

# IUID Implementation Tips

IUID Center Representative  
NSWC Corona, IUID Center  
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# Housekeeping

- Please mute your telephone
- Please use the chat box for questions which are critical to the understanding of the presentation
- Please submit any question not requiring immediate attention to [iuid.helpdesk@dla.mil](mailto:iuid.helpdesk@dla.mil)
- Questions will be answered as time permits

# Item Unique Identification (IUID)

**IUID is a system of marking items with globally unique Unique Item Identifiers (UIIs) that distinguish them from all other like and unlike items**

IUID is mandated within the DoD for all new item acquisitions, items the government already owns (legacy items), and government furnished property (GFP) meeting specific criteria

Most simply, IUID requires items to be permanently, uniquely identified with a UII and to have that UII encoded into a data matrix barcode marked on the item and registered in the IUID Registry with associated item data



# General Tips

- Involve individuals from all functions of the program for a complete UID-impact picture
- Document decisions and associated rationale
- Let the UII be unique and permanent – nothing more, nothing less
- Try to make the “right” thing to do the easy thing to do
- Take the time to do it right the first time
- Culture is often very difficult to change

# Implementation Simplified

1. Determine what items to mark
2. Determine how to mark items
3. Integrate IUID into information system(s)
4. Mark items
5. Upload IUID information into the IUID Registry

# 1. Determine What Items to Mark

- Obtain list of program hardware
  - New acquisitions
  - Legacy (existing items)
  - End items
  - Spares
  - Embedded items
  - GFP
- Determine if policy requires IUID marking
  - Use policy requirement flow diagram
    - If not required, does the benefit of marking outweigh the cost?
- Document decisions and rationale
- Compile list of hardware to be marked

## 2. Determine How to Mark Items (Part I)

- Determine what to mark on the hardware
  - Ull construct and format
  - Any additional item information
- Determine where to put the mark
  - Can existing mark locations be leveraged?
  - Multiple identical marks for multiple functions?
  - Form, fit, function considerations
- Determine technology to make the mark
  - Can existing marking methods be used?
    - If not, identify suitable marking methods
  - Cost, training, logistics, permanency, form, fit, function considerations
  - Scanner requirement considerations

## 2. Determine How to Mark Items (Part II)

- Determine when to mark
  - Trigger event(s)
- Determine verification process
  - Opportunities for verification (When? Who? Where?)
  - Sampling plan
  - Cost, schedule, training considerations
- Determine who will mark
  - In house vs. Outsourcing
  - Program specific requirements (e.g., NMCI, HERO)
  - What piece(s) of the process (e.g., creating mark, applying mark)?
- Document decisions and rationale

# Marking Considerations

- Leverage existing marking methods, tools, and locations where possible
- Incorporate IUID into existing marking practices where possible, e.g., existing data plates or labels
- UIDs are required by MIL-STD-129P Change 4 to be placed on exterior packaging
- Explore ways to manage technical documentation and updates to minimize implementation costs
- Implement marking guidance
  - Update central references vice drawings, if possible
  - Technical documentation may need to be updated to incorporate IUID requirements if no central references

# 3. Integrate IUID into Information System(s)

- Determine how to fit IUID into existing processes
  - Infrastructure/processes required to support marking, verification, scanning, and data capture
  - Trigger events for IUID Registry data submission (initial and updates)
- Review current processes for improvement opportunities
  - Plausible uses for serialized item management (SIM)
  - Utilize machine readable marks (e.g., data entry)
  - Additional functionality/data capture enabled
- Develop/modify IT to accommodate changes
- Document decisions and rationale

# 4. Mark Items

- Develop specific marking procedures
  - Pictures
  - Maximize consistency
- Prepare surface for marking
  - 50/50 alcohol/water solution and clean, lint free wipes for pressure sensitive adhesive label applications
  - Repeated duct tape application/peeling to clean CARC surfaces\*
- Mark items
  - Check IUID Registry to see if UII is already assigned
    - If so, remark with previously assigned UII
    - If not, assign UII and mark with assigned UII
- Capture and associate UII data to items in information system(s)

# 5. Upload IUID Information to IUID Registry

- Determine how data will be submitted to IUID Registry
  - In house vs. Outsourcing
  - XML, flat file, or web-entry
- Determine necessary data to be submitted
  - Requirements vary for types of items (e.g., legacy, new acquisition, GFP; parent, child)
  - Add item or update item
  - Requirements change as the IUID Registry is updated
- Document decisions and rationale
- Upload file(s) to IUID Registry

# Successful Implementation Strategies

- Check if the item already has a UII or has been marked before assigning a UII and marking
- Ensure the uniqueness of the UII
- Take the time to “clean up” existing information system(s) during implementation (e.g., identify and resolve duplicate records)
- Plan and implement for ease to transition to the desired “to be” state not just for the “as is”

# Common Mistakes

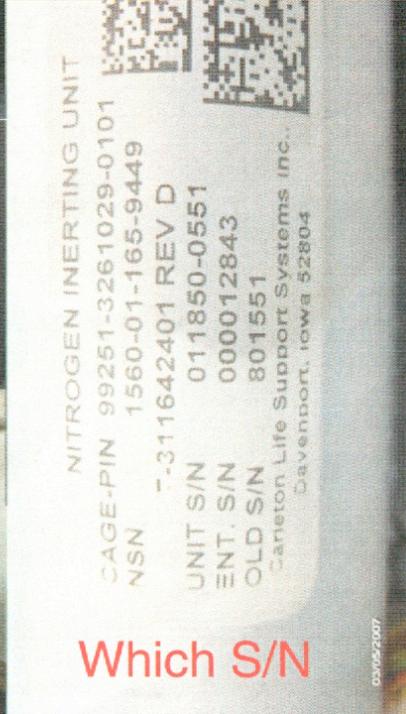
- Not encoding the correct information into the mark
- Including time-sensitive data in the mark
- Not ensuring permanency of the mark
- Marking the item in a location that prevents its use (e.g., on the back of rack-mounted equipment)
- Adding IUID to a flawed system instead of taking the opportunity to fix the system
- Assuming there are no data problems in the existing information system(s)

# Wall of Shame

Part Number included in SEQ



S/N or SEQ



Which S/N

Excessive Adhesive

83298 ASSY6430300-1  
REV. AB S/N90002246



Installed Incorrectly



Not Registered



Not Registered  
Multiple Labels

# Lots of Barcode Options... Except When it Comes to IUID

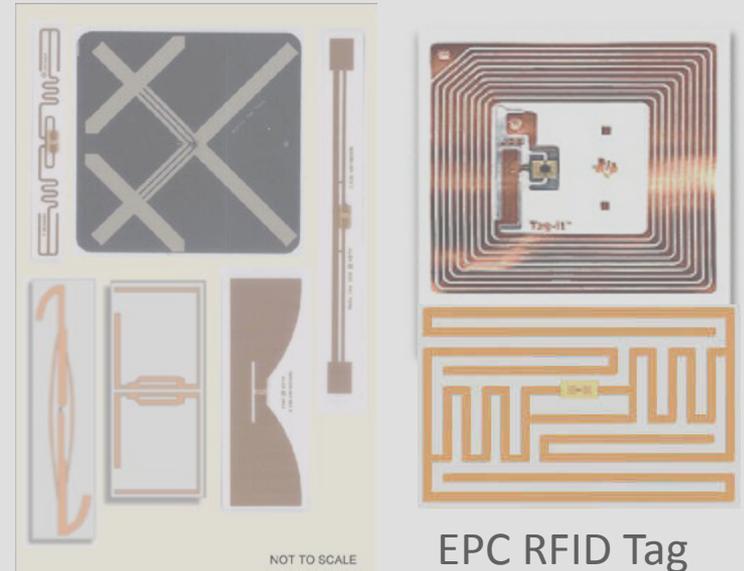
## 1-D Barcodes



Contact  
Memory  
Buttons

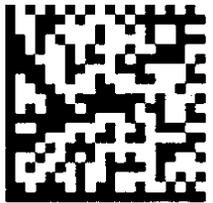


## Passive RFID Tags



EPC RFID Tag

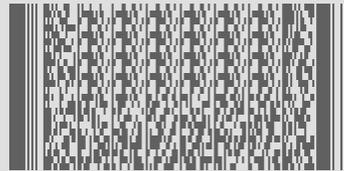
## 2-D Barcodes



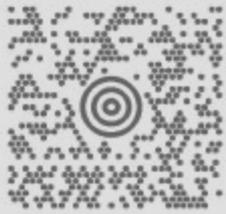
Data Matrix



QR Code



PDF417



MaxiCode



Bullseye



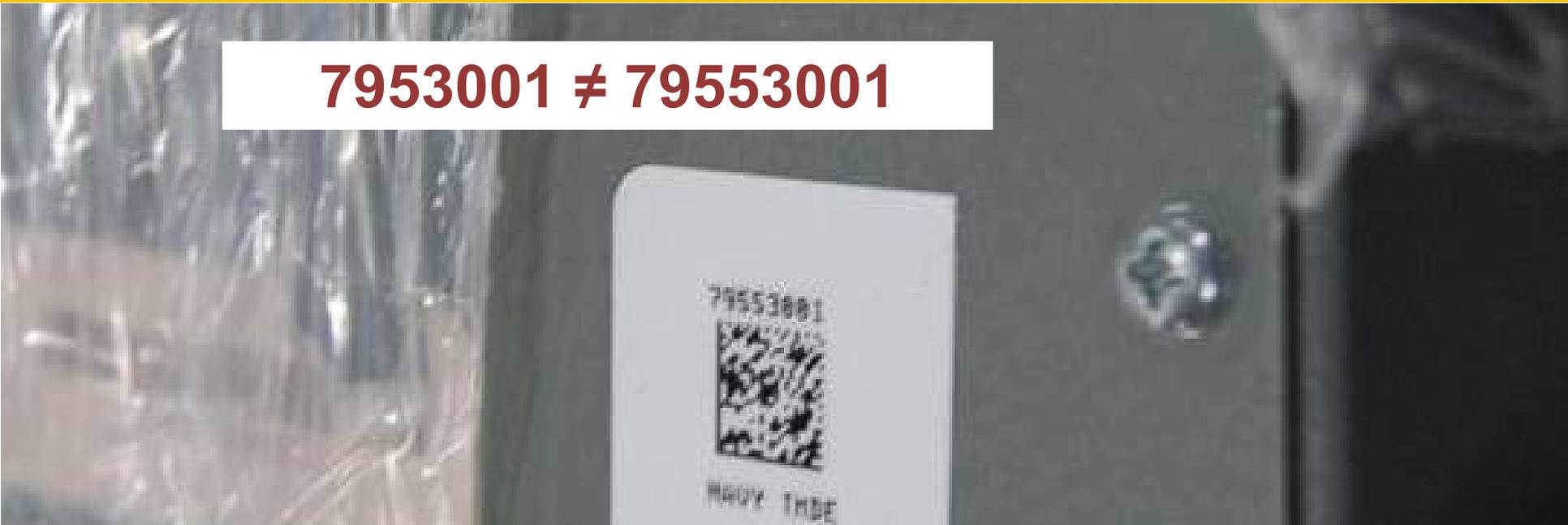
Aztec

## Active RFID Tags



# Data Problems

**7953001 ≠ 79553001**



# But Wait That's Not All...



**SG42220150 ≠ 20150**

***SG422 is the Series Number; 20150 is the Serial Number***

**UII : D1LQK8116678SG42220150**

# Duplicates (Yikes!)

CAGE: 07239  
PN: MJ159  
SN: 6410-863

AVO INTL



UII: D07239MJ1596410-863

## *How Many Dups? (0, 7, 36, ?)*

No Duplicates  
CAGE + PN + SN  
will be unique.

7 Duplicates                    **256558**  
A program database            **237323**  
contains 7 distinct            **262408**  
(not IUID) barcodes         **258829**  
for this                            **259603**  
CAGE+PN+SN                    **261985**  
combination.                    **257956**

36 Duplicates  
Excel worksheets  
documenting IUID  
marking efforts indicate  
this CAGE+PN+SN has  
been marked 36 times

# Is the data really what you think it is?



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[HOME](#) » [MANUFACTURER](#) » [MEGGER](#) » 212159

## Megger 212159 MJ159 Hand-Crank Analog Major Megger Insulation Tester; 100, 250, 500 & 1000 V; 2 GONs 6410-863



Click to enlarge

### Ordering Information

Model #: 212159 MJ159

Qty  [ADD TO CART](#)

Price: \$945.00

Brand New Test Equipment

### Recommended Accessories/Options

[6220-436 Set of 3 ft. Leads for 212160, 212159, 212359, 212459 & 212559 with alligator clips](#) \$109.00

Qty  [ADD TO CART](#)

[217740 Rigid Vinyl Case for 212160, 212159, 212359, 212459 & 212559](#) \$75.00

Qty  [ADD TO CART](#)

[Description](#)

[Datasheets](#)

It is possible to confuse Catalog Numbers with Serial Numbers

# Key Responsibilities for IUID Implementation

## New Acquisition - Government

- Program Managers/Item Managers:
  - Identify items requiring unique identification, including embedded subassemblies, components, and spare parts as part of IUID Implementation Plan
  - Ensure functional requirements to implement are complete
  - Coordinate metrics and reporting
- Logistics: Identify data capture, transaction, and update strategies for assets in logistics chain
- System Engineering/Design Authority: Support identification of assets requiring IUID compliance from lifecycle traceability perspective
- Contracting Officers: Include DFARS clauses in contracts when applicable
  - 252.211-7003, Item Identification and Valuation, for contracts that require delivery of items
  - 252.211-7007, Reporting of Government-Furnished Property
- Quality Assurance/DCMA:
  - Ensure contractor marking processes meet quality standards
  - Monitor reporting of IUID data and GFP data

# Key Responsibilities for IUID Implementation

## New Acquisition - Contractor

- Contracting:
  - Review contract clauses and communicate requirements to organization
  - Flow down requirements to subcontractors as applicable
- System Engineering/Design Authority: Determine appropriate marking methods, leveraging existing capabilities, and update technical documentation where contractor is the design authority
- Operations:
  - Determine impact to business processes and integrate where necessary
  - Seek opportunities for process improvement through AIDC
- Quality Assurance: Identify processes to assess quality related to IUID (verification and validation per standards referenced in MIL-STD-130)
- Packaging: Conform to MIL-STD-129 requirements for marking packaging with IUID data
- Information Systems:
  - Assess data management requirements and develop strategies
  - Coordinate with shipping/invoicing for data submission to DoD

# Key Responsibilities for IUID Implementation

## Legacy Items - Government

- Program Managers/Item Managers:
  - Identify items requiring unique identification, including embedded subassemblies, components, and spare parts as part of IUID Implementation Plan
  - Identify marking strategies
- System Engineering/Design Authority: Determine appropriate marking methods, leveraging existing capabilities, and update technical documentation where DoD is the design authority
- Contracting Officers:
  - Include DFARS clauses in contracts under which items will be marked and for provision of government furnished property
  - Negotiate or re-negotiate with contractors to provide marking and registration services
- Logistics/Maintenance: Implement marking strategies for legacy assets in accordance with MIL-STD-130 and packaging in accordance with MIL-STD 129
- Information System Administrators:
  - Identify data management strategies for assigning, reporting, and updating UII data in the IUID Registry
  - Identify system requirements to incorporate IUID into existing and planned systems

# Key Responsibilities for IUID Implementation

## Legacy Items - Contractor

- Contracting: Identify IUID requirements in contracts for GFP, repair items that require IUID marking or reporting
- Property Manager: Manage the assignment and reporting of IUID data for GFP
- System Engineering/Design Authority: Determine appropriate marking methods, leveraging existing capabilities, and update technical documentation where contractor is the design authority
- Operations:
  - Determine impact to business processes and integrate where necessary
  - Seek opportunities for process improvement through AIDC
- Quality Assurance: Identify processes to assess quality related to IUID (verification and validation per standards referenced in MIL-STD-130)
- Packaging: Conform to MIL-STD-129 requirements for marking packaging with IUID data when items are shipped to DoD
- Information Systems: Identify data management strategies for assigning, reporting, and updating UII data in the IUID Registry

# Lessons Learned

- IUID is about more than marking and registering concatenated UIDs and their data elements
- IUID should be considered in the global context
  - Not just a DoD initiative
  - International benefits across government agencies, industry, coalition partners
- Identify and involve all stakeholder groups in planning efforts
  - Groups involved in implementing IUID
  - Groups that can and will benefit from IUID
- Consider existing marking item management practices first
  - How are items marked today?
  - Is there available room to add IUID marking on existing data plates and labels?
- Ensure serialized item management practices are integrated with IUID
  - IUID must be the data key for SIM to enable true lifecycle data association

# Lessons Learned

- DoD is responsible for determining which items require IUID in solicitations
  - Contractors may go beyond IUID requirements
- Government must communicate requirements clearly
  - Contract structure (e.g. use of line items, attachments, exhibits)
  - Provision of technical authority and documentation when required
  - For items used in multiple programs, if one requires IUID, all should require IUID
- Ensure IUID is integrated into Quality Assurance processes
  - Quality must be introduced at the front end
  - Readability and accuracy are crucial throughout the lifecycle
- IUID can serve as a forcing function to standardize
  - Mergers and acquisitions have created complexity in property management
  - Manufacturers can benefit from lifecycle data as well as government

# IUID Resources

OSD UID Policy Office Website [www.uniqueid.org](http://www.uniqueid.org)

Trusted site for policy, updates, FAQs, and IUID newsletter

DoN IUID Website

[https://acquisition.navy.mil/rda/home/acquisition\\_one\\_source/item\\_unique\\_identification\\_iuid](https://acquisition.navy.mil/rda/home/acquisition_one_source/item_unique_identification_iuid)

MIL-STD 130 (current version is N, Change 1 as of Nov 2012)

Marking standards and requirements

DoD Guide to Uniquely Identifying Items (currently v2.5 as of Sep 2012)

Business rules, additional guidance for legacy items

Defense Acquisition University (DAU) [www.dau.mil](http://www.dau.mil)

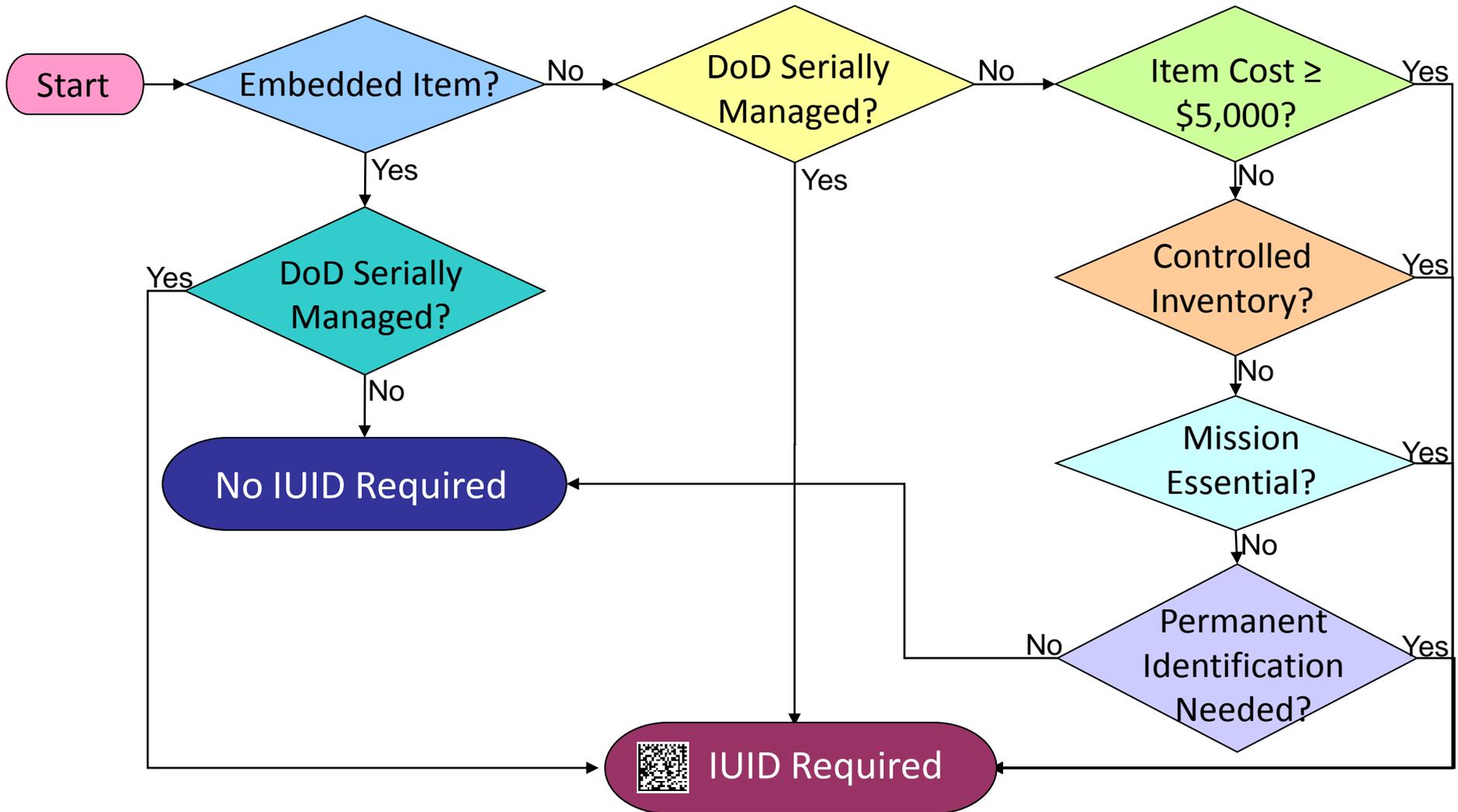
Continuous Learning Courses (CLM200, CLE 040) to increase IUID knowledge

IUID Helpdesk [iuid.helpdesk@dla.mil](mailto:iuid.helpdesk@dla.mil)



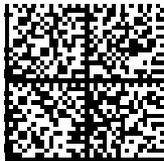
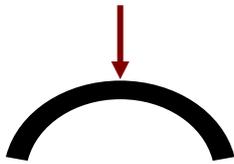
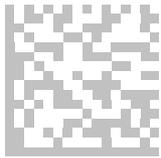
**QUESTIONS  
&  
ANSWERS**

# What is the Policy for DoD?



# Readability Of The Mark

Hard Read



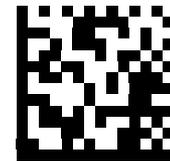
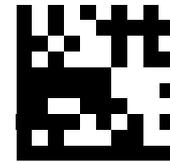
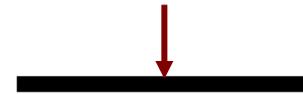
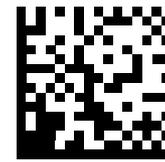
Contrast

Shape

Cell Size

Reflectance

Easy Read



Expensive Readers

Cheap Readers