

Submitting Data to the IUID Registry

Congratulations! You won the government contract. Now it's time to execute.

You know the drill: process the order, set up a production schedule, design the product, make it, run it through quality control, ship it, send the government an invoice and collect payment.

Simple, right? But alas, the devil's in the details. Accurate coordination and timing of these processes with all the unique data generated for each item – including the final product and many of the components that comprise it – is key to the health of your bottom line and to collecting that payment. One misstep in managing item or shipment data to comply with government or Department of Defense (DoD) standards for Item Unique Identification (IUID), or in submitting that data to the IUID Registry or Wide Area Workflow (WAWF), can easily result in a rejected shipment or a payment that never arrives because it's been denied. We'll help you avoid the top 6 pitfalls in submitting data to the IUID Registry and keep the money (and future contracts) coming in.



The standard for IUID compliance in tracking serialized items is MIL-STD-130 – the DoD's response to the Chief Financial Officers (CFO) Act of 1990, which requires the government to improve its financial management. As a benchmark for more precise asset tracking and accountability, MIL-STD-130 calls for creation and attachment of a permanent 2-dimensional Data Matrix barcode label or metal plate to all qualifying assets, parts and components so that they can be accurately tracked and traced throughout their lifecycle. This type of barcode represents a unique item "license plate" that links to a range of pedigree data that is unique to the item – manufacturer, serial number, NSN, part number, etc. – as well as a wide range of identifying traits and, eventually, lifecycle history.

A number of proven steps – best practices – have been developed to ensure that each IUID label and plate meets the MIL-STD-130 standard. IUID pedigree data must be submitted to the DoD IUID Registry correctly to ensure invoices with unique item data are properly submitted to the WAWF for payment. These steps include:

- Creating IUID labels and marks using Construct 1, Construct 2 or commercial equivalent
- Verifying the mark for quality standards
- Validating the mark for formatting and syntax
- Linking the Unique Item Identifier (UII) to all required item pedigree data
- Managing parent/child relationships of products with embedded components
- Submitting the data directly to the IUID Registry or via WAWF

Understanding the management of the data behind the IUID and WAWF registration process is critical to avoiding costly and time consuming errors that lead to IUID Registry submission mistakes. Well-intentioned personnel attempting to manage unique asset identification and IUID Registry submissions internally, without using comprehensive IUID data management, run numerous risks. Non-compliant processes and the vast use of Excel documents where a single cell entry can lead to erroneous data or even duplicate data are terribly risky. We call this “data management by spreadsheet.” We don’t recommend it. Although it is not uncommon, it falls far short of the comprehensive data management system required to meet IUID Registry and WAWF requirements.

When the production department wants to create or capture product data on a spreadsheet that includes an item’s pedigree data, and then email that spreadsheet to the invoice processing department, things can easily go awry. Transposing, or copy and paste errors where information is placed into the wrong field in a WAWF form, can quickly spell chaos when trying to submit data, let alone getting paid, particularly when hundreds or thousands of records need to be submitted.

THE TOP 6 MISTAKES IN SUBMITTING DATA TO THE IUID REGISTRY

Knowing what problems can creep up if you don’t understand what the IUID Registry and WAWF expect are a great motivator. Here are some of the common mistakes in submitting item data to the IUID Registry:

1. Your Unique Item Identifier (UII) is Not Unique or Complete

All items must receive a unique item identifier (UII), which contains encoded data using as many as 50 alpha-numeric characters. This encoded data includes ISO 15434 start and end characters, data identifiers, group and record separators, enterprise ID, part number, serial number and other important elements. Characters such as commas, dashes and ASCII codes are not allowed. Creating this code is difficult; changing data within the code presents a high risk of error.

2. Inconsistency with MIL-STD-130

Unique marks must contain data that is consistent with the syntax and format of MIL-STD-130. For example, a grocery item with a UPC code containing anything other than 13 numeric characters, or without the UPC standard for quality, formatting and syntax, will not scan at check-out. The same is true of an IUID. Without standard data verification and validation provided by a data management system, many IUIDs cannot be submitted to the IUID Registry.

3. Wrong File Format

Problems can also arise when data is being driven to the IUID Registry from an ERP system or a spreadsheet if it is not in the correct format. Not only must files be submitted in the proper file format, they must also use the correct Registry schema and generate an audit trail. Once data is submitted incorrectly, the mistake is difficult and time consuming to unravel and fix. Since submissions may not be processed immediately, if you don't verify that your submission was confirmed and correct, your contract payment may be delayed.

4. Severed Parent/Child Relationship

The Registry calls for the ability to manage an IUID parent/child relationship correctly and accurately. That means IUIDs might be scanned and assembled in a hierarchical configuration, starting with an end item, progressing to its components, followed by the assemblies, the sub-assemblies, and finally the lowest replaceable units (LRUs). If data is captured or created incorrectly in this process, such as missing or incorrect data or duplicate mark, the data management process required to manage the parent/child relationship information will break down and items will not be correctly registered.

Preparing an item for registration requires that all of the item's pedigree data conforms to the data standards set out by the IUID Registry. With over 20 data elements that can be submitted to the IUID Registry, there is significant room for error unless a proper IUID and WAWF data management system is in place.

5. Not Making Virtual a Reality

For legacy equipment either in use by the government or listed as Government Furnished Property (GFP), a Virtual UII may be registered without marking the item directly. The registration process requires submitting the UII with a medium code of "DEFINED." Along with the UII, all the pedigree data for this item must be registered, including the serial number, part number, enterprise ID and all other elements that identify the item.

The existing mark data must be registered within the mark loop in the registry XML. Virtually marked items MUST be physically marked by the custodian and the Registry must be updated when one of the following trigger events occurs: change of location from one entity to another; change in status (i.e. item taken out of service); change in program; or change in organization (i.e. being returned from a contractor back to the government).

If you virtually register a UII, keep track of which items have been registered virtually and which are 2D mark compliant. And be sure to track which item goes with which UII. This relationship must be maintained to ensure you are marking the appropriate item.

6. Ignoring Common Errors

Further review of common errors, particularly with IUID Construct 1 or IUID Construct 2, when submitting data to the IUID Registry includes the following:

- Omission of issuing agency code from the UII.
- A common UII is reported for all items in a single submission or across multiple submissions, though the pedigree data is different for each item.
- The original part number or the serial number is used as the UII instead of the full UII.
- UIIs that contain a value that is not related to any of the pedigree fields.
- UIIs or other pedigree fields contain typos such as omitting preceding zeroes from the serial number pedigree value or from the UII, but not from both.

- UIIs submitted when parts are not marked and there is no UII marking requirement on the procurement contract.
- Unintentional change of the IUID type of a given item to a value other than the one originally intended.

Incorrect data identifiers in the Unique Item Identifier (UII), incorrect part and serial numbers, typos in pedigree fields, and other mistakes result in a mismatch between the actual item pedigree data and the data contained in the UII.

PROBLEM ESCALATION WITH MANAGEMENT BY SPREADSHEET

Imagine trying to manage parts embedded in a larger assembly or principal end item using a spreadsheet. The complexity this poses is daunting. Embedding is the creation and reporting of the parent/child relationships that occurs as an assembly is produced. The idea is to keep track of not only the top level item, but also the key components to those items. A Humvee vehicle, for example, is considered a finished or “top level” item. Embedded items of the Humvee may be the engine or transmission. All of these need an IUID for track and trace capability during the lifecycle of the item.

With IUID data management, however, these multi-level relationships – parents, children, grandkids and great grandkids – can all be accounted for. Precise identification runs through the entire assembly, often down to the lowest replaceable unit. It is essential that the data in the IUID is consistent and accurate according to the ISO standard. An error in marking means the asset will never match what’s in the database. Incorrectly marked assets cannot be associated with pedigree data. In other words, an incorrect IUID equals an incorrect pedigree.

Preparing an item for registration requires that all of the item’s pedigree data conforms to the data standards set out by the IUID Registry. With over 20 data elements that can be submitted to the IUID Registry, there is significant room for error unless a proper IUID and WAWF data management system is in place.

THE SOLUTION: FAIL-SAFE IUID DATA MANAGEMENT

IUID is simple in concept: The item is marked, the data is harvested and that data is uploaded to a master database. It is also a powerful tool for a lean military that operates alongside and in tandem with lean commercial manufacturing enterprises. The ability to supply, replace, repair and replenish parts, just-in-time, without duplication and with total transparency is fundamental to the operation of the world's most powerful military.

Some view the IUID Registry as a "bit bucket" where data is dumped with no practical use. Given the granular visibility available within the Registry, that would be regrettable. Movement is underfoot to evolve the IUID Registry so that the data therein would become available for practical use, those handling logistics, configuration management and engineering, for example. This movement makes data integrity all the more important, right from the start, because inaccurate data will always "poison the well." Inaccurate data will never be trustworthy. Good data, on the other hand, ensures that this huge repository of information enables a more efficient military.

The right IUID partner is indispensable. A2B Tracking has been a supporter of IUID from the beginning of its inception. As AIT veterans, we've been developing barcode and RFID asset tracking systems since the early 1990s. Our systems ensure that the errors inherent to nonconforming systems – like using spreadsheets – don't occur.

We offer a fail-safe data management system with built-in checks for all IUID and WAWF requirements, from the creation, validation and verification of labels and marks, linking UII data to all item's pedigree data, managing multilevel parent-child relationships to final upload to the IUID Registry or via WAWF.

As a total IUID data management software, UC! Web stores all transactional history for each IUID. It imports data from existing legacy databases and systems, including ERP. It also enables printing of the IUID mark to virtually any printing device or method available such as CO2 lasers, YaG lasers, metal-photo, dot-peen, ink-jet, Tesa tape or polyester labels.

The UC! Web mobile computer software not only enables data harvesting of existing assets and property that require IUID in remote locations, but it also acts as a filter to ensure that IUID conforming data is imported and associated with the appropriate pedigree.

A compact, in-house turnkey IUID system offers a cost-effective way to meet DoD regulations on audit readiness and boost your ROI at the same time. The process of creating IUID barcodes, and printing, validating and verifying them in-house is simple. It uses cloud-based technology that allows data for each item to be registered in external databases such as the IUID Registry. Then the item data can be easily tracked and traced with the scan of a mobile device.



When one considers the complexity of IUID compliance, the potential for costly and timeconsuming errors, and the importance to the military of gaining visibility across its vast asset base, we feel the case for utilizing a conforming data management system, written by recognized AIT experts is compelling.

In short A2B's IUID compliance system with UC! Web software, which is installed at numerous military installations and DoD suppliers throughout the nation is the gold standard for IUID data management. And for a company who has just been awarded a government contract, you'll likely rely on UC! Web to help you turn your products and services into gold.

DON'T GO IT ALONE

A2B can help you follow today's best practices for submission of data to the IUID Registry and WAWF. We have the experience, systems, software and services to get you up to speed quickly and easily. Call **800.733.7592** or email **sales@a2btracking.com**.