Interview with Michael Wynne, Acting Under Secretary of Defense (Acquisition, Technology & Logistics)

Unique Identification (UID) Now Mandatory on All New Solicitations

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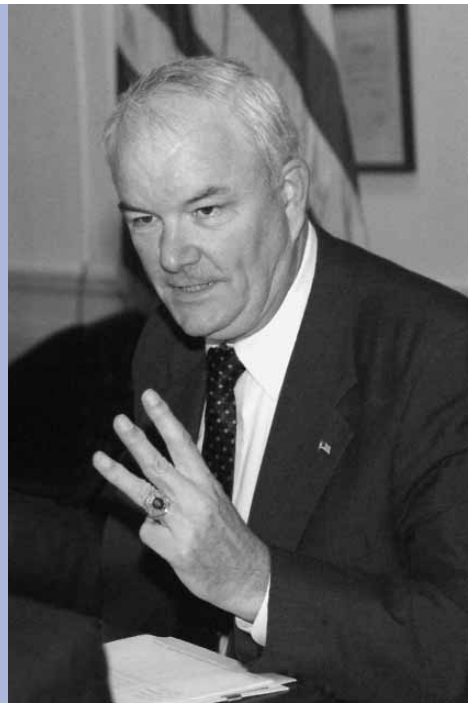

On July 29, 2003, Wynne, acting under secretary of defense (acquisition, technology and logistics), announced a new policy for the unique identification of items that the Department of Defense (DoD) buys. Rob Leibrandt, deputy, Unique ID office and DAU liaison to the Office of the Secretary of Defense (OSD), interviewed Wynne for *Defense AT&L*. In the interview, Wynne expressed his conviction that UID will enhance engineering, logistics, contracting, and financial business transactions supporting U.S. and coalition troops. He explained how, through the new policy, DoD can consistently capture the value of items it buys, control these items during their use, better evaluate technical performance, and combat counterfeiting of parts. According to Wynne, UID is a business imperative for the Department, which has hitherto been without a universal method for parts identification.

Q.
What is a unique identification?

A.
Basically, unique identification, UID, is the ability to physically distinguish one item from another. Even though the items may be exact copies of each other, the unique identifier can be used to distinguish between them. We view a unique identifier as a set of data for assets that one, is globally unique and unambiguous; two, ensures data integrity and data quality throughout life; and three, supports multi-faceted business applications and users.

Q.
Why is unique identification important to DoD?

A.
Unique identification is a business imperative for the Department, which has been without a universal method for parts identification. Our vision for UID is to facilitate item tracking in DoD business systems and to provide reliable and accurate data for program management and accountability purposes in our engineering; acquisition;

financial; property, plant and equipment accountability; and logistics processes. Our goal is to accomplish this while relying to the maximum extent possible on international standards and commercial item markings and not imposing unique government requirements. Unique identification of items will help achieve integration of item data across DoD, federal, and industry asset management; improve item management and accountability; improve asset visibility and life cycle management; and enable clean audit opinions on item portions of DoD financial statements.

Q.
What has been the approach for defining unique identification?

A.
Following the first organized UID offsite in December 2002, I directed the establishment of an integrated product team (IPT) to lead the effort in defining the requirements for a UID policy and implementation. We have been most fortunate to have the dedicated participation and support of folks from the military services and OSD and that of our industry partners, associations, and international defense partners. This has truly been a demonstration in coordination and collaboration to ensure UID brings about positive transformation within the international defense supply chain.

Q.
How do you identify an item as unique?

A.
First, I would point out that UID is a mandatory requirement for all DoD solicitations issued on or after January 1, 2004. The focus of this requirement is on new equipment, major modifications, and re-procurements of equipment and spares. We felt this was the most logical place to begin because it is easier to mark parts at the source of procurement—the manufacturing enterprise (that is, the prime contractor and vendor).

We are relying on current commercial practices to uniquely identify items that an enterprise produces. Unique identification depends upon a combination of data elements that is determined by how the enterprise serializes items. For UID there are two acceptable methods of serialization. The first is serialization within the enterprise identifier, whereby each item is assigned a serial number that is unique among all the items identified under that enterprise identifier and never used again. We look to the enterprise to ensure unique serialization within the enterprise identifier. The second is serialization within the part number, when each item of a particular part number is assigned a unique serial number within the original part number assignment. Again, we look to the enterprise to ensure unique serialization within the original part number.

Our DFARS interim rule on unique item identification and valuation was published in the *Federal Register* on October 10, 2003. One provision of the rule is for our contracts to include a requirement for commonly accepted commercial marks if it's determined that unique item identification or a DoD-recognized unique identification equivalent isn't required and that unique item identification isn't already marked. In these cases where it's not necessary to distinguish between individual items of a product, commercial marks could be used. These are such identifications as the global trade identification number (GTIN)—the most widely known being the universal product code (UPC)—the COMMON LANGUAGE® equipment identifica-

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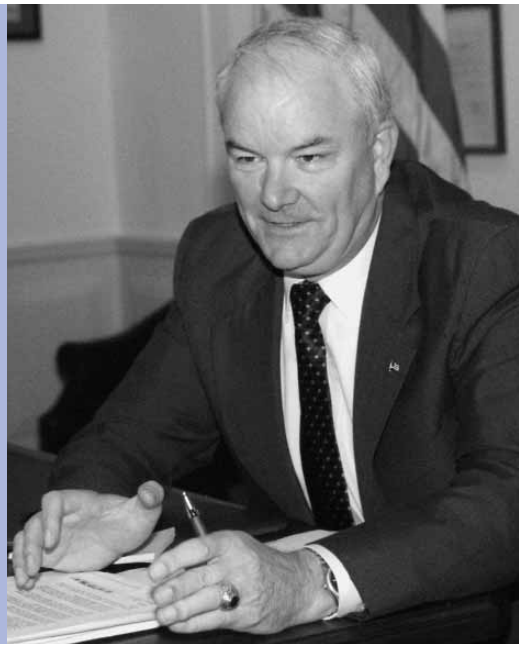


MICHAEL W. WYNNE

ACTING UNDER SECRETARY OF DEFENSE (Acquisition, Technology and Logistics)

Michael W. Wynne is the acting under secretary of defense for acquisition, technology and logistics, a position he assumed May 27, 2003, upon the retirement of Edward C. (Pete) Aldridge Jr. Previously, he served as principal deputy under secretary of defense for acquisition, technology and logistics. The Senate confirmed him to this position on July 12, 2001.

Before joining the Department of Defense, Wynne was involved in private industry venture capital, nurturing small technology companies through their start-up phase as a member of the NextGen-Fund executive committee and serving in executive positions within two companies.

In 1999, Wynne retired as senior vice president from General Dynamics, where his role was in international development and strategy. He spent 23 years with General Dynamics in various senior positions. In between working with General Dynamics, he spent three years with Lockheed Martin, having sold the space systems division to then Martin Marietta. He successfully integrated the division into the Astronautics Company and became the general manager of the space launch systems segment, combining the Titan with the Atlas Launch vehicles.

Wynne served in the Air Force for seven years, ending as a captain and assistant professor of astronautics at the United States Air Force Academy, where he taught control theory and fire control techniques.

Wynne graduated from the United States Military Academy and also holds a master's degree in electrical engineering from the Air Force Institute of Technology and a master's degree in business from the University of Colorado. He has attended short courses at Northwestern University (Business) and Harvard Business School (PMD-42). He is a fellow in the National Contracts Management Association and a past president of the Detroit Chapter of the Association of the United States Army and the Michigan Chapter of the American Defense Preparedness Association. Wynne has published numerous professional journal articles relating to engineering, cost estimating, and contracting.

tion (CLEI) for telecommunications equipment, and the Health Industry Business Communications Council (HIBCC) code for non-pharmaceutical health care products.

We will also accept existing equivalent unique identifiers used in the commercial marketplace, provided that they meet our criteria for uniqueness. Thus far, we have identified three such identifiers for our use: the global individual asset identifier (GIAI), the global returnable asset identifier (GRAI) and the vehicle identification number (VIN). In addition to these equivalents, the data requirements of Title 14 CFR Part 45, Identification and Registration Marking, for aircraft, aircraft engines, propellers, and propeller blades and hubs are consistent with our UID constructs. Although it is not yet in widespread use, we do anticipate that the newly developed electronic product code (EPC) will provide us with another equivalent.

While items currently in use and in our inventories are not immediately affected by the policy, I have encouraged the component acquisition executives (CAEs) to identify, promote, and fund pilot programs to apply UID to legacy equipment and the supporting automated information systems. One notable example of legacy application of UID is the Army's effort in marking flight and maintenance critical parts on the CH-47 Chinook helicopter. I realize it will be a long road to implementation, but the sooner program managers (PMs) begin to plan for UID implementation and its effects on business processes, the smoother the transition will be.

Q.

In the policy memo, you impress upon the CAEs the need to ensure that program managers understand the criticality of requiring UID. What do you feel will be the impact for PMs and their related functional support disciplines?

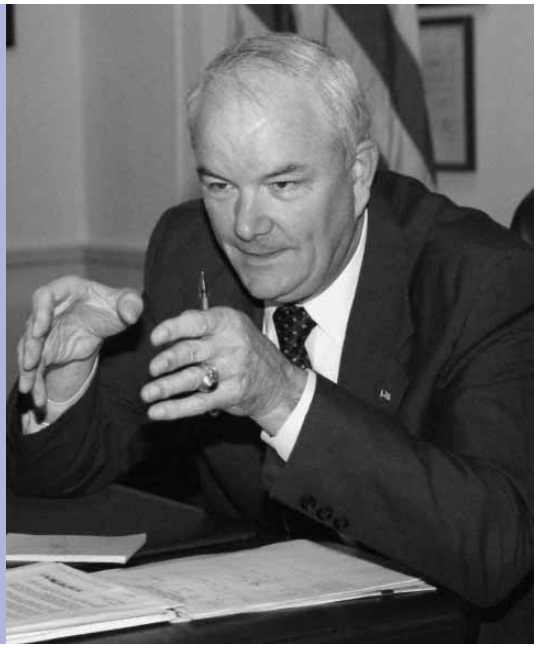
A.

We should all understand that the UID policy is intentionally broad in reach and will affect stakeholders throughout the supply chain. As I see it, the principal stakeholders are program and item managers and their supporting functional disciplines of engineering; acquisition; financial management; property, plant and equipment accountability; and logistics. Further, we have our industry counterparts in these areas to consider as well.

We expect UID to have the following outcomes:

- Engineering will provide for the seamless transfer of product data (specifications or bills of material) into the supply chain to allow for faster production ramp-up and to speed up engineering change processes.
- Acquisition will provide for establishment of requirements and the efficient capture of the UID data elements through the contracting process.

[UID] is a vital tool in the integrated digital environment that threads through our business enterprise architecture to provide financial integrity in acquisitions, stewardship of property and management of inventory. Most important, UID will take combat support to a whole new level.



- Financial Management will provide clean audit opinions on item portions of DoD financial statements.
- Property, Plant and Equipment Accountability will provide physical controls and accountability over tangible items to reduce the risk of undetected theft and loss, unexpected shortages of critical items, and unnecessary purchases of items already on hand.
- Logistics will provide improved asset visibility and life cycle management.
- The industry supply chain will provide enhanced ability to supply innovative, tailored products and to strengthen customer relationships, fostering better buyer-vendor partnerships.

Additionally, we expect to see greater simplicity, standardization, speed, and certainty in automated data capture and electronic information exchange throughout DoD and industry processes. And we've also provided standard contract language for the marking and evaluation of items, to smooth the way for a PM's implementation effort.

There's no doubt that implementation is a rigorous exercise in collaboration and coordination. Ultimately, we hope this will build stronger relationships between DoD, industry, and coalition partners.

Q.
What are the guiding principles for the implementation of UID?

A.
Our philosophy has been to specify the minimum essential elements necessary to achieve our objectives for unique identification of the Department's assets. To the maximum extent practical, we want to use the current methods among our suppliers, including commercial practices. We will have a preference for international standards. This is in our best interest and the best interest of our coalition partners and industry as well. We have involved the international community and industry in the development of this policy and are continuing to collaborate with them for implementation. Internally, we're guided by our need for the integration of our efforts across the acquisition, financial, and logistics domains.

Q.
How does UID fit with other DoD initiatives?

A.
There is a complementary relationship among UID and ongoing initiatives in our transformation—at the OSD level and in the military services. The UID becomes an enabler that supports the programs for management of serialized items and asset visibility. It is a vital tool in the integrated digital environment that threads through our business enterprise architecture to provide financial integrity in acquisitions, stewardship of property, and management of inventory. Most important, UID will take combat support to a whole new level.

I have chartered the JRIB—the Joint Requirements Implementation Board—as a collaborative means for communicating, educating, and expediting UID implementation. The members of the JRIB, who are stakeholders from the acquisition, financial, and logistics domains, will coordinate the activities of working groups to develop UID business rules, reengineer business practices, and recommend pilot programs or demonstration projects. The JRIB will ensure that the implementation of UID fits the framework of our business enterprise architecture and facilitates transformation initiatives across the domains.

And now, specifically, there's a related initiative with radio frequency identification (RFID). On October 2, 2003, I signed a policy for use of RFID within the Department. As I said in the policy memorandum, we must take advantage of the inherent capabilities of RFID to improve our business functions and facilitate all aspects of the DoD supply chain. RFID-recorded events will be used as transactions of record within maintenance and supply automated information systems. We see the RFID initiative as a vehicle to extend and take advantage of the implementation of the UID policy by focusing on improved data quality, item management, asset visibility, and maintenance of materiel throughout our system. The RFID tag will increase our productivity in every process within logistics.

Q.

You mentioned earlier that the Department recently issued an interim DFARS rule on unique item identification and valuation. What are your expectations from industry with regard to the rule?

A.

The DFARS interim rule is a mandatory DoD requirement for all solicitations issued on or after January 1, 2004. It's my expectation that in the period between the release of the interim rule in October 2003 and its becoming effective on January 1, 2004, collaboration with our industry partners will continue and the specific language in the interim rule will be finalized with no negative impact to our long-term implementation schedule.

Q.

Where can program managers find guidance for implementation of the UID policy?

A.

We've made the latest information available on our website at <www.acq.osd.mil/uid> and have included the policy memoranda, background information, terms of reference, documentation of team activities, frequently asked questions and answers, and so forth. The Department of Defense Guide to Uniquely Identifying Items is posted there and provides a comprehensive treatment of the subject, with information for program managers to apply to their individual program circumstances. We've also posted DFARS guidance, which is essential for contracting officers to incorporate in their solicitations and contracts. And finally, many of the ongoing implementation efforts are being coordinated through the UID program office. LeAntha Sumpter leads this office, and her deputy, Rob Leibrandt is the primary UID point of contact.

There's no doubt that implementation is a rigorous exercise in collaboration and coordination. Ultimately, we hope this will build stronger relationships between DoD, industry, and coalition partners.

What is Unique Identification (UID)?

A Unique Identifier (UID) is a data element that differentiates one item from another. Assigning a UID to an item serves two purposes: to enable the association of valuable business intelligence throughout the life cycle of an item and to ensure accurate capture and maintenance of data for valuation and tracking of property and equipment (Figure 1).

FIGURE 1. **What a UID is and What It Isn't**

A UID Is
- A Data Element
- A Unique Identifier for an Item
- Globally Unique
- Unambiguous
- Permanent
- Created by Concatenating Specific Data Elements

A UID Is Not
- A Medium for Communicating Data, such as Radio Frequency Identification (RFID) Tags, Contact Memory Buttons, Linear Bar Codes, or 2-D Data Matrices
- A Replacement for the National Stock Number

The Mechanics of Unique Identification

There are two methods to construct the UID for an item: (1) Serialization within the Enter-

prise Identifier, called Construct #1; and (2) Serialization within the Part Number (within the enterprise identifier), called Construct #2. The UID data elements for the constructs are summarized in Figure 2.

Automatic identification technology (AIT) is used to mark (or write) the UID data elements on an item and to read the UID using an automated reader. Marking the fully constructed UID on the item may not be required because the UID can be constructed from its component data elements as long as those elements are contained in the item mark. Data qualifiers (semantics) label each data element marked on the item. Data qualifiers can take one of three forms: alphanumeric Data Identifiers (DI), numeric Application Identifiers (AI), or alpha Text Element Identifiers (TEI). For additional information on DoD-accepted data qualifiers (semantics), refer to the DoD Guide to Uniquely Identifying Items at <http://www.acq.osd.mil/uid>. Figure 3 shows the data qualifiers to be used in constructing the UID.

The current part number is not part of the UID. It is an additional, optional data element. Once the data elements are identified to the AIT device, the AIT device needs instructions on how to put the data element fields together to create the UID. The instructions are referred to as message syntax. For items that require a UID, DoD requires syntax that follows ISO/IEC 15434, Information Technology—Syntax for High Capacity ADC Media. Standard syntax is crucial to the UID, since the process of identifying and concatenating the data elements must be unambiguous.

Figure 4 shows examples of the data elements and their data qualifiers that are placed on the item. The figure further shows how the AIT devices would output the data elements in a concatenated UID according to the syntax instructions.

FIGURE 2. **UID Data Elements for Construct #1 and Construct #2**

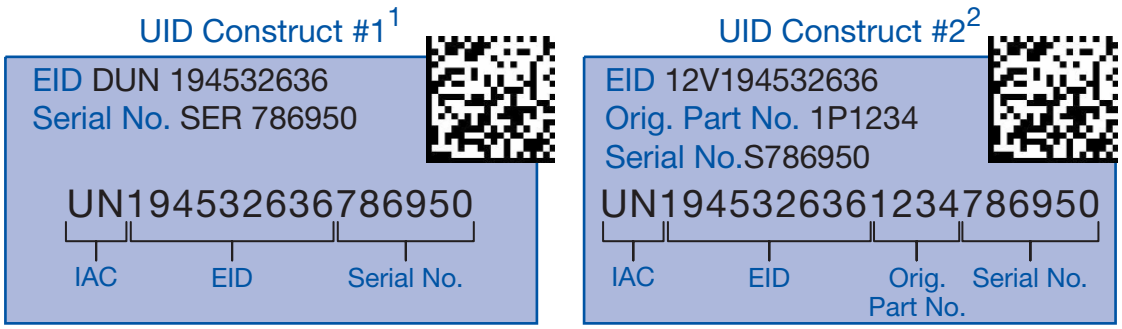
	UID Construct #1	UID Construct #2
Based on current enterprise configurations	If items are serialized within the Enterprise	If items are serialized within Part Number
UID is derived by concatenating the data elements IN ORDER:	Issuing Agency Code*	Issuing Agency Code*
	Enterprise ID	Enterprise ID
Data Identified on Assets Not Part of the UID (Separate Identifier)	Serial Number	Original Part Number
	Current Part Number	Serial Number
		Current Part Num-

*The Issuing Agency Code (IAC) represents the registration authority that issued the enterprise identifier (e.g., Dun and Bradstreet, EAN.UCC). The IAC can be derived from the data qualifier for the enterprise identifier and does not need to be marked on the item.

FIGURE 3. **Data Qualifiers Used in Constructing the UID**

Enterprise ID	DI	AI	TEI
CAGE/NCAGE	17V		CAG
DUNS	12V		DUN
EAN.UCC		TBD	EUC
Serial No. w/in Enterprise Identifier			SER
Serial No. w/in Original Part No.	S	21	SEQ
Original Part No.	1P	01	PNO
Unique Identified (Including the IAC)	25S	8004	
Unique Identifier (Not including the IAC)	18S		UID
Current Part Number	30P	240	PNR

FIGURE 4. **Data Elements and Their Data Qualifiers**



[1]This example uses Text Element Identifiers.

[2]This example uses MH10.8.2 Data Identifiers.