Unique Identification (UID)
- DoD Program Manager Workshop -

March 8, 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)

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

UID Executive Steering Committee

- Executive Leadership
- Executive Sponsors
- Executive Advisor

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.

Update Is Pending Final Approvals!
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!
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
  - Plenty of lessons learned…
- Trained 20+ UID IPT members in Lean/Six Sigma toolsets
- Developed and/or leveraged common toolsets
Leveraging 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”

The challenge is for a Program to enable sufficient planning resources and venues to utilize and tailor the common toolsets to fit its needs!
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 subcontracts. 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
Checklist To An Affordability Plan

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 Jan 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
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

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<tr>
<th>Part</th>
<th>Design Type</th>
<th>UID Insertion Type</th>
<th>Current Impacts</th>
<th>Rotate into Repair/Maintenance Cycle Win Next 3 years?</th>
<th>Exclusion Justif.</th>
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Notional planning...Use checkmarks, %’s, etc!

Let DATA guide your Implementation plan and time-line efforts!
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
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 UIDd and Supplied to UID Registry

  **UID items Requiring Engin. Drawing Changes UID’d Only During Major Modifications Trigger Events**

- **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 Jan 1, 06,** Virtual UID Listing of Existing GFP and Supplied to UID Registry (via other than Contract Mod method)

- **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, 05,** 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

Targeted Communications

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/
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
  – F/A-22 UID Lead: Chris Guyer, chris.guyer@lmco.com
  – F-35 UID Lead: Mitch Kaarlela, mitch.l.kaarlela@lmco.com
  – F-35 LRIP Lead: Craig Kennedy, craig.kennedy@lmco.com

• Electronic Services
  – ESBA UID Lead: Mark Byrne, mark.byrne@lmco.com
  – E2C UP UID Lead: Steven Fiel, steven.fiel@lmco.com
  – US101 UID Lead: Kathleen Webb; kathleen.h.webb@lmco.com

• Corporate UID Pgm Mgmt and Functional Area Leads
  – Abby Rothman, abby.rothman@lmco.com
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  – GFP Lead: Rich Culbertson, richard.culbertson@lmco.com
  – RFID Lead: Denton Clark, denton.clark@lmco.com
Questions?