# RFID / UID Shipment Import File (SIF)

## Import File Purpose

MIL-Comply supports a special import format that allows for UID items to be allocated to containers by an external system.   This is especially useful when using a scanning process to pack containers.  MIL-Comply will gather the data for submission to Wide Area Workflow (WAWF) as part of a Receiving Report / Combo or an RFID Pack Update sent after shipment approval.

The Shipment Import File (SIF) format allows UID data to be accepted from an external system, such as an ERP or other manufacturing system, and automate the RFID labeling of the item containers at the unit, case and pallet level.  SIF is a descriptive command language, as opposed to a simple comma-separated flat file.  It is distinguished by its ability to support automatic label generation while gathering UID and RFID data for submission to WAWF.

The SIF data can include RFID tag data or have MIL-Comply generate the labels, as well as Barcoded Shipment Number lists.   The two methods can be combined, for example, when the originating system has printed Unit RFID tags for UID-marked items and is providing them to MIL-Comply for printing of Case and Pallet tags as well as aggregation of all that data for WAWF.

**Related Mil-Pac Products**:

> Scan-Print-Ship - Imports data in SIF format, can automatically generate RFID labels

> Shipper - Generates WAWF Receiving Reports incorporating imported UIDs

> RFID Load Manager - Generates RFID ASNs and Load Configuration Reports

## Typical Usage

The Shipment Import File (SIF) format would typically be used to import UID data into Scan-Print-Ship (SPS) for items to be packaged into unit or exterior (case) containers, associating the UIDs with the container RFID tags.  SPS can print RFID labels using tag IDs it sequentially allocates or are provided in the import file.  For RF-tagging at the unit level, unit containers can be (virtually) packed into RF-tagged cases.  Similarly, cases can be packed onto RF-tagged pallets.  The data source application can supply any or all of the RF-tag IDs itself, and control whether container labels are printed, or simply used for association to other imported items/containers.

Some of the specific functionality related to use of the SIF format is dependent on SPS user-defined settings, however most functionality is determined by the import file itself.

**Specific Example**

As a specific example, consider the process of labeling UID unit containers with RFID tags by creating a file listing the UIDs to be shipped, grouped together in case quantities.  These cases would further be further grouped onto a pallet.

```
rfuid-sif:1              { Identifies file purpose and specification version
contract:DLA900-07-A-TEST
order:X001
shipment:XYZ0001
prime:1HLD9
from:8T318
shipTo:DAA009

pallet                   { Pallet RFID label printed with auto-assigned RFID
case: 2F1203141424339000001234 { Case Tag printed with pre-assigned RFID
clin:0017AA              { CLIN set for subsequent containers
partnum:XYZ189           { Sets Part Number for subsequent UIDs
unit                     { UID Unit RF label printed with auto-assigned RFID
uid:D1HLD90001           { UID is associated with UID Unit Cntr above
unit                     { New UID Unit RF is auto-assigned and printed
uid:D1HLD90002           { UID is associated with UID Unit Cntr above
unit                     { New UID Unit RF is auto-assigned and printed
uid:D1HLD90003           { UID is associated with UID Unit Cntr above

case: 2F1203141424339000001235 { New Case, with pre-assigned RFID
unit                     { UID Unit RF is auto-assigned and printed
uid:D1HLD90004           { UID is associated with UID Unit Cntr above
unit                     { New UID Unit RF is auto-assigned and printed
uid:D1HLD90005           { UID is associated with UID Unit Cntr above
unit                     { New UID Unit RF is auto-assigned and printed
uid:D1HLD90006           { UID is associated with UID Unit Cntr above
```

For each UID listed in the file, SPS would print a 4x2-inch RF UID Unit Container Label, displaying the UID and an RFID number assigned by SPS.

For each Case indicated in the UID Import file, SPS would print a generic RF Case label, using the RFID number provided in the import file. A *Pallet* operator in the file generates a Pallet RF-tag, which would be associated with each case tag.

The final result will be UIDs associated one-to-one with RF-UID Unit tags, aggregated into RF-tagged Cases, themselves aggregated onto an RF-tagged Pallet.  The aggregation of Pallet, Case and Unit RF-tag identifiers will be stored in the RFID database for ASN generation, and the UIDs into the UID database for WAWF Receiving Report generation.

The example demonstrates assignment of the Case RFIDs by the source application.  This would allow that application to track UIDs by the Case to which they are assigned, or provide some other functionality useful to the source application. Once all shipment data has been imported.  The RFID Load Manager would be used to print a Load Configuration Report and generate an RFID Pack Update (ASN) transaction for submission to WAWF.  DD-Master would be used to generate the WAWF Receiving Report.

## Partial Shipment Files

UID data for a shipment can be imported in multiple passes, using a series of UID Import Files presented ad hoc. The data will accumulate in the RFID database as if it were done in a single file.   This feature allows for adding to cases and pallets for which a label has already been printed.

Partial shipment files can take advantage of the *NoPrint* operator, will allows the addition of units to an existing case, or cases to a pallet, with RFID labels printed only for the new containers.  The allows for the dynamic replacement packed items which might fall out during inspection or acceptance.

```
rfuid-sif:1              { Identifies file purpose and specification version
contract:DLA900-07-A-TEST
order:X001
shipment:XYZ0001
prime:1HLD9
from:8T318
shipTo:DAA009

case: 2F12031414243390000001235, NoPrint { Adding to an Existing Case
unit                     { New Unit Tag is printed
uid:D1HLD90004           { UID is associated with UID Unit Cntr above
```

## Examples of Shipment Import File (SIF)

The following example of the RF/UID Import File format demonstrates the various methods of importing UID-marked parts packed into RF-tagged Unit containers and/or Case containers. Also shown is the packing of multiple UID-marked items into the same UID-Unit container. Some cases are packed onto RF-tagged pallets, while others are left as loose cases to be shipped separately, or palletized in a separate step.

The import file operators support the three DOD-defined levels of RF-tagged packaging: Pallet, Case and Unit. The UID operator associates the part marking with the container immediately preceding it. Mulitple UIDs are allowed in Case or Unit containers. The CLIN operator defines the Contract Line Item Number associated with UID parts that follow, and remains in effect until redefined. In the example, comments are preceded by brace '{' characters. Comments are ignored.

Some cases are palletized in the example, but this is not required, particularly if UID data is provided in multiple files (associated with phased packaging operations). Loose cases from multiple files can be placed on any pallet defined by an import file using the RFID Load Manager.

```
rfuid-sif:1                { Identifies file purpose and specification version
contract:DLA900-07-A-TEST
order:X001
shipment:XYZ0001
prime:1HLD9
from:8T318
shipTo:DAA009
                           {--------------------------------------------------
                           { UIDs RF-tagged at Unit level, 2 to an RF-Case, with
                           { the cases placed on an RF-pallet
                           {--------------------------------------------------
pallet                     { Pallet RFID is auto-assigned and printed
case                       { Case RFID    "      "       "        "      "
clin:0017AA                { CLIN set for subsequent containers
partnum:XYZ189             { Sets Part Number for subsequent UIDs
unit                       { UID Unit RF is auto-assigned and printed
uid:D1HLD90001             { UID is associated with UID Unit Cntr above
unit                       { New UID Unit RF is auto-assigned and printed
uid:D1HLD90002             { UID is associated with UID Unit Cntr above

case                       { New Case, on same Pallet, using same CLIN
unit                       { UID Unit RF is auto-assigned and printed
uid:D1HLD90003             { UID is associated with UID Unit Cntr above
unit                       { New UID Unit RF is auto-assigned and printed
uid:D1HLD90004             { UID is associated with UID Unit Cntr above

                           {--------------------------------------------------
                           { Multiple UIDs placed into one RF-tagged at Unit
                           { Container, then into an RF-Case, on same RF-pallet
                           {--------------------------------------------------
case                       { New Case (same pallet)
clin:0023                  { New CLIN set for subsequent containers
unit                       { New UID-Unit Container, 3 UIDs in Unit Container
partnum: XYZ44722          { Sets Part Number for subsequent UIDs
uid:D1HLD90007             { UID is associated with UID Unit Cntr above
```

```
uid:D1HLD90008          { New UID is packed into same UID Unit Cntr
uid:D1HLD90009          { "     "  "     "     "     "
```

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```
                    {--------------------------------------------------
                    { UIDs packed 3 to each RF-tagged Case, with the
                    { two cases placed onto a new RF-pallet
                    {--------------------------------------------------
    pallet                  { New pallet, RFID assigned/printed
    case                    { New case, RFID assigned/printed
    clin:0047AA             { CLIN set for subsequent containers
    partnum:XYZ189          { Sets Part Number for subsequent UIDs
    uid:D1HLD90010          { UID associated with RF-Case above
    uid:D1HLD90011          { New UID packed into same case
    uid:D1HLD90012          {  "    "    "    "    "    "

    case                    { New case, RFID is auto-assigned
    uid:D1HLD90013          { UID associated with RF-Case above
    uid:D1HLD90014          { New UID packed into same case
    uid:D1HLD90015          {  "    "    "    "    "    "

    pallet:end              { Closes current pallet, allowing the
                            { following cases to be packed loose


                    {--------------------------------------------------
                    { Loose RF-Cases, each packed with three UIDS. These
                    { would be shipped loose, or palletized in RFID Load
                    { Manager at a later time
                    {--------------------------------------------------

    case                    { New loose case (not on pallet above)
    clin:0099               { New CLIN assignment
    partnum:XYZ189          { Sets Part Number for subsequent UIDs
    uid:D1HLD90016          { UID associated with RF-Case above
    uid:D1HLD90017          { New UID packed into same case
    uid:D1HLD90018          {  "    "    "    "    "    "

    case                    { New loose case, same CLIN
    uid:D1HLD90019          { UID associated with RF-Case above
    uid:D1HLD90020          { New UID packed into same case
    uid:D1HLD90021          {  "    "    "    "    "    "
```

## Import File Operators

The use of the SIF file operators is defined below. Optional elements are enclosed in brackets. Note that Pallet, Case and Unit include optional RF Tag IDs, allowing the data source to supply the Tag ID. RF labels will be printed for these tags, and the data recorded, just as if the tags were auto-assigned. Tag IDs supplied by the Import File can also be for pre-printed tags, when associated with the *NoPrint* operator.

The SIF file must be a standard text file, with the .TXT extension.

| | |
|---|---|
| `rfuid-sif:<VersionNum>` | Identifies the file contents, and the version of its format specification |
| `pallet[:<RFTagID>][End][NoPrint]` | Creates a new Pallet, prints Pallet tag (auto-assigned if not provided) |
| `case[:<RFTagID>][NoPrint]` | Creates a new Case, prints Case tag ( " " " " " ) |
| `unit[:<RFTagID>]` | Creates a new UID Unit, prints UID-Unit tag ( " " " " ) |
| `uid:<UII>` | Places Item UID into most recently created Unit or Case container |
| `clin:<ItemNum>` | Sets the Contract Line Item Number for the next item(s) packed |
| `lot:<BatchLotNum>` | Sets the optional Batch/Lot Number for the subsequent UIDs. |
| `partnum:<PartNumber>` | Sets Part Number for subsequent UIDs. |
| `qty:<UnitQty>` | Sets the unit quantity for the next container packed [Default: 1] |
| `uoi:<UnitOfIssue>` | Sets the unit of issue for the UnitQty [Default: EA] |
| `contract:<Contract>` | Contract Number for the shipment file |
| `order:<OrderNum>` | Contract Order Number for the shipment file |
| `shipment:<Shipment>` | Shipment Number for the shipment file |
| `prime:<PrimeCode>` | CAGE Code for the Prime Contractor |
| `from:<FromCode>` | CAGE Code for the Ship From Location (if different than Prime) |
| `shipTo:<ShipToCode>` | DODAAC for the Ship To Location (VIM-ASAP only) |

For the pallet, case operators, the NoPrint flag indicates that the `RFTagID` is informational, but should not be printed, essentially saying: add the following items to this case or pallet, which already exists.

## Partial Shipment Files

UID data can be imported in multiple UID Import Files, presented ad hoc.  The data will accumulate in the RFID and UID database as if it were done in a single file.   This allows the controlling system to build a shipment one case at a time, or to even add individual units to a case, or cases to a pallet.  For example:

```
rfuid-sif:1
contract:DLA900-07-A-TEST
order:X001
shipment:XYZ0001

case
clin:0017AA
partnum:XYZ189
unit
uid:D1HLD90031
unit
uid:D1HLD90032
unit
uid:D1HLD90033
```

The example above adds a case of three UID unit containers to Shipment XYZ001.  More than one case per file is allowed.  Note that the Import File should always include the contract and shipment information, so as to reduce the amount of data massaging that has be done in RFID Load Manager to generate the ASN or Receiving Report.

## Adding to Existing Cases / Pallets

This feature is primary to allow the addition of UID units to an existing case, with new RFID labels printed for the UID units, but not the case, to satisfy the need to dynamically replace packed items which fall out during inspection or acceptance.  Building on the example above, we can add two UID Units to an existing case.

```
rfuid-sif:1
contract:DLA900-07-A-TEST
order:X001
shipment:XYZ0001

case:2F12031414243339000001234,NoPrint
clin:0017AA
unit
uid:1HLD9XYZ1890041
unit
uid:1HLD9XYZ1890042
```

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Note that in this example, the controlling system provided the RF Case Tag ID, to make placement of the items into the case automatic. When the Case Tag ID is not known, the *case* operator would not be used, resulting in loose RF-tagged units. The user would place these loose units into the Case using the RFID Load Manager.