD SUPPLY CHAIN

Passive RFID Business Rules for the DoD Supply Chain

Contract/Solicitation Requirements

All new solicitations for materiel issued after October 1, 2004 for delivery on or after January 1, 2005 will contain a requirement for passive RFID tagging at the case, pallet (2nd level packaging) and UID item packaging level in accordance with an appropriate Defense Federal Acquisition Regulation (DFAR) Rule/Clause.

Technical Specifications

The following table outlines the specific focus of this policy by RFID layer and identifies the tag type, tag class, and DoD approved frequency of the tags along with the nominal read ranges.

RFID Layer	Description	Tag Type	Class Tag	Frequency	Read Range	Requirement
0	Item	Passive	0, 1 or higher	UHF	3 m	Not yet Required
1	Item Package	Passive	0, 1 or higher	UHF	3 m	Required on UID/specified items Jan 1, 2005
2	Transport Unit, case,	Passive	0,1 or higher	UHF	3 m	Required 1 Jan 2005
3	Unit Load, pallet,	Passive	0, 1 or higher	UHF	3 m	Required 1 Jan 2005

RFID tag specification:

1. When available, the DoD will use the Electronic Product Code (EPC) Class 1, Generation 2 tag.

2. Until the EPC Class 1, Generation 2 tag is available, the DoD will accept current EPC tags for tests, pilots, and initial implementation projects.

3. Initially, the DoD will require a tag utilizing a 96-bit tag for items acquired in accordance with the passive RFID business rules.

4. The ultimate goal for the DoD is to use an open standard, EPC compliant tag that will support DoD end-to-end supply chain integration.

Passive RFID Infrastructure, Architecture, and Integration

To ensure users take maximum advantage of inherent efficiencies provided by this technology, RFID capability will be fully integrated into existing and future logistics Automated Information Systems (AISs) in order that RFID recorded events become automatic transactions of record. The

POLICY PRINCIPLES FOR USE OF PASSIVE RFID TECHNOLOGY IN THE DOD SUPPLY CHAIN

Passive RFID Business Rules for the DoD Supply Chain

DUSD(L&MR) Logistics Systems Management office will analyze and review passive RFID data requirements for inclusion into the DoD Business Enterprise Architecture (BEA) and Service/Agency/DoD level automated information system (AIS) integration.

This review will include:

- DoD Business Enterprise Architecture
- Legacy and modernized AIS integration
- Data infrastructure requirements (middleware, process servers, network, etc.)

Security

Passive RFID security is at the network or architecture level. The DUSD(L&MR) Logistics System Modernization office, in coordination with the Joint Staff, will analyze and review passive RFID data infrastructure and network security requirements.

RFID Funding

The cost of implementing and operating RFID technology is considered a normal cost of transportation and logistics and as such should be funded through routine Operations and Maintenance or Working Capital Fund processes. It is the responsibility of the activity at which cases/warehouse pallets are built to procure and operate sufficient quantities of RFID equipment (interrogators/readers, write stations, tags, etc.) to support the operations. It is the responsibility of the activity at which cases/warehouse pallets are received, (i.e. activity where the "supply" receipt is processed) to procure and operate sufficient quantities of RFID equipment (interrogators/readers) to support receiving operations. Working Capital Fund activities providing this support will use the most current DoD guidance in determining whether operating cost authority (OA) or capital investment program (CIP) authority will be used to procure the required RFID equipment.