



ITEM UNIQUE IDENTIFICATION (IUID)



*“Enabling Business Intelligence
Through Technology”*

**GEIA 39th Engineering & Technical Management
Conference**

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UID: Capstone Approach

- Prescribes the vision that the to efficiently and effectively manage people and tangible property using globally unique identification
- Prescribes rules and assigns responsibilities for a process of uniquely identifying tangible entities, their attributes and their relationships



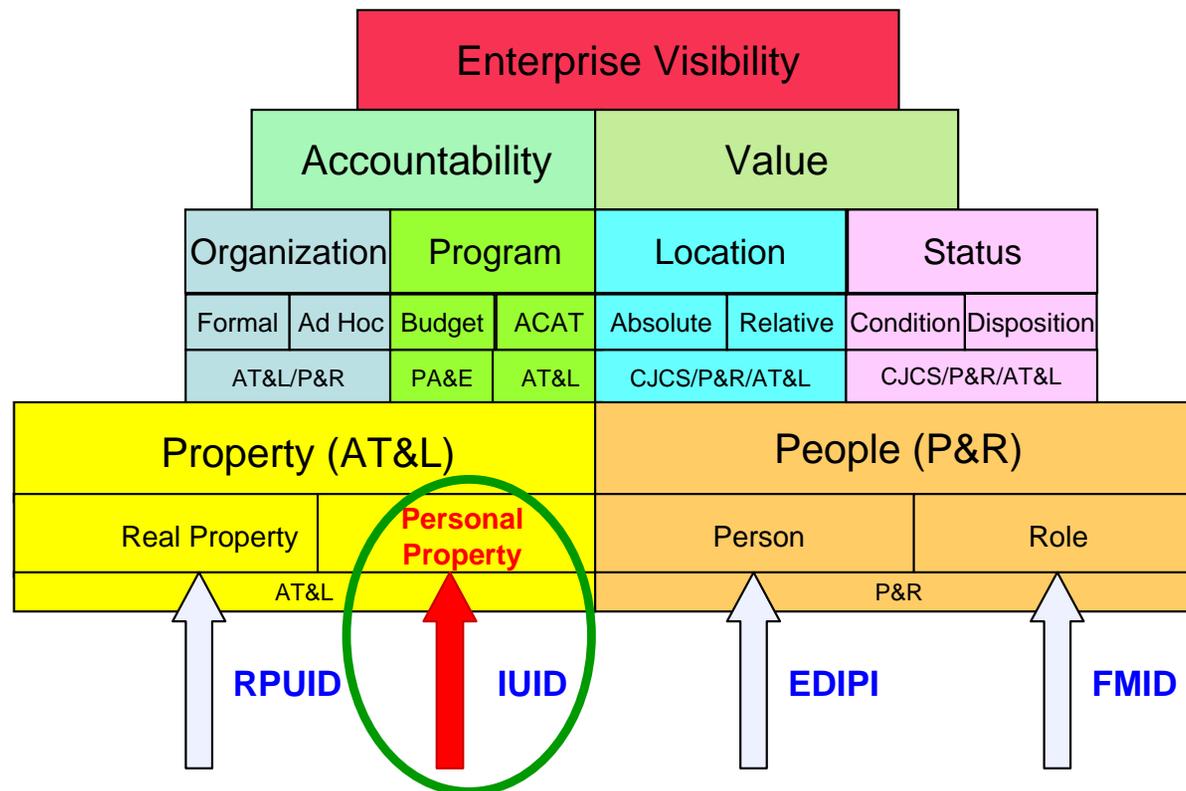
Unique Identification – The Capstone View



◆ Related ISO UID Initiative

- ISO 15459 proposal describes uniqueness beyond “personal property” or “items” (e.g., people, organizations, locations, etc.)

◆ US DoD Vision of UID



Time Line

2007-2008

2006-2007

Ability to value and account

2005-

Ability to describe

2006

2002-

2005



What Items Need IUID?

IUID is required for all personal property items delivered to the Government when any one or more of the following is true:

- Unit Acquisition Cost is \$5,000 or more
- Item with a Unit Acquisition Cost below \$5,000 when it is a DoD Serially Managed, Mission Essential, or Controlled Item
- Item with a Unit Acquisition Cost below \$5,000, as determined by the Requiring Activity (e.g., Maintenance and Repair)
- Regardless of value, any DoD Serially Managed subassembly, component or part embedded within an item, and the "Parent" item in which it is embedded
- Valuation applies to all items delivered to DoD, to include deliveries under T&M contracts

The contractor determines the serialization construct and the data qualifier set to use



What comprises a UII?



In today's world, many items we buy have identification on them that indicate the manufacturer or distributor of the product and the product type (e.g., 12oz can of Coca-Cola Classic).



Two identical cans of Coke from the same bottling plant will show the same data on the Universal Product Code (UPC).



Some items also have a serial number that differentiates one item from another identical item (e.g., the 24th engine off the assembly line is different from the 1024th).

Serial numbers are unique, but not outside of their enterprise – the serial number assigned by XYZ Manufacturer could be the same as one assigned by ABC Company.



By combining enterprise identification, item class and serialization, a globally unique item identifier is created that differentiates every item from other items.

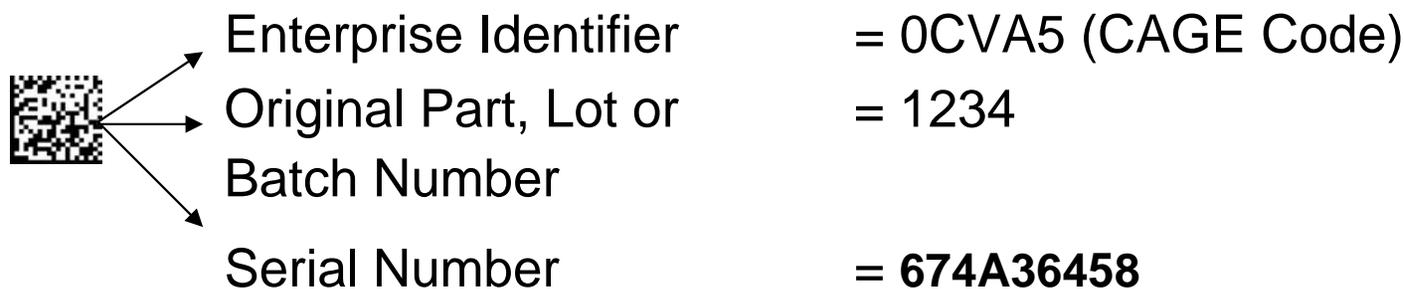
Each item has its own globally unique item identifier (UII).



UII...How Is It Constructed?

The concatenated Unique Item Identifier (UII) is derived from its discrete component data elements – the concatenated UII is **not** required to be marked on the item as a separate data element.

From the Data Matrix:



The first data element in the UII is the Issuing Agency Code (IAC), which is **not** marked on the item, but defined by the data qualifier (for CAGE the IAC is “D”).

UII Construct 1	UII Construct 2
<i>If the Serial Number is Unique within the Enterprise Identifier</i>	<i>If the Serial Number is Not Unique within the Enterprise Identifier but is Unique within the Part, Lot or Batch Number</i>
D0CVA5674A36458	D0CVA51234674A36458



Item Unique Identification (IUID) – ISO Proposal



Bridging Business Sector Parts Identification through an Expanded ISO 15434

	Before IUID – 2 Interoperable International Business Sectors	After IUID – 3 Interoperable International Business Sectors
American National Standards Institute (ANSI)	MH 10.8.2: Data Identifiers []>RS06GS17V0CVA5GS1P1234GSS786950RSEoT	MH 10.8.2: Data Identifiers []>RS06GS17V0CVA5GS1P1234GSS786950RSEoT
EAN/UCC	EAN.UCC: Application Identifiers []>RS05GS800406141411A0B9C3D6RSEoT	EAN.UCC: Application Identifiers []>RS05GS800406141411A0B9C3D6RSEoT
Air Transport Association	No existing ISO method	Text Element Identifiers: []>RSDDGSMFR 0CVA5GSSER 674A36458RSEoT Note: DoD UID Program Office formally requested an ISO issued numeric format code to replace DoD assigned “DD” was approved for CD Ballot



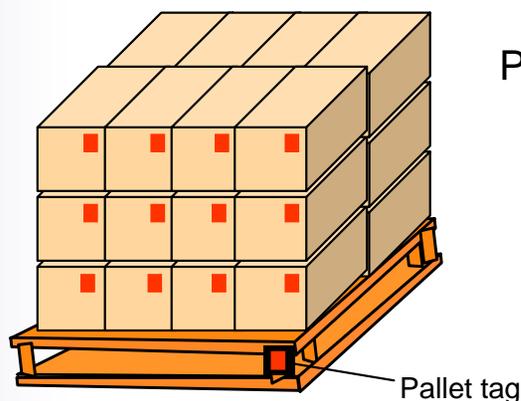
Defining Unique Item Identifier (UII)



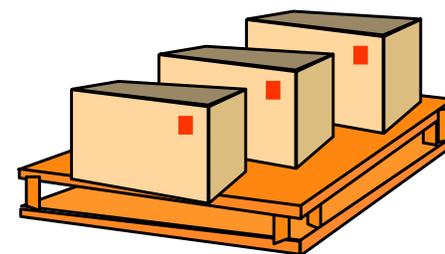
A UII Is	A UII Is Not
<ul style="list-style-type: none">✓ A Data Element✓ A Unique Identifier for an Item✓ Globally Unique✓ Unambiguous✓ Permanent✓ Created by Concatenating Specific Data Elements✓ The enabler for business intelligence	<ul style="list-style-type: none">✓ A transmitting technology for Communicating Data, such as Radio Frequency Identification (RFID) Tags or Contact Memory Buttons✓ A Replacement for the National Stock Number✓ An Intelligent Data String that Yields Information About the Item✓ Transferable from one item to another



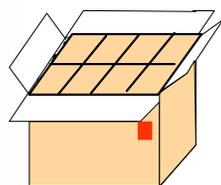
RFID Relationship to IUID



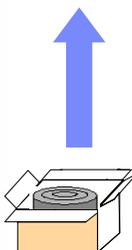
Palletized Unit Load Tag
YES



Shipping Container
YES



Exterior Container
YES



IUID Item Unit Pack*
NO

*If the IUID Packaging is also an External Container or a Shipping Container, it will have an RFID tag.



IUID vs RFID

	IUID	RFID
Marking	Item	Packaging
Technology	2D Data Matrix	EPC RFID tag
Purpose	Life cycle data visibility	Supply chain receipt/track
Implementation	January 1, 2004 www.acq.osd.mil/dpap/uid	January 2005 and Beyond http://www.acq.osd.mil/log/rfid/index.htm

Separate but integrated initiatives with
Different technologies
Different business rules



Fixed and Variable Item IUID Master Data



Used for Legacy (Also used for PIPC)	Pedigree Data	Descriptive data	Custody	Used for PIPC	
		Concatenated UII			CAGE
		Issuing Agency Code			Contract Number
		Enterprise Identifier			DoDAAC
		Original Part Number			DUNS
		Serial Number			Received Date
		UII Type			Sent Date
		Description			Status Flag
		Batch/Lot			Category Code (E or M)
		Current Part Number			Mark
Current Part Number Effective Date	Contents				
Manufacturer Identifier	Effective Date				
Parent Concatenated UII	AddedOrRemoved				
ContractInfo	Marker Code				
Contract Number	Marker Identifier				
Prime Contractor Identifier	Medium				
Acceptance Code	Values in Mark Contents				
Acceptance Date	Open Items				
Acquisition Cost	Custodian or Steward (System)				
CLIN/SLIN/ELIN	Location UID				
Foreign Currency Code	Program UID				
Ship-to Code	Item Status				
Unit of Measure	Current Dollar Value of Item				
	Alias (system unique)				

Indicates data element may change during items life

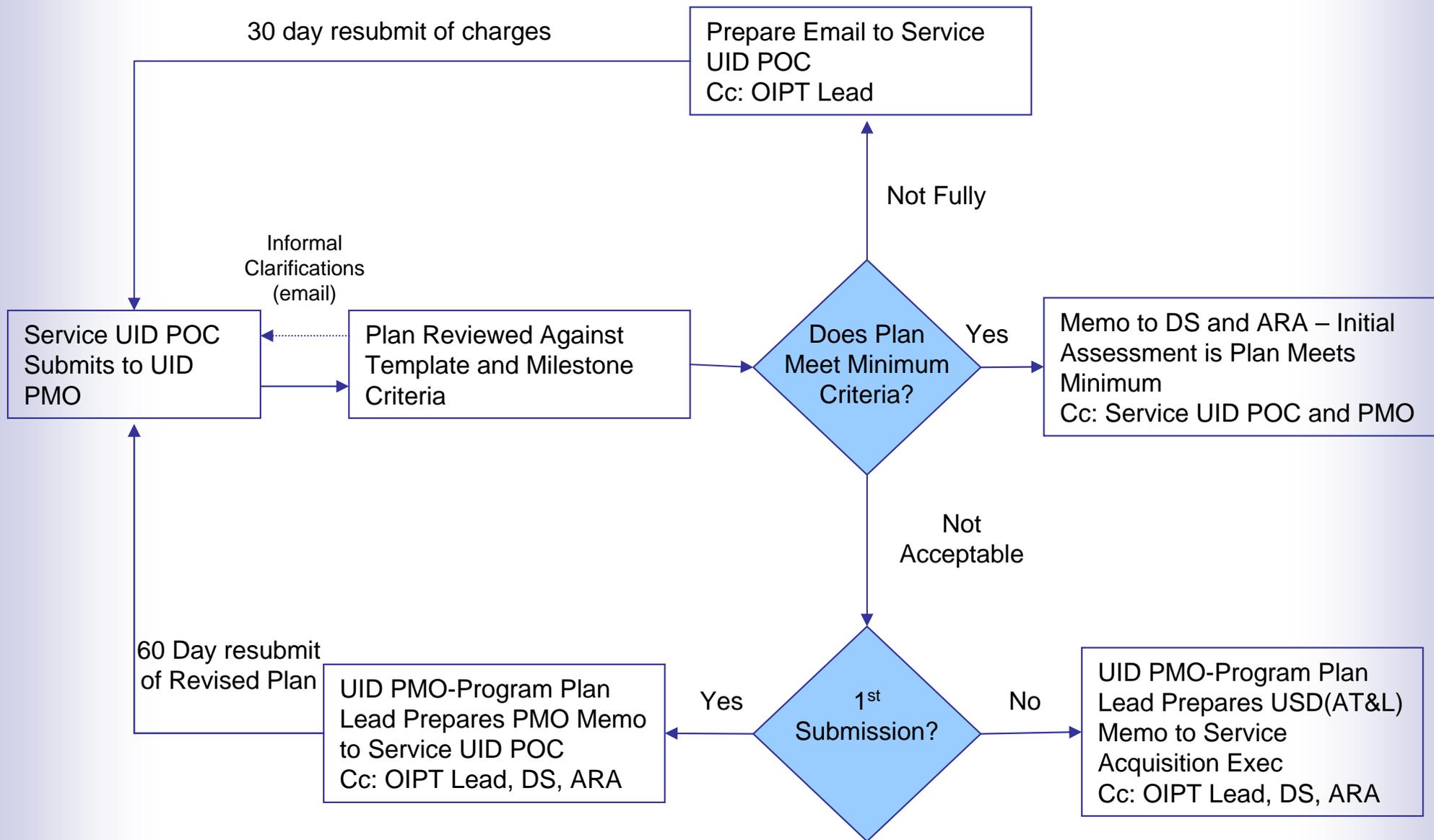


Did you know?

- **Vehicles are available for transition planning**
 - ✓ Program Plans from Government PMs to meet 2010 target – UID PMO Review
 - ✓ Corporate/Facility Single Process Initiatives through 2010 – DCMA Review
- **Program Manager workshops to develop implementation plans – UID PMO**
- **Conferences targeting a wide mix of industry (over 100 presentations in the last year)**
- **DAU regional UID workshops and targeted training upon request – (30 to date)**
- **IUID Uses existing marking process & marks with IUID content**
- **Item identification and tracking can greatly enhance the quality of information available to Configuration Management, Systems Engineering, Logistics Support and Operational Planning**
- **Policy identifies IUID Milestone Criteria for Programs**



UID Implementation Plan Review Process



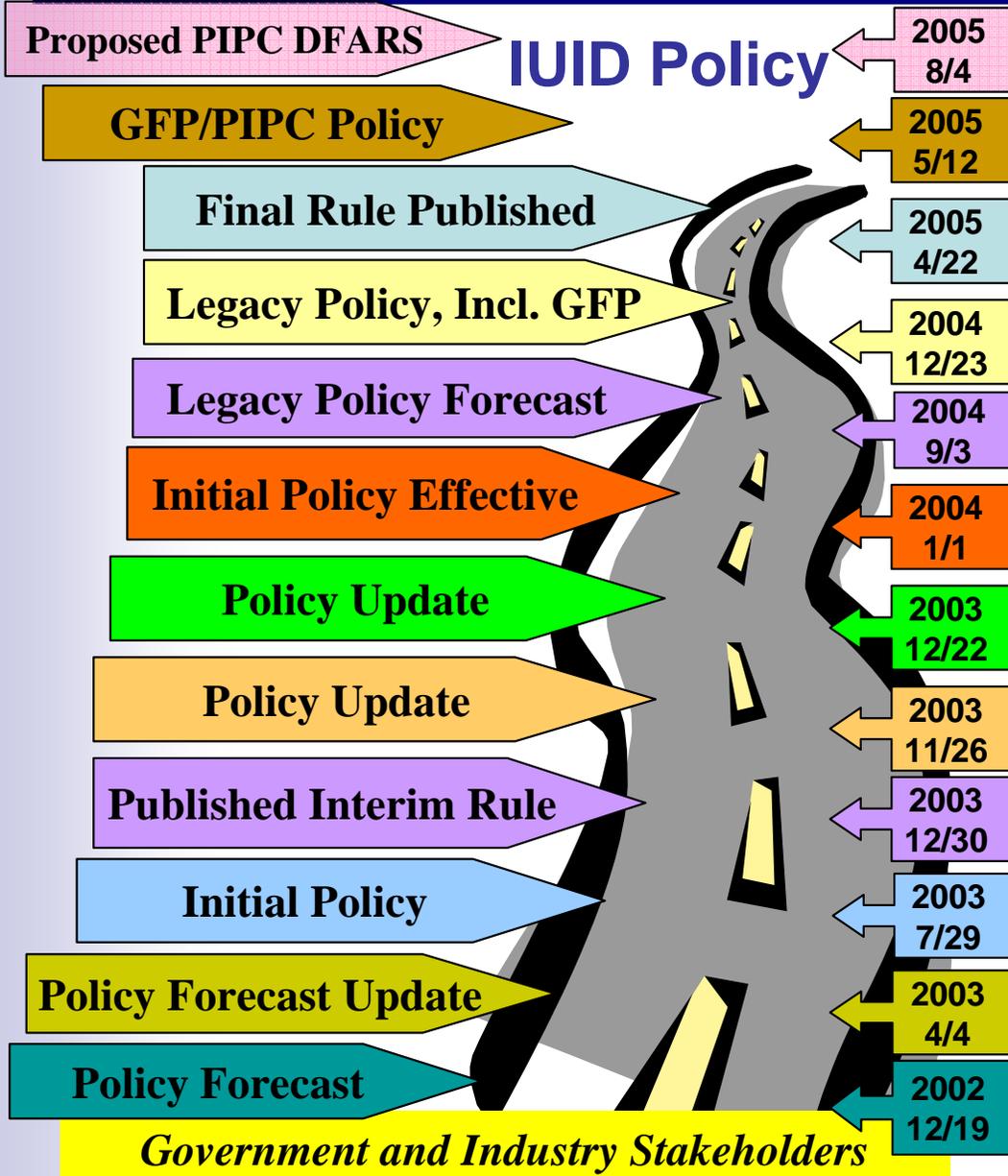


What We Have Accomplished in Standards

- **Air Transport Association Adoption of IUID Marking**
- **ISO Format Code Request**
 - ✓ **Successful New item work Proposal (NP) ballot at TAG to add TEI Format Code to ISO/IEC 15434**
 - ✓ **Committee Draft (CD) Ballot passed 18:1 July 5, 2005**
- **NATO AC/327 – Draft Implementation Policy**
- **NATO STANAG 2299 [Unique Item Identification] in Final Draft**
- **Planning Underway with NATO for 2006 IUID Experiment**



How has IUID Evolved?



Contracting

- July 29, 2003 - DoD Policy Memorandum Issued
- August 6, 2003 - DFARS Case Opened
- December 30, 2003 – DFARS Interim Rule Published
- January 1, 2004 – Effective Date**
- March 1, 2004 – Public Comments Received [56]
- December 23, 2004 – Legacy Policy
- April 22, 2005 – Final Rule Published
- May 12, 2005 – GFP Policy

The IUID Rule Adds Mandatory Requirement for -

- Contractors to provide **unique identification** for items delivered to DoD, through the use of item identification marking.
- Contracts to provide for identification of the Government's **acquisition cost** of all items built or acquired by the contractor and subsequently delivered to DoD under the contract.



What We Have Accomplished in Policy

- **IUID Legacy Policy published December 23, 2004**
- **Final IUID DFARS Rule published April 22, 2005**
- **IUID GFP Policy published May 12, 2005**
 - ✓ **Directs expansion of WAWF to capture property transfers**
 - ✓ **Directs expansion of IUID registry for electronic GFP management**

Pending –

- ✓ **Property Accountability policy – late 2005**
- ✓ **GFP IUID DFARS Rule – late 2005**



DoD Vision for Property Management

DoD, its coalition partners, and industry efficiently and effectively manage individual tangible items of Government property with near real-time situational awareness using globally unique item identification, enabled by speedy and accurate automatic data capture.

Item identification and tracking can greatly enhance the quality of information available to Configuration Management, Systems Engineering, Logistics Support and Operational Planning



Goals and Objectives

Goal: Ubiquitous and Globally Unique Item Identifiers (UII)

- **UIIs become keys to discovery and correlation of property information**
- **IUID Repository enables data use**
 - ✓ **Enables globally accessible and secure enterprise data**
 - ✓ **Translate legacy data for existing DoD systems**
- **Property management processes streamlined**
 - ✓ **Enable access of operational support**
 - ✓ **Enable joint paperless management**

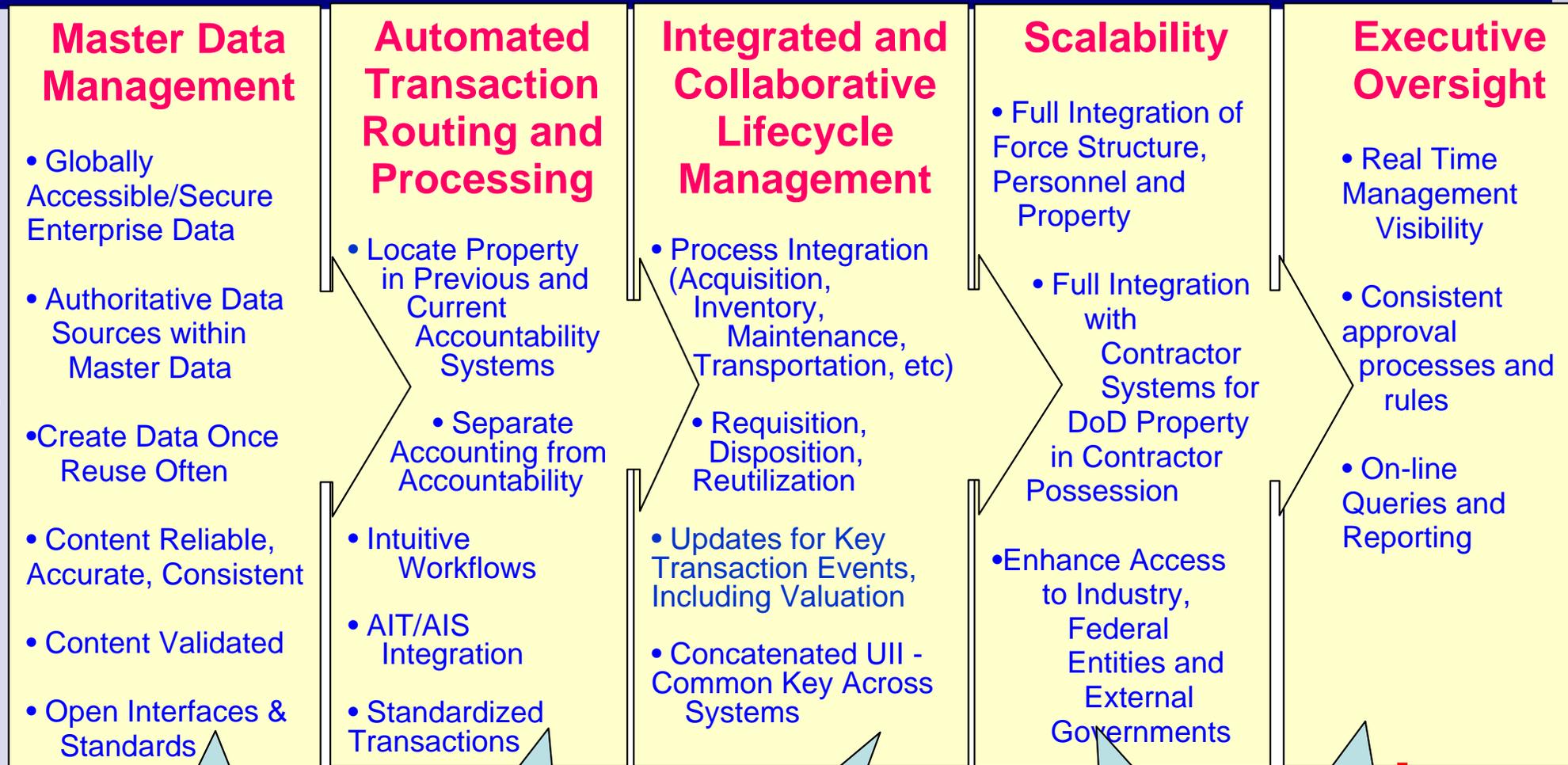
Goal: Capitalize on Leading Practices

- **Adopt leading practices**
- **Low cost and readily available automatic data capture technologies**

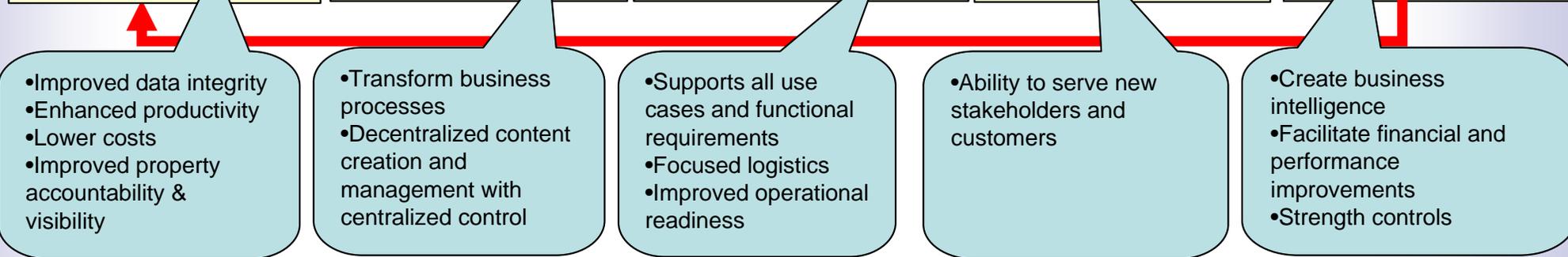


DoD Electronic Property Management Capabilities & Outcomes

Capabilities

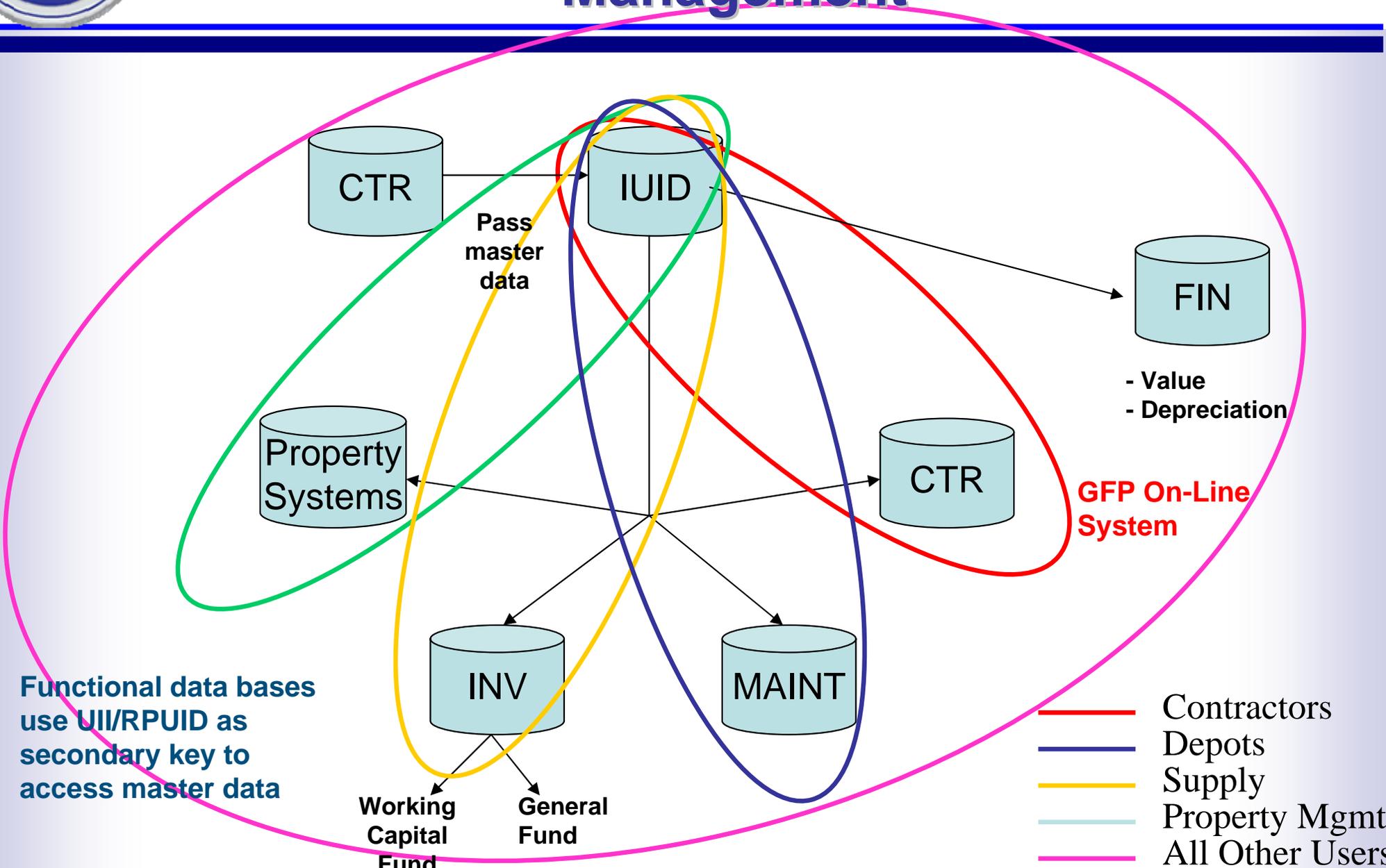


Outcomes





Accountable Systems for Property Management



Goal: Eliminate duplicate property records in different property accountability systems



Metrics: FY 06

- Electronic “paperless” property management capability
 - ✓ Integrate property transfers between DoD and contractors
 - ✓ Establish WAWF as a gateway for management of property in the possession of contractors
 - ✓ Integration of Plant Clearance Automated Reutilization Screening System (PCARSS) and the Lost, Damaged and Destroyed (LDD) system
 - ✓ Assess integration alternatives with property accountability systems, e.g., Defense Property Accountability System (DPAS) and Air Force Equipment Management System (AFEMS)
- IUID DFARS Rule for all new contracts with GFP
- Elimination of DD Form 1662, DoD Property in the Custody of Contractors
- Secretaries of Military Departments in coordination with UID PMO, develop interfaces with the IUID Registry and component-specific property systems



IUID for Property in the Possession of Contractors (PIPC)

- ◆ Immediately
 - PMs & IMs responsible for PIPC - plan for and expand IUID implementation to PIPC
- ◆ September 30, 2005
 - All contractors submit a DD Form 1662, DoD Property in the Custody of Contractors
 - Final DD Form 1662 for contractors electing to submit master IUID data for Government PIPC into the IUID Registry by May 31, 2006
 - Notify cognizant Contracting Officer when complete [NLT May 31, 2006] and request contract mods to remove the DD Form 1662 requirement
 - Must verify that all property on FY05 DD Form 1662 that requires IUID has been submitted to the IUID Registry
 - Contract Mods will be executed by September 15, 2006
- ◆ Those not submitting all Government PIPC to IUID Registry by May 31, 2006 will be required to submit FY06 DD Form 1662
 - All IUID data must be transitioned to IUID Registry NLT Sep 07
 - Target date to eliminate DD Form 1662 is with September 30, 2006 submission
- ◆ January 1, 2006
 - All new contracts that include GFP must comply with IUID requirements
 - Plan to publish an interim DFARS Rule for IUID of PIPC by January 2006

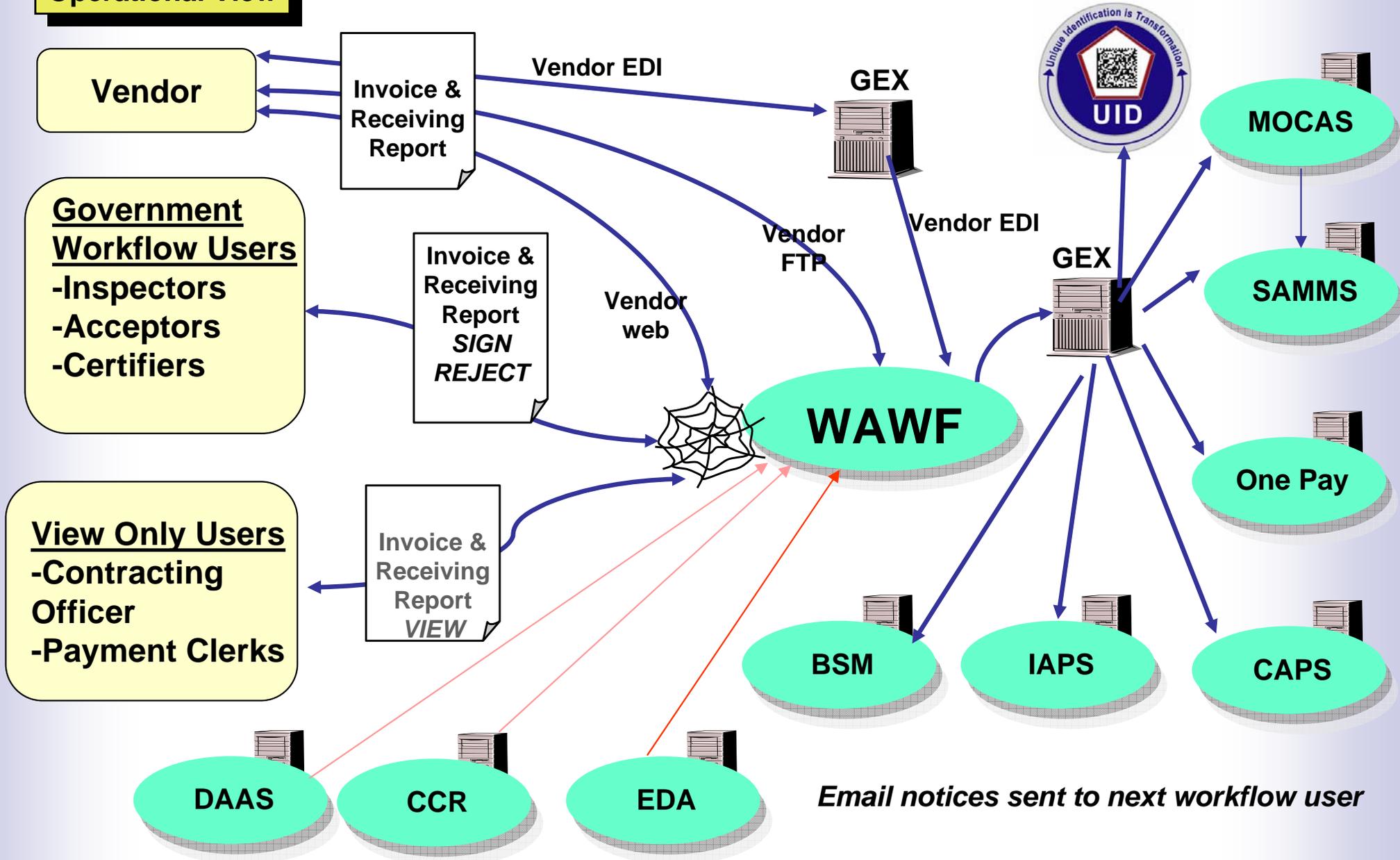
Transition period for GFP on existing contracts to an electronic capability in the IUID Registry is

June 2005 through September 2006



System Distributes

Operational View





Registry Statistics

- **491 DoD business opportunities*** [of 104,790] included IUID requirements, 10/1/04 – 6/29/05

- **39,258 IUID items** delivered, as of 8/5/05
 - ✓ **298 Contracts/Orders**
 - ✓ **163 Contractors**
 - ✓ **89 Small Businesses (55%)**
with **51% of contracts (153 of 298)**

- IUID items shipped to **162 different DoDAACs**

- *Synopses and solicitations posted in FedBizOps*



Corporate UID Implementation Plans

- ◆ **Director, DCMA, given the authority to –**
 - lead the development of facility-wide or corporate Single Process Initiative strategies with DoD's top 30 suppliers
 - grant implementation extensions when approved corporate/facility plan is in place

- ◆ **Summary**
 - **Plans/Corporate Concept Documents Submitted = 11**
[2 approved to proceed]
 - **Companies with Plans in Development at Operating Unit = 11**
 - **No plan/will mark parts = 10**



GSA Support

- ◆ **Published a Procurement Information Bulletin (PIB) - instructions to all GSA contracting staff, for use in implementing the UID requirements in GSA schedule orders for delivery of items to DoD**

- ◆ **Modified the Standing Solicitation Number 2FYB-DJ-05-0008-B, WORLDWIDE FEDERAL SUPPLY SCHEDULE CONTRACT FOR SCHEDULE 81 PART I SECTION B: SHIPPING, PACKAGING AND PACKING SUPPLIES**
 - **Added Special Item Number (SIN) 617 13, Unique Identification (UID)/Radio Frequency Identification (RFID)**
 - **GSA Contracting Officers for Proposal Inquiries and Submission**
 - **Carol Brown, 212-264-9577**
 - **Nicholas Uom, 212-264-4784**



Fixed and Variable IUID Master Data to Be Maintained in IUID Registry

Used for Legacy (Also used for PIPC)	Pedigree Data	Descriptive data	Custody CAGE Contract Number DoDAAC DUNS Received Date Sent Date Status Flag Category Code (E or M)	Used for PIPC
		Concatenated Ull		
		Issuing Agency Code		
		Enterprise Identifier		
		Original Part Number		
		Serial Number		
		Ull Type		
		Description		
		Batch/Lot		
		Current Part Number		
Current Part Number Effective Date				
Manufacturer Identifier				
Parent Concatenated Ull				
ContractInfo				
Contract Number				
Prime Contractor Identifier				
Acceptance Code				
Acceptance Date				
Acquisition Cost				
CLIN/SLIN/ELIN	Open Items Custodian or Steward (System) Location UID Program UID Item Status Current Dollar Value of Item Alias (system unique)	<i>Indicates data element may change during items life</i>		
Foreign Currency Code				
Ship-to Code				
Unit of Measure				



Ongoing UID Integration Projects

- ◆ Defense Medical Logistics Support System
 - ECP funded to integrate UID
- ◆ Small Arms Program Office
 - Data Integration Project under discussion
- ◆ Property Systems – AFEMS and DPAS
- ◆ PCARSS/LDD Integration
- ◆ Army and Naval Aviation Maintenance (Sikorsky; GE; Boeing; Lockheed) – Integration maintenance systems with OEMs and Depots
 - Electronic Logistics Information Trading Exchange (ELITE) Project using ISO 10303, AP239
 - Demonstrate the ability to incrementally deploy an Integrated Data Environment to a legacy environment by applying new technologies
 - Semantic interoperability
 - XML schema
 - Web services protocols
 - COTS web server as legacy system interface
- ◆ Will Explore UID-driven improvements for T-700 management



International Acceptance Efforts

- **Air Transport Association Adoption of IUID Marking**
- **ISO Format Code Request**
 - ✓ **Successful New item work Proposal (NP) ballot at TAG to add TEI Format Code to ISO/IEC 15434**
 - ✓ **Committee Draft (CD) Ballot passed 18:1 July 5, 2005**
- **NATO AC/327 – Draft Implementation Policy**
- **NATO STANAG 2290 [Unique Item Identification] in Final Draft**

- **Plan Development underway for 2006 NATO IUID Experiment (see next chart for model)**
 - ✓ **Likely candidate items to NAMSAA could include Swedish supplier**
 - **For example - Aerospace engine manufacturer(s) subcontract to Volvo**
 - ✓ **As a Partner for Peace nation Sweden could participate and use the results to support IUID adoption efforts**



Item Unique Identification

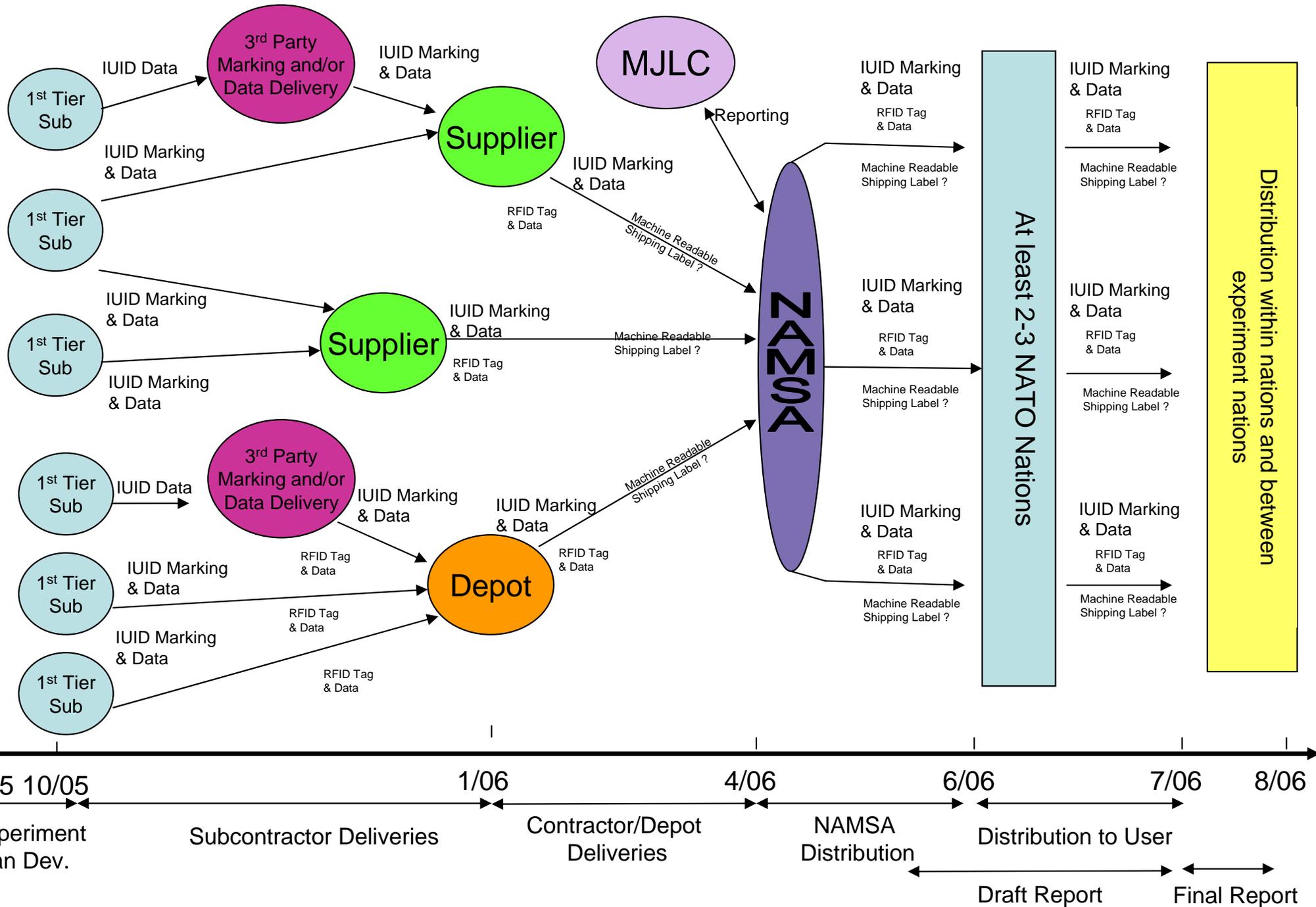
2005/2006 NATO Experiment Proposal

Purpose. NATO is in the process of creating a STANAG (Standard NATO Agreement) for the implementation of UID. STANAG Number 2290 will set out the standards and procedures to be used by NATO and nations who adopt UID in order to enhance item/entity visibility across information and operation systems.

The experiment will evaluate the costs and benefits of implementing IUID in order to enhance item entity visibility through the supply chain. The product of the experiment will be an experiment report and a business case that NATO and nations may use to support supplier and defense organizations' implementation of IUID. The final experiment report will

- Identify potential issues and the benefits/challenges of IUID implementation.
- Accurately scope the required investments including infrastructure and business processes changes.
- Articulate the expected benefits in each of these separate areas: systems engineering, program management, property management, contracting, logistics, supply chain management and financial accountability.
- Serve as a template extensible to other similar IUID experiments among and between coalition partners or groups of coalition partners

Item Unique Identification 2005/2006 Experiment Proposal





Item Unique Identification

CHALLENGES:

- ◆ Contractor assignment of nonrecurring costs over time vice charging to first contract with IUID requirement
- ◆ Get requirements consistently and correctly placed in applicable contracts
- ◆ Facilitate global acceptance through industry standards
- ◆ Gain corporate internal use to enhance utility and reduce implementation costs



Training Events

- ◆ Bi-Coastal Program Planning Conferences
 - San Diego: Oct 25 & 26
 - Chantilly, VA [Dulles Expo Center]: Nov 30 & Dec 1
- ◆ DAU – Numerous – Continuous (Hanscom, Ogden, Warner Robins, Wright Pat, Monmouth, HSV etc)
 - http://www.dau.mil/performance_support/RDT.asp
 - <http://www.dau.mil/regions/regions.asp>, or call one of the following numbers:
 - Capital & Northeast Region: (703) 805-2864 (DSN 655)
 - Mid-Atlantic Region: (240) 895-7344
 - South Region: (256) 722-1100 (DSN 788)
 - Mid-West Region: (937) 781-1025
 - West Region: (619) 524-4811 (DSN 524)



Questions?

<http://www.acq.osd.mil/dpap/UID/index.htm>

or

www.uniqueid.org