

IUID
-WHAT DOES IT MEAN TO YOU?

**WHITE
PAPER**

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IUID

—WHAT DOES IT MEAN TO YOU?

Item Unique Identification (IUID) is mandated throughout the supply chain by the US Department of Defense (DoD) for new procurement of items over \$5,000¹. Increasingly, IUID is also being applied retrospectively. DoD policy targets the end of 2010 for all legacy items meeting the IUID criteria to be marked. In short, if you supply or maintain assets for the DoD, IUID is something you need to address. The indications are that other countries, including the UK MoD, will also adopt the standard. The good news is that IUID is a simple concept, and IFS believes it offers real benefits across the defense enterprise. The challenge is that IUID is deceptively simple—understanding the requirement and implementing it within your enterprise supply chain, inventory and maintenance management solutions is not trivial.

What is IUID?

Simply, IUID is a 2-dimensional data matrix, marked on the item, which contains a Unique Item Identifier (UII) in machine-readable code that uniquely and unambiguously identifies the item. This data is comprised of the identity of the enterprise, guaranteeing the uniqueness of the mark (for example, the “cage code”²), a serial number and (if applicable) part number. When items are delivered to the DoD, the delivery includes data relating to the item’s UII and that of items embedded in the delivered asset. The DoD then maintains a registry of UIIs throughout the item’s life cycle.

If IUID is the answer, what’s the question?

At its heart, the IUID concept is about asset visibility. For an organization of the scale and complexity of the DoD, knowing unambiguously what assets are held and where is fundamental to:

- streamlining supply chains;
- improving acquisition, deployment and repair;

¹The DoD also mandates IUID for other items that are serially managed, mission essential, controlled inventory, repairable, a consumable item or material where permanent identification is required, or as required by program management.

²The CAGE code is only one example of a number of ways of identifying the enterprise within the UII. It could be the Dunn and Bradstreet codification system as another example. A complete explanation of the acceptable elements for constructing a UII is listed in MIL-STD 130N.

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- enhancing operational availability;
- realizing efficiencies through improved productivity and reduced asset management costs
- complying with financial reporting & audit requirements

To achieve this, it's key that items carry a unique identifier with them through-life, from cradle to grave.

Who benefits? How?

The DPAP office, the agency in the DoD responsible for acquisition and procurement policy, states that IUID enables ‘improved access to information about DoD possessions to make acquisition, repair, and deployment of items faster and more efficient’³.

These benefits can be considered in terms of three dimensions:

- Increasing efficiency. Items marked with IUIDs will have lower transaction costs, accelerating the acceptance and payment processes. At the same time, the burden of item tracking is reduced—improving productivity.
- Better visibility. Accuracy of inventory offers better intelligence to the warfighter for operational planning, and allows for improved property and equipment valuation. IUID also facilitates accurate tracking of items through the forward & reverse supply chains.
- Future effectiveness improvements. IUID facilitates logistics and engineering analysis both for in-service assets and during system design.

These benefits accrue initially to the DoD and would also apply to organizations providing high value assets, availability or capability to the DoD (through Performance Based Logistics contracts, for instance). But there are equally benefits to OEMs in managing supply chains more efficiently and in monitoring asset reliability/effectiveness more accurately.

What does it mean for me?

The implementation of IUID, and—critically—the capability to exploit the potential benefits implies significant demands on enterprise information solutions. There are a number of key issues and implications to consider, including:

- Enterprises authorized to assign IUIDs must be able to guarantee that the unit's identity is globally unique.
- Once in the DoD's inventory, Equipment Managers must be able to track significant items by their unique identity, even when passed into the reverse supply chain for modification or maintenance.
- Enterprises in the supply chain also need to be able to account precisely for these Government Furnished Assets (GFA), including accountability for onward transfer of GFA from primes to subcontractors. Post maintenance or upgrade, on return to the DoD, data associated with the IUIDs need to be updated to reflect the change.

³Quote from: <http://www.acq.osd.mil/dpap/pdi/uid/index.html>

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- Once installed in land, sea or air vehicles, visibility of the linkage between the asset and its parent platform is essential. Embedded items need accounting for as their parent assemblies are tracked. This places requirements on “As built” and “As maintained” structural records of IUID marked items.
- Reliability analysis depends on an accurate asset history of faults and corrective/preventive maintenance through its lifecycle.
- As assets are modified, upgraded and maintained, it is essential that data relating to current fit form or functionality is tracked. Whereas part numbers and serial numbers may change, the asset’s IUID must persist.

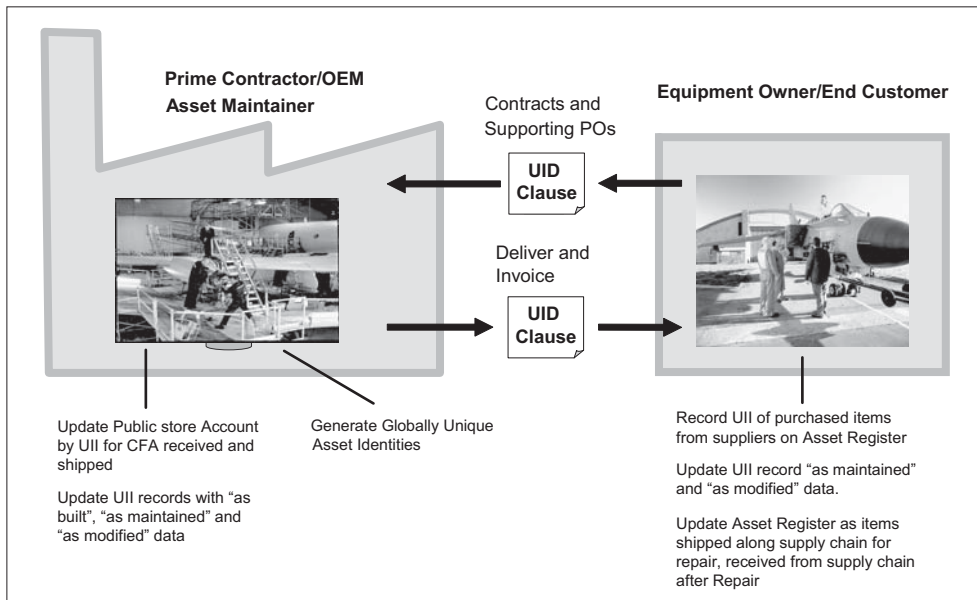
IFS and IUID:

As one of the key providers of ERP applications, and a leader in capability for Enterprise Asset Management, the Aerospace & Defense Industry team in IFS has provided project solutions to support compliance with IUID for some time.

IFS is expanding on the knowledge and experience gained with its customers on these project solutions to make a more comprehensive set of capabilities for IUID available to our customers.

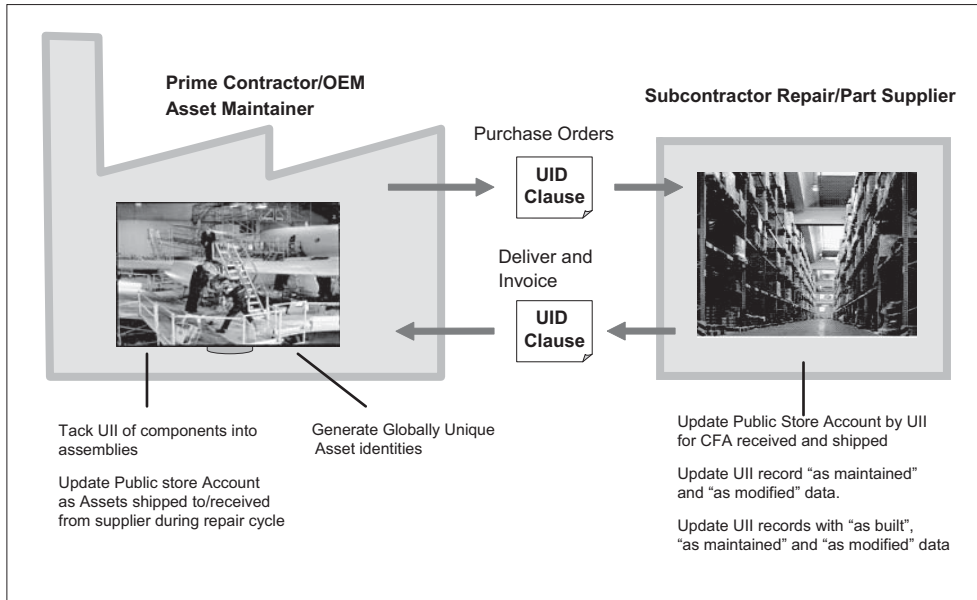
This capability recognizes the needs of the OEMs, prime contractors, subcontractors and the equipment owners, operators and maintainers.

As the scenario examples outlines below, although individual tagging of IUID for individual shipments or receipts can be fairly simple there is a more complex set of interdependencies and a wide set of processes that IUID could institute within a program. This is especially true in multilevel contracting as is very common within any defense program.



Equipment Owner/Asset Maintainer Scenario

IUID



Prime/Subcontractor Scenario

The solution is aimed at providing support for the following activities:

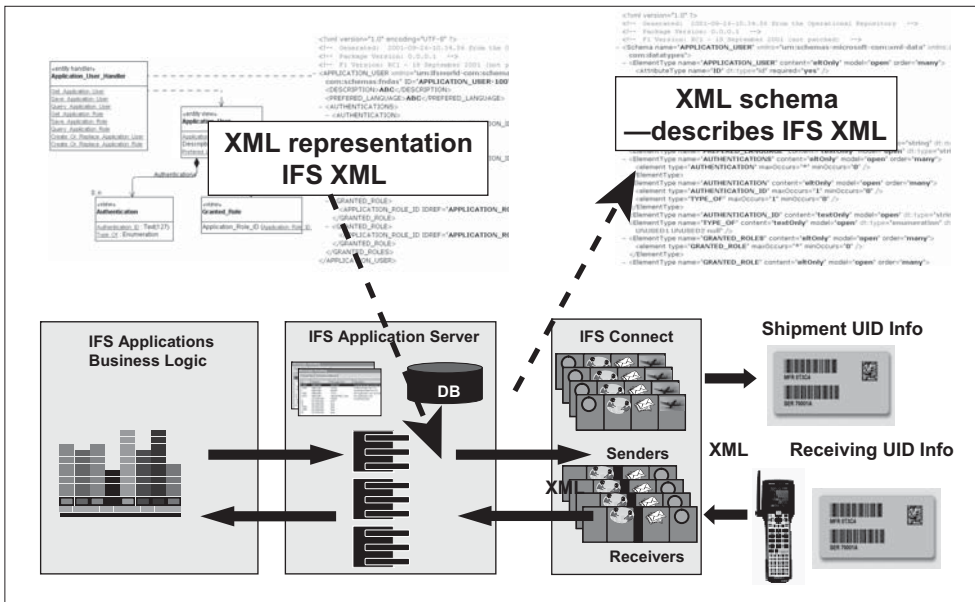
- Ability to mark which part numbers have been nominated for IUID.
- Ability to mark which customers require IUID.
- Ability to receive and store IUID data for assets received from other organizations.
- Ability to hold IUID data for embedded IUID controlled assets within a main asset.
- Ability to uniquely construct an asset's IUID from the data elements held in the IT Application when that application's user is an enterprise which can originate IUIDs
- Ability to declare a number of rules for constructing an IUID from other data elements.
- Ability to assign to a part number requiring IUID, one of the set of rules for the generation of the IUID.
- Ability to print/re-print an asset's IUID as a 2D data matrix tag / label.
- Ability to print IUID on shipping/dispatch documentation.
- Ability to notify suppliers of the requirements for IUID on specific items ordered from the supplier.
- Ability to send IUID as part of outgoing dispatch advice message content.
- Ability to receive IUID as part of incoming receipt advice message.
- Ability to retain an individual asset's IUID even when its part number changes due to modification, etc.

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- Ability to invoke IUID for assets which previously were not subject to IUID.
- Ability to ensure UIIs are unique across all assets registered in IFS.
- Ability to correct errors discovered on IUID per asset.
- Ability to retrieve/update existing records by quoting an asset's UII.

IFS UID Technology:

Solving the scenarios outlined above in a Defense Enterprise Application requires a high degree of flexibility and SOA architecture within the message handler system. As a leading developer adhering to standards such as OAGIS, IFS provides this by utilizing the message handling within the IFS Extended Server, as the overview below shows.



How it works inside IFS

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