Unique Identification (UID) - DoD Program Manager Workshop -

May 5, 2005
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Agenda

- Lockheed Martin’s Journey to Compliance!
  - Impact
  - Leveling communication
  - Corporate UID IPT
  - Corporate implementation strategy
  - Current State
  - Leveraging common toolsets (tailorable)
- DoD Program Manager’s Journey to Compliance!
  - Checklist to an affordability plan
  - Understanding your Program’s current state and UID approach
  - Identifying UID specified parts and insertion opportunities
  - Developing an affordable implementation timeline
  - Notional estimating costs
  - Common and tailorable toolsets
- Summary
- Lockheed Martin Resources
- Q&A
Lockheed Martin’s Journey to Compliance
DoD Strategic Imperatives

✓ Aeronautics
✓ Electronic Systems
✓ Information & Technology Services
✓ Integrated Systems & Solutions
✓ Space Systems

• Audit/Compliance
• Business Development
• Communications
• Customer Support/Logistics
• Engineering/Planning
• Finance & Contracts Management
• On-Site DoD Property Management
• Information Systems

• Human Resources
• Legal Counsel
• Manufacturing Production
• Material Management/Supply Chain
• Packaging/Shipping
• Procurement
• Program Management
• Quality Assurance

Widespread and at Varying Levels!
Impact Drivers At Lockheed Martin

- **2D Data Matrix is not currently prevailing technology at LM**
  - *Industry masters... 3-5+ years to transform & optimize*
- **LM businesses have offered tailored processes and infrastructure...**
  - *Current state varies:*
    - Business area (unit, site, facility) and Program-based infrastructures
    - Part marking/tracking methodologies and information architectures
- **Future state of 2D Data Matrix part marking and associated data flow will vary by location, program**
  - *Customer-centric differences (DoD, Non-DoD)*
    - Resource funding sources
    - Quantity determinations
  - *Business-centric differences*
    - UID maturity - part marking, associated data flow (WAWF), integration with internal processes; UID maturity - supplier base
  - *Product differences*
    - % of new designs
    - % of pre-designed - % of nameplates/labels, % of engineering drawings and/or analysis reviews required; % of product in production, on order, in stock, in use, etc.
**Part A:** UID
New DoD Solicitations/Acquisitions
(effective 1/1/04 – Interim DFARS Issued; Final DFARS Issued 4/22/05)

**Part B:** UID
DoD Government Property – DD1662: GFP, GFE, Special Tooling & Equip At Contractor Locations
(effective 1/1/06 – DFARS Pending)

**Part C:** RFID
DoD Packaged Items - Exterior Cases, Pallets And Shipping Containers
(effective 1/1/05 – DFARS Pending)

**Part D:** UID
DoD Legacy Property In Operational Use, In Inventory
(pre 1/1/04 and post 1/1/04 escapes – Contract Mods Required)

LM Phase Two - Leverage DoD requirements, assist LM Business Units in continued process (cost benefit) enhancements and institutionalization.
Corp UID IPT Objective
Assist LM Business Units to achieve required UID and RFID capability based on their business needs (minimize cost and schedule impact to technology, valuation and data insertions)
  • Phase I – Get it done utilizing Lean toolsets
  • Phase II – Optimize and Institutionalize

Technical Project Objective
Significantly reduce resource and tool development preparation activities at the business level

Value Proposition Statement
Leverage common toolsets and existing assets to achieve compliance
Corporate UID IPT Membership

- IPT Leadership
- **Business Area Leads**
- Audit
- Communications
- Configuration Management
- Engineering & Quality
- Finance – Contracts, Estimating
- Information Services
- International Liaison
- Legal
- Logistics/Customer Support
- I-GUIDES

- Manufacturing & Quality
- Procurement
- Program Management
- **Property Management**
- RFID
- Supply Chain
- Training
- **Wide Area Workflow (WAWF)**
- **Customer Liaisons:**
  - OSD
  - DCMA
  - DCAA
- Subcontract Liaison

Integrating Parts A, B, C and D!
Lockheed Martin UID Implementation Approach

- Provides Corporate implementation guidance to our Business Areas and Units
  - Phased Implementation Structure
  - Pursue alternate methods vs. drawing changes
  - Contracts and valuation guidance
  - Contract strategies (tailoring of MIL-STD-130L Change 1)
  - UID supplier base flowdown
  - Transition considerations
  - Cost recovery methodology
  - Data retention
- Not a contractually binding agreement between Lockheed and DoD, DCMA, etc.

COMPANY
Unique Identification (UID) Implementation Approach
February 10, 2005
(Supersedes May 25, 2004 Document)

1. DOCUMENT PURPOSE.

Unique Item Identifier (UID) means a set of data elements marked on items that is globally unique and unambiguous, and Unique Identification (UID) means a system of marking items delivered to the Department Of Defense (DoD) with unique item identifiers that have machine readable data elements to distinguish individual items from all others.

This is the most current UID and Radio Frequency Identification (RFID) implementation guidance to COMPANY business areas and units. This document is not contractually binding and may be updated as necessary by COMPANY without notification to DoD.

2. DoD REQUIREMENTS.

UID—New Solicitations and Acquisitions (Part A): In July 2003, DoD announced a Defense Federal Acquisition Regulation Supplement (DFARS) policy for UID of specified tangible items to be required on new solicitations issued on or after January 1, 2004. Interim DFARS 211.274-1 and DFARS clause 252.211-7003 have been issued to direct implementation of the policy. MIL-STD-130L w/Change 1 required the use of 2D Data Matrix technology and is incorporated in contracts that include the DFARS 211.274-1 clause, physical
At this time, Lockheed Martin does not plan on negotiating a contractually binding Corporate UID Implementation Approach, SPI, MOU, etc.
- Relief to requirements is not our overall strategy
- DCMA and PMO participation on UID IPT(s) continues

Lockheed Martin Business Areas/Units will determine applicability and use of a negotiated Business Area, Facility or Unit strategy

DCMA has the authority to grant short term extensions on UID implementation if such extensions are consistent with the implementation schedule of a negotiated corporate or facility strategy
- A program may be able to get implementation relief that is consistent with the implementation schedule of a previously negotiated Corporate or Facility (Business Area, Facility, Unit) strategy

LM Business Area, Unit or Facility & DCMA negotiated implementation approach...will be utilized on an as needed basis only!
“Sample” Implementation Approach – Integrating Parts A, B, C and D

A planning toolset – DCMA negotiated agreement!
Lockheed Martin’s Current State

- Engaged in high levels of communication
  - Executive, Customer and Senior Leadership briefings
  - Active member of multiple UID/RFID working groups
    - AIA - Aerospace Industries Association
    - JACG - Joint Aeronautical Commanders Group
    - GEIA – Govt Electronics Industries Association
    - NDIA – National Defense Industrial Association
  - Functional (organizational) briefings, training and road shows
  - Collaborative websites on UID and RFID
  - Focused Logistics Enterprise – Horizontal Integration
  - Internal and external publications/articles

- Total impact remains fluid… quantity of part numbers affected?
- Initiated Supplier Outreach
  - High% of UID items will most likely be provided by supplier base
- Accomplished 1st DoD UID and RFID (ASN) delivery

- Trained 20+ UID IPT members in Lean/Six Sigma toolsets
- Developed and/or leveraged common toolsets
50+ common toolsets have been developed, such as:
- LM implementation approach (non-binding)
- LM sample (Planning) DCMA negotiated implementation approach
- LM contracts and valuation guidance
- LM parent-child relationship industry view
- LM sample baseline operating processes
- LM estimating toolsets
- LM supplier base flow-down toolsets
- LM I-GUIDES™ data system and label production driver
- LM UID/RFID/WAWF integration and flow to the UID Registry
- LM equipment Information and vendor arrangements
- LM communication alerts to targeted audiences
- LM UID maturity and toolset usage
- OSD and industry toolsets

Based on “pull” concept versus “push”
Supplier Base Flow-down Activities

- UID marking is a prime contractor responsibility. The requirements of DFARS 252.211-7003 shall be flowed to subcontractors when paragraph (c)(1)(iii) applies or when we determine applicability. **Flow-down will not be automatic since it may be more advantageous for Lockheed Martin to mark certain items provided by subcontractors. Before deciding to mark subcontractor items, warranty issues must be considered.**

- Existing supplier/vendor contracts/purchase orders should not be modified for the sole purpose of UID insertion unless considered essential to program(s). Additionally, Lockheed Martin shall not specify the UII construct or the type of data qualifiers to be used by a subcontractor. Subcontractors should determine which construct they will use based on their prevailing method of product serialization.

- Communication of UID Requirements to subcontractors:
  - **Letters were sent to 1500 Lockheed Martin suppliers in September 2004**
  - **Subcontract organizations monitor UID contracts to assure compliance**
A DoD Program Manager’s Journey to Compliance
1. Provide resources and funding sources to engage a UID partnership (working group); team members to include:
   - PMO (contracts, estimating, GFP, technical, logistics support, depots, WAWF, prime, major teaming members and subcontractors, DCMA, etc.)
   - Formalize communications, training, alerts...requirements may change

2. Understand your Program’s current state and UID approach at all locations

3. Provide Program guidance and define expectations up front
   - Develop an affordable Program implementation plan (Parts A, B, D) which achieves 75%-100% UID conformance (marking/data elements in UID Registry) NLT December 31, 2010
     - Part B UID listing of specified GFP supplied to UID Registry NLT March 2006
     - Part D UID listing of specified serial managed items supplied to UID Registry NLT September 2007
   - Evolutionary and phased-in approach should be based on program value propositions, UID insertion costs/schedule impacts (UID maturity level):
     - Clarify Program value propositions: mission critical items, serially managed, high theft items, reparable/maintenance and logistical concerns
     - Identify UID insertion costs/schedule impacts - % new designs (low), pre-designs with labels/nameplates (low), pre-designs requiring Class I changes (high) or Class II changes (med), alternate methods (low), % already on order (low-high), in production (low to high), in stock (low to high), in use (low to high), prime and subcontractor UID maturity levels (low to high)
Checklist To An Affordability Plan

- Minimize cost and schedule impacts and legacy infrastructure changes (or integration) until data element requirements are more stable...maintain “future vision” of OSD’s concept of operations
- Non-specific expectations breed worse case scenarios, estimates, wasted labor efforts....high cost, high schedule impacts

4. Determine specified UID parts and insertion opportunities for all locations
   - Provide guidance and identify critical UID needs and exclusions up front
   - Determine Part A approach
     - Identify future Part A UID items (i., ii., iii.)
       - Specified escapes captured in Part D approach
       - Notify Prime and supplier base of UID solicitation (include clause)
   - Determine Part B approach and contract mod efforts
   - Determine Part D approach and contract mod efforts
   - Identify major trigger events and determine virtual UID applicability

5. Develop an affordability Program implementation plan timeline

6. Develop a notional estimate of UID costs

7. Finalize plan and submit to OSD for approval
4. Sample Guidance For Identifying UID Specified Parts & UID Insertion Opportunities

- Define Program expectations and provide guidance
  - What are considered CRITICAL UID part types?
  - What are considered NON-CRITICAL UID part types?
  - Identify exclusions up front
- Work a parts lists WITH your UID working group and...
  - Don’t get paralyzed by “the exceptions”...
  - Compare notes with other programs

|------|-----------------------------|----------|--------------|---------------------------------|-----|---------------------|-------------|---------------------------------|-----------------------|----------------------|------------------------|-------------------------|-----------------------|------------------------|--------------------------|-----------------------------|-----------------|-----------------|

Let DATA guide your Implementation plan and time-line efforts!

Notional planning...Use checkmarks, %’s, etc!
UID Physical Marking Opportunities: (Trigger Events)

Key trigger events are cost effective opportunities to physically mark an item utilizing 2D Data Matrix technology, such as:

- During major change modifications
- During minor change modifications if the current marking method can easily be modified to add UID content
- During major restores (repairs)
- During minor restores if the current marking method can easily be modified to add UID content
# 5. DoD PMO Affordability Program Implementation Plan!
- No DFARS Waiver Required-

## UID Solicitations & Legacy Strategy
- **Jan 1, 04,** Begin UID Deliverables (Part A - per Contract/DFARS); UID All DFARS 252.211-7003 c (i). Line item Deliverables. (ii.) and (iii.) – Include New Designs, Pre-designed Name Plates, Labels Only...Escapes in Legacy UID Plan
- **April 1, 06,** Begin UID Legacy (Part D – per Contract Mods; Depots); UID Name Plates, Labels; Virtually UID Critical items requiring engineering drawing changes/analysis unless Major Modifications will occur prior to Dec 30, 2007
- **Sept 30, 07,** UID Legacy (Part D – per Contract Mods; Depots); UID’d Name Plates/Labels Supplied to UID Registry and Selected Critical Serial Managed Virtually or Physically UID’d and Supplied to UID Registry
- **Sept 30, 08,** Complete Assessment of Remaining Critical Virtual UIDs and Non-critical parts...PMO to determine if Engineering Change Req’d (via Contract Mod) or Continue with Virtual UID post Dec 30, 10 Until Next Trigger Event (Major Modification) or no UID

## UID GFP (DD1662 Items) Strategy
- **By March 06,** Virtual UID Listing of Existing GFE and Supplied to UID Registry (via other than Contract Mod method)
- **By Jan 1, 06,** Begin Physically Marked GFP UID Deliveries to Different CAGE Code/Govt Location (Part B – per DFARS or Contract Mods) Engineering Drawing Analysis/Changes for the Sole Purpose of UID Insertion Should Be An Exception

## UID 2D Data Matrix And Associated Data Flow Capability
- **Mar 1, 04,** UID Marking Capability; Data Flow to UID Registry (Part A)
- **April 1, 06,** UID Marking Capability; Data Flow to UID Registry (Part D)
- **Jan 1, 06,** UID Marking Capability; Data Flow to UID Registry (Part B)
Many of us are just beginning to transform our internal processes...

Therefore, “out-of-the-gate” UID estimates will most likely be notional, right-sizing exercises and will require adjustments as new processes and infrastructure are modified/validated and as our supplier based UID “buy” costs become better defined.

Tailor to meet your needs... include depot costs, etc.
Additional Toolsets You Might Find Useful!

Contracts - Marking and Valuation Guidance

Parent-Child Relationship Guidance

What's I-GUIDES™?

Integrated Architecture

Planning Issues For Part D

Continue to increase your UID, RFID and WAWF knowledge and if you would like to see any of our other common toolsets...let us know!

http://www.acq.osd.mil/dpap/UID/
Summary
In Summary

- **Fluidity Continues…**
  - Communications, flexibility and responsiveness is required of partnership
  - OSD is driving “swift” closure on guidance documents
  - Regulations continue to be formulated
  - Keep your eye on the big picture (evolutionary approach)

- **We Need To Remain Focused On Time-Line Risks**
  - PMOs are beginning to submit RFPs/SOW for Program UID plans
  - Business entities are beginning to negotiate plans with DCMA
  - OSD PMO implementation workshops are beginning
  - ACAT 1D PMOs required to submit implementation plans to OSD June 05

- **Activity levels at the Business Area, Unit and Facility level ARE increasing**
  - Utilize and tailor common toolsets!
  - Partner with your Program to develop your required plans
  - Stay knowledgeable and create communication venues to ensure your internal/external program representatives are aware of changes, plans, etc.

Communicate, Communicate, Communicate!
Lockheed Martin Resources

- **Aeronautics**
  - Aero UID Lead: Mark Hudgens, mark.hudgens@lmco.com

- **Electronic Services**
  - ESBA UID Lead: Darris Martin, darris.martin@lmco.com
  - Mark Byrne, mark.byrne@lmco.com

- **Integrated Systems & Solutions**
  - IS&S UID Lead: Haden Land; haden.land@lmco.com

- **Information & Technology Services**
  - I&TS UID Lead: Thomas Berdini, thomas.g.berdini@lmco.com

- **Space Systems**
  - Space UID Lead: Brad Marcotte, brad.marcotte@lmco.com

- **Corporate UID Pgm Mgmt and Functional Area Leads**
  - Abby Rothman, abby.rothman@lmco.com
  - Mark Byrne, mark.byrne@lmco.com
  - Contracts Lead: Scott Parry, scott.parry@lmco.com
  - Pgm Mgmt Lead: Jim Sturges, james.w.sturges@lmco.com
  - GFP Lead: Rich Culbertson, richard.culbertson@lmco.com
  - RFID Lead: Denton Clark, denton.clark@lmco.com
Questions?
Backup
DoD Strategic Imperatives - Part A

- Effective on DoD solicitations issued on/after Jan 1, 2004
- UID/UII = Asset’s social security number tied to valuation data
- Mandates UID on tangible property
  - $5K+ (Government Acquisition Cost) Line item deliverables
  - And additional items specifically listed/identified in the DFARS Clause
- Valuation required for line item deliverables (not embedded items)
- Data is processed through Wide Area Workflow (WAWF)
  - Interim and alternative solutions
- Invokes flow-down of UID requirements to Suppliers (sub-contractors) only when required by the clause
- Requires 2D Data Matrix part marking technology
- Final DFARS Rule released April 22, 2005
- MIL-STD-130M (2Q) in 2005!
UID of DoD Government Property
- **Effective date is now Jan 1, 2006**
  - GFP on existing contracts must meet UID criteria using virtual or physical UIIs
    - **Special criteria will be published by June 2005**
    - **UID listing of existing GFE to UID Registry NLT March 2006?**
    - **Final submission of a DD1662 in March 2006?**
- UID GFP requirements will be enacted via….DFARS, Contract Mods?
  - **Covers equipment, tooling at contractor locations, etc.**
- Existing GFE
  - No threshold?
  - 1st Unit Acquisition Cost (Valuation) and **virtual UII data**
  - Then…UII physically marked on item prior to shipment to another CAGE Code or Government entity
  - **Director, Defense Procurement and Acquisition Policy to implement GFP UID policy requirements in regulations and guidance**
  - **Utilization of I-GUIDES as common toolset is under development**

**Items Tracked In Our Property Management Systems!**
DoD Strategic Imperatives - Part C

- Radio Frequency Identification (RFID) – Effective Jan 2005 (delayed…)
  - **Phased implementation approach**
    - On DoD solicitations after Oct 1, 2004 with 2005 product deliveries to **select locations** - San Joaquin, Susquehanna
      - RFID on packages, cases, pallets *(passive)*
      - RFID on Layer 4 freight containers *(active)*
  - Beginning 2006 – Additional locations
  - Beginning 2007 – RFID on UID nested packages

- **Technology ready?**
  - Issues: tag placement, inspection and post shipment concerns; technology changes pending - Gen2 in 2006?
  - **Final Policy released July 30, 2004**
  - **Proposed DFARS released April 21 for industry comments**
    - Ref: MIL-STD-129P w/ Change 3
  - **Lockheed Martin RFID pilot deliveries completed in Feb and March**
  - **Utilization of I-GUIDES as common toolset is under development**
UID of existing legacy items in inventory and operational use
- **Goal:** Complete UID marking of items and all specified embedded assets by Dec 31, 2010
- It is recognized that programs will have different levels of completion by 2010 because fielded items are not to be removed from service for the sole purpose of UID marking

PMO Submittal of UID implementation plans
- **DoD ACAT 1D Programs to OSD by June 2005**
- All other programs to Milestone Decision Authorities by Jan 2006
- **DUSD (Logistics and Materiel Readiness)** to publish by May 31, 2005 an initial plan for DoD organic depot maintenance operations
  - Full operating capability at all organic depots are to be in place NLT FY 2007
DoD Strategic Imperatives - Part D

• PMO plans to be based on evolutionary approach and include:
  – **Fiscal Year (FY) 2007 target point by which applicable existing serialized assets have been entered in the DoD UID registry and UID marking capability is established so that marking can commence as legacy items are returned for maintenance**
  – **Programs or items phased out of inventory by Dec 31, 2010, are to be identified as a UID exemption**
  – **Contract modification, budget, and resource planning**
  – **May use Virtual Ulls until trigger event for physical 2D marking**

• DCMA, with industry partners, to lead development of Single Process Initiatives (SPI) and block changes to expedite UID implementation
  – **DCMA has the authority to grant short term extensions on UID implementation if such extensions are consistent with the implementation schedule of a negotiated corporate or facility strategy**

Not a required activity…on an as needed basis!