

Integrating MIL-Comply with Business Systems

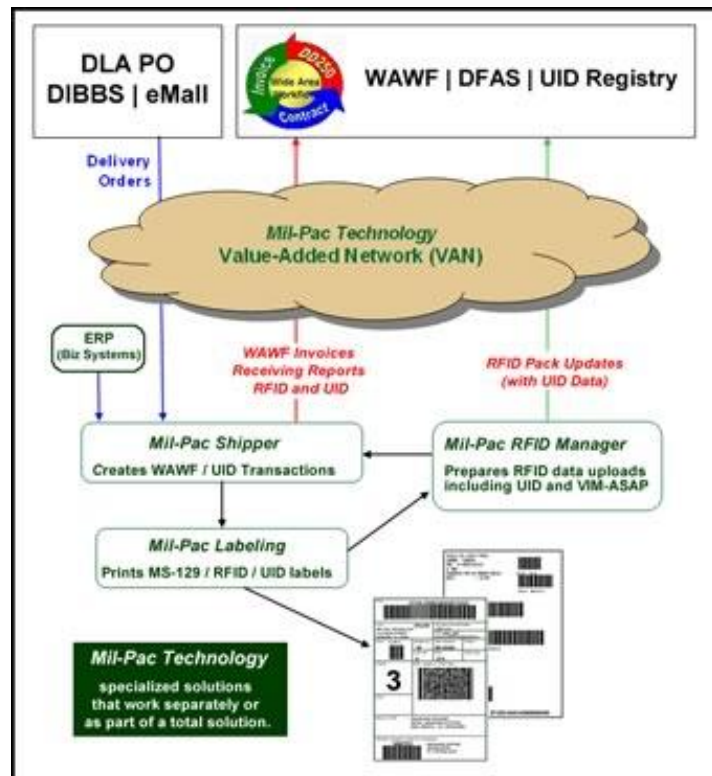
MIL-Comply is a robust software solution for meeting the supply-chain compliance needs of defense contractors. Vendors use MIL-Comply to determine Mil-Std-2073 packaging requirements, label containers in compliance with Mil-Std-129 and the RFID Mandate, and submit shipment data to Wide-Area Workflow (WAWF) and the UID Registry. Using the integrated solution eliminates redundant data-entry and the errors that invariably accompany manual processes. The software is licensed by feature, allowing vendors to engage just those components required to meet their specific needs.

MIL-Comply is designed to perform all aspects of labeling and WAWF submission using data entered by the user, retrieved from databases, and/or received from the government.

Business systems may provide some or all of the required data without necessarily needing to control the process. Any additionally required data may be added by users as needed. This can be anything from UIDs to container weights and cubes. Shipment numbers may be controlled externally or automatically assigned by MIL-Comply. The software handles creation of WAWF transactions and submits them through the Mil-Pac VAN or a company's own WAWF EDI interface.

DLA vendors can take advantage of orders received electronically (EDI) to eliminate nearly all data-entry required for labeling and WAWF invoicing. MIL-Comply can translate DIBBS EDI 850 purchase orders directly into Mil-Std-129 compliant labels, DD1348 forms, and WAWF acceptance and/or invoicing transactions. The entire data-entry process can be reduced to simply adding a ship date and invoice number.

Enterprises that manage some or all of the data required for labeling, acceptance and invoicing can leverage that data to automate those tasks. There are a number of different approaches to integrating MIL-Comply into defense shipment processes primarily managed by a company's business systems (ERP, MRP, CRM, spreadsheets and databases). Some of these are discussed below. Other scenarios may be explored with Mil-Pac support and engineering staff.



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Simple UID Importing

Entering UIDs into WAWF in any significant number can be a real challenge. Even more challenging when shipments require RFID-tagged containers, as each UID must be married up with the RF-tag of its exterior container and pallet (if used). Adding embedded UID items really complicates the process.

With MIL-Comply entering UIDs, including embedded items, is a cut and paste process. Simply copy the entire list of UIDs into the application. They are immediately incorporated into Mil-Std-130 labels, Mil-Std-129 container labels and Serial Number Lists, and WAWF Acceptance transactions for electronic submission to WAWF.

Labeling Automation with Business System Data

Business systems that maintain all or some of the data required for labeling can leverage that data to produce Mil-Std-129 compliant labels without the need to implement the military standard or update label formats in reaction to revisions to the Standard or the RFID Mandate. The amount of data provided by business systems and their degree of control over the process is up to each company.

Business System-Directed Labeling

MIL-Comply can be used to completely automate label generation, using Comply/Labeling as a label print server. It is as easy as dropping very simple files into a designated folder. The software is capable of generating a wide assortment of supported formats and directing them to the appropriate printer based on assigned label stock.

User-Directed Labeling

It may not be practical for business systems to support all of the data and functional logic required for Mil-Std-129 labeling and RFID tagging. Instead, these systems can supply MIL-Comply with as much shipment data as they support and allow the user to fill in the blanks and determine the most appropriate label format and size for each specific application.

RFID Label Generation

There are several aspects to RFID labeling that must be managed:

- Distribution of CLIN quantities into RF-tagged containers
- Identification of UID-marked items in RF-containers
- Palletization of the RF-tagged containers
- Assignment of RFID tag numbers (be either the business system or MIL-Comply)
- Submission of RFID and UID data to WAWF

The simplest approach from an implementation standpoint is to allow the MIL-Comply user to determine the distribution of items (including UID data) into RF-tagged containers and onto RF-tagged pallets, allowing the software to collect and organize the necessary WAWF-related data as it goes. This can be submitted to WAWF by MIL-Comply in the form of an RFID Pack Update or integration into a WAWF Receiving Report or Combo (UDF). Or the data can be provided back to business systems for submission to WAWF via their own processes.

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WAWF transactions created by MIL-Comply may be submitted via the Mil-Pac Value-Added Network (VAN) or the company's own WAWF electronic data interchange.

The alternate approach is for business systems to maintain complete control over the labeling data, including the allocation of RFID tag numbers. They can supply container and UID allocation data to MIL-Comply, along with the associated RFID tag numbers to be used for each container. MIL-Comply will simply perform labeling generation as directed by users, while the business system handles all aspects of the WAWF interface.

Data Import Formats

Data may be imported into MIL-Comply in a variety of formats to replace manual data-entry in the shipping process. In most cases, the import does not have to necessarily contain all required data, as it is easy for the user to add additional data during the process.

Examples of common data formats are described in this section. The intent of these examples is to give a flavor of each format and its usage, rather than to define them. Complete specifications of each format are available separately. In most cases it is not necessary to include placeholders for empty data, so the absence of particular data element in an example should not be construed to indicate that it is not supported.

Mil-Pac Technical Support is available to answer questions about data importing, help plan implementation and evaluate import file tests.

Simple UID Importing

UIDs may be imported into a MIL-Comply shipment by simply pasting in a list of them. The list may include embedded items as well as end-items for a specific CLIN. For many users this is the simplest way to get a large number of UIDs into Wide-Area Workflow (WAWF).

```
D12345HT-DSP-9970001
Embed D1HLD9R778ABLESN00023
Embed D8T318R223BAKRSN00718

D12345HT-DSP-9970002
Embed D1HLD9R778ABLESN00030
Embed D8T318R223BAKRSN00765

D12345HT-DSP-9970003
Embed D1HLD9R778ABLESN00028
Embed D8T318R223BAKRSN00746
```

The biggest challenge in submitting a list of embedded items in this manner is determining the serial number component of the UII. MIL-Comply does this automatically for Construct 2 UIIs without any intervention by the user.

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Print On-Demand Labeling

MIL-Comply can operate as a label print server, processing simple files that are dropped into a designated folder. This capability allows business systems to complete control of label data and process flow. Labels can be automatically routed to the appropriate printer by label stock, as configured in the software. Print On Demand files may contain multiple labels, directed to one or more printers.

```
Lbl-FmtID:129XC2DR
Lbl-StkID:4x6 RFID
Lbl-PrtQty:1
PIIN:DLA999-11-A-1234-2002
Shipment:MPT0302
NSN:2610-01-214-1344
Noun:WIDGET
PN:WID9987A-P
CAGE:12345
CLIN:000001
PresMeth:M12 - 6/11
Cntr-UOI:EA
Weight:125
Cube:11
Cntr-Qty:3
RFIDTag:2F12031484C4439000000008
CntrType:CASE
LabelArgs:1
UII:D12345WID9987A-PWID9987A0007^UID2^WID9987A0007
UII:D12345WID9987A-PWID9987A0009^UID2^WID9987A0009
UII:D12345WID9987A-PWID9987A0010^UID2^WID9987A0010
```

Shipment Data Import – M12

Shipment data may be imported in either of two formats, XML or M12. The M12 format is very easy to generate. It is a Mil-Pac developed format that has been in use for over twenty years. It is primarily designed for companies that maintain some, but not all, of the data required for a shipment in business systems. Users can fill in the blanks as needed, and utilize MIL-Comply automation features such as shipment and invoice numbering, RFID-tag assignment and RFID container aggregation to relieve the business systems of that design complexity and the need to maintain compliance with military standards.

```
XREF:      89X1234-0231
REM:      ----- CONTRACT INFORMATION -----
PIIN:     DLA900-89-X-1234
SPIIN:    5678
SHIPNUM:  MPT0231
SHIPPED:  90JAN23
```

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PRIME: 1HLD9\MIL-PAC TECHNOLOGY\PO BOX 2066\RAMONA, CA 92065
SHIPFROM: 1HLD9\MIL-PAC TECHNOLOGY\1672 MAIN ST\RAMONA, CA 92065
ADMINOFC: S0514A\DCMA-SD\1223 DAGGET ST,STE 100\SAN DIEGO, CA 92123
PAYOFC: S0514A\DLA-VAN NUYS\P.O. BOX 567252\COLUMBUS, OH 32556-7252
SHIPTO: N25622\NAVAL WEAPONS CENTER\PHILADELPHIA, PA 01322
MARKFOR: \RECEIVING OFFICER\RATING DO-A7\ACR: AB
FOB: S
ACC-PT: S
ORIG-CQA: YES
INSP-OFC: S0514A
TCN: EY80069009X001XXX
METHSHIP: 5

REM: ----- LINE-ITEM DETAIL -----
CLIN: 0017AA
NOUN: DUCKY, RUBBER
NSN: 1111-22-333-0001
PN: 23SKDO-DCK
MFCAGE: 8T318
QTY: 125
UI: EA
UNITPRC: 45.50

CLIN: 0023AA
NOUN: STOPPER, DUCKY
NSN: 1111-22-333-0002
PN: 23SKDO-STP
MFCAGE: 7R519
QTY: 250
UI: EA
UNITPRC: 22.50

UIDs in M12 Import Files

Including UID-marked items in M12 files is very straightforward. The UIs are simply listed at the end of each CLIN. For example:

CLIN: 0004
NSN: 1910-01-087-4453
NOUN: HARNESS, SAFETY
PN: HT-WOM-8L
QTY: 3
UI: EA

UID: D12345HT-WOM-8L0001
UID: D12345HT-WOM-8L0002
UID: D12345HT-WOM-8L0003

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Embedded UIDs in M12 Import Files

The M12 format allows for first-level embedded UID items, which may be transmitted to Wide Area Workflow (WAWF) via Receiving Report and Combo transactions. More deeply embedded UID items may be submitted directly to the UID Registry via the MIL-Comply UID Manager software. Contact Mil-Pac Technical Support for more information.

The following example shows how to embed UIIs in the three UID end-items shown above. The first two each have two embedded items, both with the same part number. The last end-item has embedded items using two different part numbers. The EMBED-PN element would be left out for Construct 1 UIIs. Part numbers for embedded items can be automatically resolved by simply preloading the child items into the MIL-Comply parts database.

```
CLIN:      0004
NSN:      1910-01-087-4453
NOUN:     BLT-WOM-CAMO
MFR-ID:   8T318
QTY:      3
UI:       EA

UID:      D12345HT-WOM-8L0001
EMBED-PN: R778ABLE
EMBED:    D8T318R778ABLESN00001
EMBED:    D8T318R778ABLESN00002

UID:      D12345HT-WOM-8L0002
EMBED-PN: R778ABLE
EMBED:    D8T318R778ABLESN00021
EMBED:    D8T318R778ABLESN00022

UID:      D12345HT-WOM-8L0003
EMBED-PN: R778ABLE
EMBED:    D8T318R778ABLESN00031
EMBED-PN: R223BAKR
EMBED:    D8T318R223BAKRSN00001
```

Controlling RFID Labeling

Business systems may control the allocation of RFID tag numbers and the distribution of shipment items within RF-tagged containers, including those with UID items. Cases may be aggregated onto pallets within an M12 file, or this can be done by the user as a separate step.

```
RFPALLET: 2F020313233343500000001B
RFCASE:   2F1203132333435000000023
RFCLIN:   0004
RFQTY:    2
RFUID:    D12345HT-WOM-8L0001
RFUID:    D12345HT-WOM-8L0002
```

(continued on next page)

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```

RFCASE:      2F1203132333435000000026
RFCLIN:      0004
RFQTY:       1
RFUID:       D12345HT-WOM-8L0003

```

MIL-Comply Labeling will prepare the appropriate container labels with this data, using format preferences configured by the user. As with other import processes, any additional data that is necessary may be added before the labels are printed. This data is automatically collected and organized for WAWF submission.

It is not necessary to include the RFID container information in the M12 file. The data provided in the sections above provide enough information to complete the labels. The user would simply enter the number of items to be placed in each container, and then MIL-Comply would assign the RFID tags automatically and associate them with the UIDs.

Shipment Data Import – XML

The MIL-Comply XML import format is nearly identical to the M12 format in functionality. However, it is more readily produced by some business systems. Like the M12 format, XML files may contain just rudimentary shipment data, allowing the user to add data as needed and control the process. It is compatible with MIL-Comply automation features such as shipment and invoice numbering, RFID-tag assignment and RFID container aggregation, relieve the business systems of that functional overhead.

The business system may choose to provide all data required for labeling and/or WAWF submission. This allows for more precise control over the distribution of CLINS and UIDs into containers, and even assignment of RFID tags to those containers.

Sample XML Import File

```

<dd250>
  <coverSheet refNumber="SAMPLE-XML-DD250-05"
    docForm="DD250"
    docStatus="New"
    salesOrder="DLA900-09-A-TEST-M237"
    sequence="MPT0005"
    docVersion="2.0"
    author="D Johnson"
    date="12/11/2012"
    status="Approved">

    <notes noteBy="D Johnson" date="12/11/2012">
      This is a sample DD250 document created for DD-FormStation. </notes>

    <notes noteBy="G Tsiknas" date="12/11/2012">
      This is an XML representation of a simple WAWF DD250,
      without RFID packing data. </notes>
  </coverSheet>

  <shipmentDetails>
    <contract ordernum="M237">DLA900-09-A-TEST</contract>
    <shipmentNum>MPT0005</shipmentNum>
    <shipDate isEstimated="Yes">2001JAN14</shipDate>

```

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```
<invoice invdate="12/11/2012">M01-0023525</invoice>
<transportMode tcn="V003301007G0123" gbl="235255255">5</transportMode>
<acceptance acceptPoint="S" cqa="S" fob="S" acceptMeth="Inspection">
</acceptance>

<prime entityCode="1HLD9">
  <orgName subOrg="Network Services Division">
    Mil-Pac Technology</orgName>
  <address subAddress="Suite 254" city="Ramona" state="CA"
    zipcode="92065">
    1672 Main Street
  </address>
</prime>

<shipFrom entityCode="1HLD9">
  <orgName>Mil-Pac Technology</orgName>
  <address city="Ramona" state="CA" zipcode="92065">
    1672 Main Street
  </address>
</shipFrom>

<shipTo entityCode="N00014">
  <orgName>OFFICE OF NAVAL RESEARCH</orgName>
  <address subAddress="BALLSTON CENTRE TOWER ONE"
    city="ARLINGTON" state="VA" zipcode="22217-5660">
    800 NORTH QUINCY STREET
  </address>
</shipTo>

<adminOfc entityCode="S0504A">
  <orgName>DCMC PHOENIX</orgName>
  <address subAddress="TWO RENAISSANCE SQUARE, SUITE 400"
    city="PHOENIX" state="AZ" zipcode="85004-4424">
    40 N. CENTRAL AVENUE
  </address>
</adminOfc>

<payOfc entityCode="SC1002">
  <orgName subOrg="DFAS-CO-JWD/DPRO WEST DIVISION">
    DFAS - COLUMBUS CENTER</orgName>
  <address city="COLUMBUS" state="OH" zipcode="43218-2511">
    P.O. BOX 182311
  </address>
</payOfc>

<markFor>
  <mfTextLine>Receiving Officer</mfTextLine>
  <mfTextLine>Operation Fast Break</mfTextLine>
  <mfTextLine>TP 3 Rating DOA7</mfTextLine>
</markFor>

</shipmentDetails>
```


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```

<item>
  <clin exhibit="A007">0001</clin>
  <noun>WIDGET</noun>
  <nsn>1112-01-233-4443</nsn>
  <partNum mfrCage="1HLD9">WDG-020550-223</partNum>
  <quantity uoi="EA">12</quantity>
  <unitPrice >1295</unitPrice>
  <uid><uii>1HLD9WDG-020550-22300003</uii></uid>
  <uid><uii>1HLD9WDG-020550-22300005</uii></uid>
  <uid><uii>1HLD9WDG-020550-22300006</uii></uid>
  <acrn>AB</acrn>
  <milstrip alloc="4">23908238289234424</milstrip>
  <milstrip alloc="8">55902352522222421</milstrip>

</item>

<approval>
  <inspection cqa="S" acceptance="S" approvAction="Approved"
  approvDate="01/14/2001" transCode="30012003311">
  <inspectMsg>Acceptance in WAWF
  </inspectMsg>
  <inspector name="M Davis" title="QAS" phone="888-555-1212">
    <entity entityCode="S0504A">
      <orgName>DCMC-SAN DIEGO</orgName>
      <address subAddress="Suite 200" city="San Diego"
        state="CA" zipcode="92123">
        5220 Daggett Street
      </address>
    </entity>
  </inspector>

  </inspection>
</approval>

<freightDetails>
  <dimensions>
    <containers>3</containers>
    <weight>17</weight>
    <volume>4</volume>
  </dimensions>
  <charges>28.90</charges>
  <carrier trackNum="1Z064X002332423342"
    service="2nd Day Air">UPS</carrier>
</freightDetails>

</dd250>

```

Embedded UIDs in XML Import

Embedded UID items may be included in the item tag as shown below. The UII part number component is included for UID Construct 2. The lack of a part number attribute will be assumed to indicate that the UIIs are Construct 1, as will the lack of the part number in the UII itself. The part numbers for embedded items can be

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automatically resolved by preloading the child items into the MIL-Comply parts database. Future versions may support inclusion of the information about the embedded part numbers in a header section.

```

<item>
  ...
  <uid>
    <uii>1HLD9WDG-020550-22300003</uii>
    <embed partnum="R778ABLE">
      <uii>D8T318R778ABLESN00001</uii>
      <uii>D8T318R778ABLESN00002</uii>
    </embed>
  </uid>
  <uid>
    <uii>1HLD9WDG-020550-22300006</uii>
    <embed partnum="R778ABLE">
      <uii>D8T318R778ABLESN00031</uii>
    </embed>
    <embed partnum="R223BAKR ">
      <uii>D8T318R223BAKRSN00001</uii>
    </embed>
  </uid>
  ...
</item>

```

Controlling RFID Tagging in XML

The RFIDs to be used in container labeling may be controlled in the import file by including packaging tags. Comply/Labeling will print the label format configured for each RFID container type, using the RFIDs passed in. The software will allow user to control label format selection in order to meet specific packaging needs. Containers may include a mixture of CLINs, and UIDs if applicable. This data is collected for submission to WAWF if applicable, or returned to the business system.

```

<packaging>
  <packagingDetail>
    <handlingUnitID>00000000001000632187</handlingUnitID>
    <handlingUnitType>Case</handlingUnitType>
    <RFIDTagID>2F1203035373136000005C43</RFIDTagID>
    <grossWeight units="pounds">3500</grossWeight>
    <volume units="cu-feet">374.4</volume>
  </packagingDetail>
  <inclusion>
    <includedItem>
      <clin>0001</clin>
      <quantity uoi="EA">1</quantity>
      <rfuids>
        <uii>1HLD9WDG-020550-22300003</uii>
        <uii>1HLD9WDG-020550-22300006</uii>
      </rfuids>
    </includedItem>
  </inclusion>
</packaging>

```