Ten Key Questions about your UID Plan

– A DOD Supplier’s Guide

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UID MAKES “BUSINESS AS USUAL” A THING OF THE PAST

“The Good Old Days”

In the past suppliers could describe their shipment at a CLIN level (such as: “250 Electric Motors”). With the addition of a UID requirement, now the same supplier has to uniquely identify and describe each and every part (such as: 1 Electric Motor with UID = D1HLD978-44-00100001, 1 Electric Motor with UID = D1HLD978-44-00100002, 1 Electric Motor with UID = D1HLD978-44-00100003, etc.).

And now we start to Multiply...

There isn’t just one touch-point for this handling of multiplied amounts of data; there are at least 5 process steps in which UID data must be recorded, correlated, and regurgitated.

Multiple functional areas are also involved—Contracting, Customer Service, Finance, Manufacturing, Packaging, and Shipping are all involved in UID.

Multiplied amounts of data handled in at least 5 process steps across a number of functional areas—it’s no wonder that suppliers are concerned.

Add in the interconnected requirements of WAWF (Wide Area Workflow) and RFID (radio frequency identification) and you have a real nail-biter.
A sensible approach can take a lot of the sting out of UID compliance.

With proper education and planning you can save significant cash and keep your customer happy (relatively). But a make-it-up-as-you-go approach is going to cost you—cash, aggravation, and customer trust & loyalty.

There are lots of resources available to learn the nuts & bolts of UID, so much resources in fact that it is extremely difficult to glean out the exact nuggets that you need. This Guide is not a recasting of the UID mandate. Rather we pull together the information you need, giving you a place to start. We’ll tell you how to put together a workable plan and put that plan into action.

After reading this Guide you will be ready to start assembling the nuts & bolts needed to succeed in this new challenge. You’ll have a much easier time sifting through the vast amount of information available from the government and from industry, recognizing the information that you need and skipping over the information that doesn’t apply to you or doesn’t help you.

I’d rather not talk about it…

UID compliance covers different business processes and functional areas. Some of these areas are different enough that it doesn’t make sense to try to jam them all into one publication. Here’s what you WON’T find in this Guide —

- **Marking the part and verifying the part mark.** This process step involves engineering drawing changes, specialized marking equipment (sometimes), specialized barcode verifiers and generally involves working with the physical part. It also takes place generally in engineering and manufacturing, which is in a different functional area than where most of this Guide focuses. However, we do talk enough about this process step to allow you to see where it fits into the rest of the process.

- **Legacy parts, GFP (government-furnished property), and PIPC (property in possession of contractor).** These are typically completely different business processes than the process on which this Guide focuses. The challenges are different and even some of the terminology is different. While we don’t talk about these business processes, it wouldn’t take much imagination to apply the principles of this Guide to these business processes.
Consider a couple of worst case scenarios which we've actually seen, and which illustrate the importance of planning —

**They Did Nothing**

We know of more than one supplier who had UID requirements on their contract but did nothing to comply with the requirements. They didn't know what to do, so they did nothing. Their inspector/acceptor didn't understand the requirements either, so they also did nothing.

"We've always done it this way and we've never had a problem" was the call of the day.

Eventually the oversight of the supplier caught up with them. After months or in one case 2 years, someone on the government side of the street realized that the requirements were not being met. But by then, dozens, hundreds, even thousands of systems or parts were in the field that should have been marked and registered, but were not.

Shipments were frozen, payments were withheld, and discussions started about how the supplier would find, mark, and register all those deployed systems and parts. Supplier ratings were affected. The ability to win future business was impacted. Individual professional responsibility was brought into light.
Failing to comply with a customer requirement is risky. Failing to comply with a customer requirement that dictates that you physically touch the products that you are selling, as well as organize and submit a complex set of data, is just foolhardy.

**They Did Too Much**

At the opposite end of the spectrum from suppliers who do too little to comply, we've seen suppliers do too much to comply.

The supplier didn't make the effort to get educated. As a for-profit enterprise they naturally wanted to do as little to comply as possible. *The supplier assumed that compliance requirements were less than they actually were.*

Their inspector/acceptor also didn't get educated. Since the government inspector/acceptor's job is to make sure contractual requirements are met, they wanted to make certain that the supplier did all perceived required tasks to comply. *The inspector/acceptor assumed that the compliance requirements were greater than they actually were.*

Parts were marked that didn't need to be marked. Equipment and supplies were bought that didn't need to be bought. Processes were needlessly changed. The supplier ended up doing more, sometimes much more, than they would have had to do, because they didn't know the facts.

Had the supplier laid out a plan that showed an understanding of the requirements as well as methods and processes to meet the requirements, in the end they would have had to do less to comply, saving them money and effort.
Plan WHAT to Do for UID Compliance

A workable plan for UID compliance will include answers to these questions...

**WHAT do I have to do?**

Understand the requirements. Understand how they apply to you, your contracts and your parts. Don't worry yet about HOW you will comply. Just make sure you understand WHAT you are required to do. Write it down. Pass it around internally. See if you can reach a consensus of the requirements. Give it to your customer–program management offices, inspectors, and acceptors. They are going to have to agree on the plan eventually. Why not get agreement up front? Maybe they'll help educate you on the requirements. Maybe you'll help educate them on the requirements. Neither could do any harm, could it? The WHAT part of the plan should touch these points:

- **Do I have a UID requirement?**

  Yeah, this sounds too basic. But we've seen suppliers with mere mention of a 2-Dimensional barcode in their contract assume that this means UID. If you have a UID requirement it should be clearly described in your contract, including reference to Mil-Std 130.
For which Contracts and Parts do I have a requirement?

If UID shipments are a small part of your business, you may want to make UID compliance an exception business process without affecting the majority of your process flow. If, however, UID compliance affects a large part of your contracts and parts, you may want to look at a more mainstream process change.

Do I have end-item UID parts only, or do I also have embedded UID parts?

Exactly which parts require embedded UIDs and what do not is a gray area with which we see lots of suppliers struggle. In a perfect world, your contract would just tell you what to mark, but we’ve yet to see a contract with that level of guidance. Best bet is to make a plan and float it past your customer for approval.

Parents & Children

- End-item UIDs are the “things” that are listed on the CLIN description and are sometimes called Parent UIDs.
- Embedded UIDs are all the sub-components to the end-item UIDs and are sometimes called Child UIDs. They can also be sub-sub-components, sub-sub-sub-components, etc. Embedded UIDs are referred to by level, as well, such as “first level embedded”, “second level embedded”, etc. Think of it like a family history. The end-item UIDs are those great-great grandparents at the top of the chart. Their children are like first-level embedded UIDs. Their grandchildren are like second-level embedded UIDs, and so forth.

Take for example a Jeep. The Jeep is what is sold to the government, and has an end-item UID. The Jeep also has an engine, transfer case, and transmission, all of which if they fell under the UID mandate would be embedded UIDs.
Plan HOW to Proceed with UID Compliance

Knowing WHAT to do is half the battle. Deciding HOW to do it is the other half.

HOW will you comply?
Once you understand and have some consensus on WHAT you have to do, you can now turn your attention to planning HOW you will comply. Once again, write down all your plans. Add the HOW details to the WHAT details that you previously circulated. Pass it around again. You’re just talking at this point. No money has been spent and no processes have been changed. No shipments rejected or nations ruined. Changes in your plan at this point are relatively cheap, easy, and painless. Here are some questions to consider —

- **How will I mark my part? What type of part mark is appropriate for my parts?**
  The part mark is intended to remain on the part for the life of the part. Armored personnel carriers and integrated circuit cards in a computer server are exposed to very different environmental conditions, which require very different part marks (which vary widely in cost to mark).

- **What will my part mark look like?**
  You have to factor in the part's physical properties (composition, expected environmental conditions, and part size) and match that up against the marking requirements. Can you apply the government-preferred markings or do you need to seek an exception that allows you to apply an alternative mark?
What’s in My UID?

There are several numbering schemes that the government will allow you to use as UID data, such as VINs (vehicle identification numbers) and Aircraft Tail Numbers.

For the majority of us, we have a choice between “Type 1” and “Type 2” UIDs.

Both Type 1 and Type 2 UIDs start with an enterprise identifier (nearly always your CAGE code).

Type 1 UIDs then have a sequential counter (first UID is CAGE followed by “1”, second UID is CAGE followed by “2”, etc.).

- CAGE + Sequential Counter
  
  - 1HLD9 + 00001
  - 1HLD9 + 00002
  - 1HLD9 + 00003

Type 2 UIDs instead use a part number and the part’s serial number.

- CAGE + Part + Serial Number
  
  - 1HLD9 + AGF0014 + 67GG14
  - 1HLD9 + YTT07AA + 67GG23
  - 1HLD9 + AGF0014 + 67GH30

What data will I include in the UID?

You do have some flexibility.

If you use Type 1 UIDs you have a greater need for a “UID Data Management System” which keeps track of which UID goes with which part and serial number. These systems cost tens of thousands of dollars to start, require on-site system installers and trainers, and have hefty annual fees.

Type 2 UIDs are pretty simple because they use part numbers, which you already manage, and serial numbers, which you also probably already manage.

Our advise is for most suppliers to use Type 2 unless you find some deal-breaker that forces you to go with Type 1.
**How will I Register the UID data?**

Do you have a requirement to register the UID data through Wide Area Workflow or will you register directly with the UID Registry? Or do you have enough embedded UIDs that you have to do both?

**Which is the best road to take?**

You have different options to get UID data to the UID Registry —

- The government’s stated preferred method to get end-item UIDs into the UID Registry, for new acquisitions, is for you to put the UIDs on your WAWF Receiving Report. WAWF will send the UID data on over to the UID Registry.

- WAWF will presently accept end-item UIDs and first-level embedded UIDs. WAWF will accept up to 100 first-level embedded UIDs per end-item UIDs.

- Everything not account for in the above two descriptions can be submitted directly to the UID Registry.

Whether you submit UIDs through WAWF, direct to the UID Registry, or a combination, you have a choice of methods to submit the data —

- Type it into a web browser. Open Internet Explorer or your favorite web browser, log in, and start typing. And typing. And typing. Seriously, if you have small amounts of data and submit infrequently, this is a pretty simple and free way to go.

- The DOD knew from the start that typing data into a web browser would only be a viable option for a small number of suppliers. So they provided an alternative method of submitting data both to WAWF and the UID Registry—a transactional interface. That’s just a computer term for putting the entire shipment together and then submitting the shipment as a single file, rather than filling in all the fields in a collection of web screens. Here’s how it works:
  - Use a piece of DOD-savvy software to build a transaction file with all your shipment data.
  - Send the transaction file to WAWF or the UID Registry through an approved communication method. (Your software should know how to do this with just a press of a button on your part.)
  - WAWF or the UID Registry posts the transaction in exactly the same manner and to the same fields as if you had typed in the data (except that you saved all that time that it would have taken you).
How will I mark the UID data on the packaging and shipping containers?

Package labels applied to containers of UID parts must have the UID barcoded on the package label, using a 2-dimensional barcode. This applies to Unit Pack, Intermediate, and Exterior Containers. No, not the same 2-dimensional barcode that is on the part, but a different format (called symbology). The reason they are different barcode formats is kind of technical, but just know that they are different. A single barcode on the box can contain data for multiple UID parts, but if they won't all fit then you must print the UID data on a sheet, sort of like the serial number sheet that we've done for years, and put it in the box.

How will you print the compliant barcode labels?
Do I have an RFID requirement? How will I keep track of the correlation between UID and RFID data? How will I submit that correlated data to Wide Area Workflow?

Remember when we talked about multiplication earlier? Well, RFID multiplies the complexity of UID compliance.

For Contracts with both UID and RFID requirements, UID-marked parts are placed into RFID-marked exterior containers. And you have to keep track of which specific UID is in which specific RFID. And you can have multiple UIDs in an RFID and multiple RFIDs for a single UID and parts of multiple UIDs in multiple RFIDs. And then there are RFID pallets on which you put RFID exterior containers in which you put UID parts. It can get pretty complicated.

Once you get your shipment marked, packaged, labeled and otherwise ready for shipment, you have to tell WAWF all about your shipment hierarchy. You need a plan to correlate all that data easily and submit it in a batch transaction without typing all those long IDs.

What do we mean by “correlated data?” Here’s the kind of hierarchical data that you must submit to Wide Area Workflow for a UID/RFID shipment —

Contract DLA900-89-X-1234, Shipment MPT0001

CLIN 0001, 8 EA

Pallet RFID 2F02031484C44390000000FF
  Case RFID 2F12031484C4439000000100
    UID D1HLD9787420000001
    UID D1HLD9787420000002
  Case RFID 2F12031484C4439000000101
    UID D1HLD9787420000003
    UID D1HLD9787420000004

Pallet RFID 2F02031484C4439000000132
  Case RFID 2F12031484C4439000000103
    UID D1HLD9787420000005
    UID D1HLD9787420000012
  Case RFID 2F12031484C4439000000104
    UID D1HLD97874200000077
    UID D1HLD9787420000014
Plan for Change

The business you are doing now may not be the business you are doing in the future.

- **How will changes in your business affect your UID plan?**

- More or fewer shipments, shipping containers, and parts that require UID. Think about how your planned process will scale to accommodate these changes. How much change would have to take place for you to need more or fewer resources (people, printers, barcode scanners, etc.)? What is the part of the process that will scale the least and is there a way to mitigate that lack of scalability?

- **Distributing or consolidating your process steps and resources.** If you are just starting with UID, perhaps you have few shipments with UID requirements. Maybe you want to keep responsibility for UID compliance with one person for now. But in the future you may want to distribute that responsibility to more people. For instance, you may later want to have one person or group submitting WAWF Receiving Reports, a second person or group packaging the parts, and a third person or group printing container labels and submitting WAWF Pack Data. Does your UID plan allow for distributing or consolidating these steps as best suits your business? You never want to be in the situation of letting your systems dictate your process.

- **More or fewer requirements.** Maybe you have requirements now for WAWF and UID, but not RFID. How will your plan adapt to the addition of an RFID requirement? If you primarily have RFID requirements now, how will your plan adapt to shipments that may not require RFID?

- **Different parts.** Different parts mean different considerations for part marking, packaging, and load configuration. If you have 1 UID part in 1 exterior container shipped with a small package carrier, you will find a very different landscape should you have to evolve to more complicated shipments, like multiple UIDs in a container, adding palletization, etc. Adding embedded UIDs also adds a new dimension to UID compliance.
Now that you have your WHAT defined and your HOW all figured out, you are ready to get started (provided you have some consensus from your team and your customer). The best advice we can give you is to pilot on one shipment or a few shipments and reassess your methods. Involve your customer as much as possible. They have a stake in this, too. Carefully audit your results. Don’t assume that all is well if no one screams. Check for data in the UID Registry and in WAWF. Is it what you expected? Make changes as necessary and pilot a few more shipments.

Once you have repeatable success you are ready to go into full operation. Just remember to continually monitor your process. Verify your part mark barcodes. Inspect your package and shipping labels. Take a look at the data in the UID Registry and WAWF. You probably can’t do 100% inspection of all these items, but put a system in place to do sample inspections. The time you invest will be repaid when you catch a broken process step before it gets out of hand.

We hope this Guide has been helpful to you and will provide a resource to you as you move ahead with UID compliance. If you would like to learn more about how Mil-Pac Technology can help you with UID compliance, please contact us:

- Mil-Pac website (http://milpac.com/uid)
- Email for product information (info@milpac.com)
- Call us at 760.788.3030
Mil-Pac Technology provides software solutions to U.S. DOD suppliers. That’s our only product and our only market, which is why we do it better than anyone else.

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