



**WAYAHEAD**  
SYSTEMS

## ***- 3WS Interfaces -***

***INTERFACES between 3WS and ERP systems  
such as SAP, Navision, BPCS, JDEdwards, QAD***



***50 Sites***

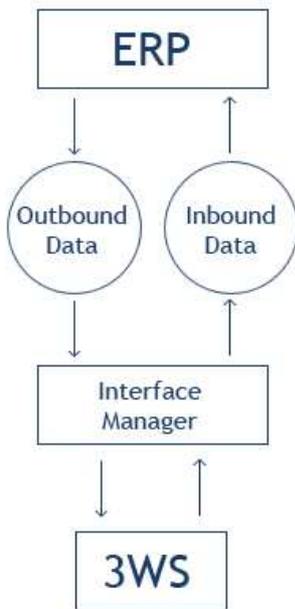
***15 Countries***

***Since 1987***

### 3WS can be interfaced to any system

This allows ERP systems, such as SAP, BPCS, Navision, JD Edwards, QAD, etc, to automatically transfer material, lot no or work order data to 3WS.

After dispensing, usage data about work orders or lots can be automatically transferred back to ERP. Material movements by Lot no, Location, Warehouse, can also be transferred between systems, in either direction.



### Data Format From ERP

The format of the data files used to transfer data can follow many different styles, such as, sequential flat-files, XML data-files, shared database tables or direct database access from 3WS to the other ERP database. Some sites use a webservice to request data from the ERP database.

The data naming conventions are flexible, so that a site can use the ERP field names, which are mapped to the 3WS field names. Additional mapping rules can be used for site specific data transfer conditions.

```

INT001-0000000000009138.xml
<material>
<materialCode>R400102</materialCode>
<materialName>MENTHOL</materialName>
<hazardCode/>
<shelfLife/>
<operatorWarning1>Wear eye protection gloves</operatorWarning1>
<operatorWarning2>Do not drink</operatorWarning2>
<operatorWarning3>Beware of spillage</operatorWarning3>
<operatorWarning4>STORAGE: Store in cool-room</operatorWarning4>
<materialType/>
<packagingPieceWeight/>
<materialsUnitOfMeasure>KG</materialsUnitOfMeasure>
<lotConfirmationRequired/>
<materialConfirmationRequired/>
<companyNumber/>
<uti/>
<bulk/>
<owner/>
<brandName/>
<sampleSize/>
<storageConditions/>
<alternateName>You can include Chinese characters here </alternateName>
</material>
<sourceDocumentId>0000000000009138</sourceDocumentId>
</materials>

```

### What data can be transferred to / from 3WS?

The **Material master download** manages Material Name, Operator Warnings, UOM of the Material and other details, including Foreign Languages. This is outbound from SAP to 3WS.

The **Lot no download** from ERP includes Quantity Received, Quantity Approved, Status (Quarantine, Released, etc), Expiry Date, Potency value and many other fields. This is outbound from SAP to 3WS.

The **Work Order download** identifies Work Order No, Formula No, Version No, Product Name etc. The Work Order download also transfers Item details for each Raw material which is to weighed or counted or alternately issued as a Packaging material. This is outbound from SAP to 3WS.

All material **weighing, bag counting, packaging issues or packaging returns** are immediately uploaded to the ERP system. This usage interface is inbound from 3WS to SAP.

The diagram (on the left) shows the direction of data movement between systems. ERP can use a variety of data transfer options (middleware) such as SAP-PI, IBM MQ Series. Each interface can use any style of data structure, which can be different for each site.

Wayahead can 'poll' for incoming data and when a new data file is created, 3WS will immediately process this data into the 3WS database, with full integrity checking, generating an audit trail of each interface process.

A common style of interface is to send an outbound XML file from SAP containing data which is to be loaded into 3WS. There are two examples below, the Material master data (MATMAS) below and a more generic style of field names on the bottom left.

#### SAP MATMAS example XML data file

```

<ZMATMAS3>
<IDOC BEGIN="1">
<EDI_DC40 SEGMENT="1">
<TABNAM>EDI_DC40</TABNAM>
<DOCNUM>000000002179642</DOCNUM>
<STATUS>30</STATUS>
<IDOC TYP>MATMAS</IDOC TYP>
<SERIAL>20090401220541</SERIAL>
</EDI_DC40>
<E1MARAM SEGMENT="1">
<MATNR>000004106</MATNR>
<MTART>ZRAW</MTART>
<MATKL>ZSCHEDNON</MATKL>
<MEINS>KG</MEINS>
<E1MAKTM SEGMENT="1">
<MAKTX>ASCORBIC ACID</MAKTX>
<SPRAS_ISO>EN</SPRAS_ISO>
</E1MAKTM>
<E1MAKTM SEGMENT="1">
<MAKTX>强腐蚀酸</MAKTX>
<SPRAS_ISO>ZH</SPRAS_ISO>
</E1MAKTM>
<E1MARCM SEGMENT="1">
<WERKS>CN20</WERKS>
<ZE1PMX SEGMENT="1">
<ZLODEV>1.000</ZLODEV>
<ZUPDEV>2.000</ZUPDEV>
<ZDEFWM>2</ZDEFWM>
</ZE1PMX>
</E1MARCM>
</E1MARAM>
</IDOC>
</ZMATMAS3>

```

Chinese char (ZH)  
Material Name

# Interfaces with ERP



## Typical flow of data between SAP and 3WS

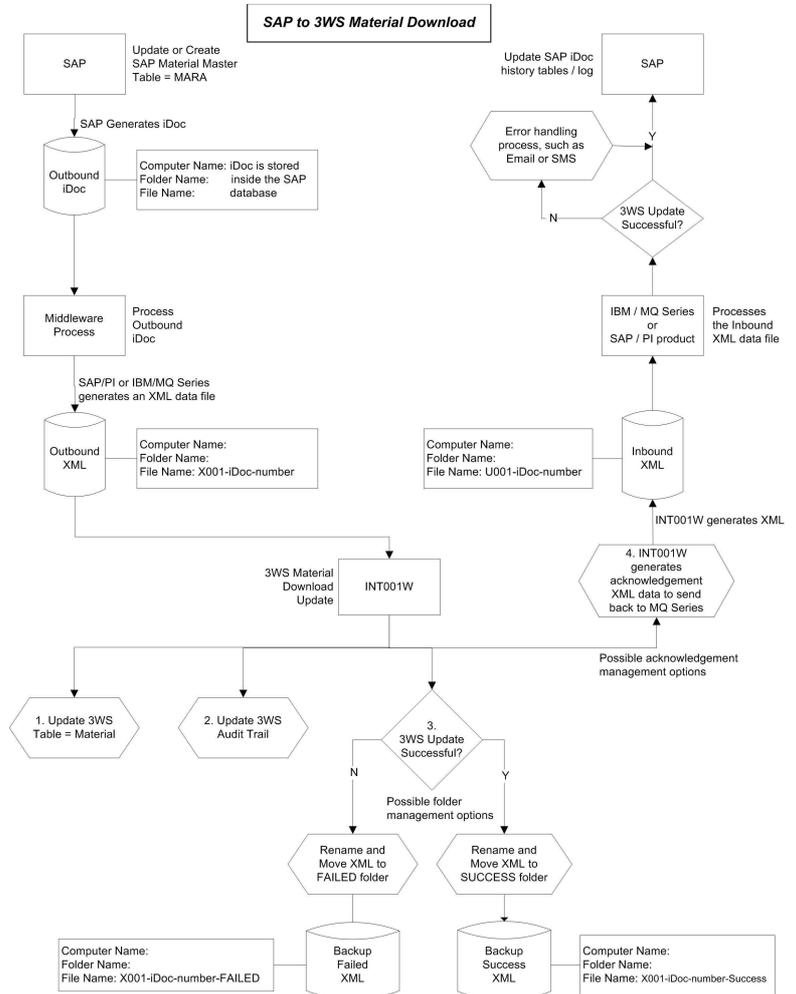
### Validation of Interfaces

Validation of 3WS and any interfaces used is always important. Wayahead have taken most of the hard work out of this necessary exercise, by developing a complete suite of Validation test scripts and associated protocol documents.

The Validation database can be used to nominate a range of tests to be completed. You then print out the nominated test scripts, ready for testing to start.

Each test script records the user, date, test method, expected results and pass or fail status. Validation History, of test scripts plus test results, are electronically generated, which will speed-up and improve validation testing.

Please read the Validation brochure for more information on validation



### Mapping ERP data names to 3WS

```

<Fields masterTable="MATMAS">
  <Fields>
    <Field name="Material Code" length="18"
    <Field name="Material Name" length="40"
    <Field name="Hazard Code" length="8"
    <Field name="Shelf Life in Months" length="2"
    <Field name="Operator Warning 1" length="40"
    <Field name="Operator Warning 2" length="40"
    <Field name="Operator Warning 3" length="40"
    <Field name="Operator Warning 4" length="40"
    <Field name="Material Type" length="1"
    <Field name="PKG Piece Weight" length="10"
    <Field name="PKG Unit of Measure" length="4"
    <Field name="Is Lot No check reqd" length="1"
    <Field name="Is Raw Mat check reqd" length="1"
    <Field name="Company Number" length="10"
    <Field name="Unique Transaction Id" length="8"
    <Field name="Bulk Material" length="1"
    <Field name="Owner" length="40"
    <Field name="Brand Name" length="40"
    <Field name="Sample Size" length="12"
    <Field name="Storage Conditions" length="80"
    <Field name="Other Name" length="40"
    <Field name="Weigh Count Flag" length="1"
    <Field name="Lower Tolerance" length="5"
    <Field name="Upper Tolerance" length="5"
  </Fields>
  
```

```

defaultvalue="" xmlField="MATNR" removeLeading0="Y" />
defaultvalue="" xmlField="MAKTX" where SPRAS_ISO="ZH" />
defaultvalue="" xmlField="hazardCode" />
defaultvalue="" xmlField="shelfLife" />
defaultvalue="" xmlField="operatorWarningLine1" />
defaultvalue="" xmlField="operatorWarningLine2" />
defaultvalue="" xmlField="operatorWarningLine3" />
defaultvalue="" xmlField="operatorWarningLine4" />
defaultvalue="" xmlField="MTART" replaceDataWith="HALB: R, ZRAW: R" />
defaultvalue="" xmlField="packagingPieceWeight" />
defaultvalue="" xmlField="MEINS" />
defaultvalue="Y" xmlField="lotConfirmationReqd" />
defaultvalue="N" xmlField="materialConfirmationReqd" />
defaultvalue="" xmlField="companyNumber" />
defaultvalue="" xmlField="uti" />
defaultvalue="N" xmlField="bulk" />
defaultvalue="" xmlField="owner" />
defaultvalue="" xmlField="brandName" />
defaultvalue="" xmlField="sampleSize" />
defaultvalue="" xmlField="storageConditions" />
defaultvalue="" xmlField="MAKTX" where SPRAS_ISO="EN" />
defaultvalue="W" xmlField="DEFWM" />
defaultvalue="0" xmlField="alwaysZero" scale="100" format="00000" />
defaultvalue="0" xmlField="ZUPDEV" scale="100" format="00000" />
  
```

Chinese char (ZH)  
Material Name

English char (EN)  
Material Name



## BENEFITS

3WS and associated Interfaces with your ERP system will guarantee significant throughput improvements. Less time preparing and releasing material Lot nos and Work Orders.

ERP is instantly updated after each 3WS activity. Unexpected events such as De-Dispensing, Spillages or Work Order alterations are automatically managed by 3WS

3WS is fully compliant with the FDA and TGA regulatory requirements. Additionally, Wayahead have been audited by many sites to confirm our quality procedures are acceptable. Wayahead use the GAMP quality protocol developed by ISPE.

All Wayahead programs conform to FDA Chapter 21 Part 11 electronic signature rules.

In addition Wayahead have developed extensive Data Audit Trail functionality which manages all data changes required for FDA compliance

## COMMENTS ABOUT INTERFACES

“The interfaces between 3WS and our Navision product run seamlessly and instantly update the other system after each event”.  
(LIPA Pharmaceuticals - Australia)

“Support of the interfaces has been excellent and professional”.  
(Bristol-Myers Squibb - China)

“The transition to introduce a new ERP system, was managed without any problems. A good practical solution”.  
(iNova Pharmaceuticals - Australia)

“Excellent product, knowledgeable company, well supported”.  
(Wyeth – Singapore)



### Head Office

2500 Plaza 5

Harborside Financial Center

Jersey City NJ 07311 USA

Phone: +1 (201) 633 4570

Fax: +1 (201) 484 7201

[www.WayaheadSystems.com](http://www.WayaheadSystems.com)

[info@WayaheadSystems.com](mailto:info@WayaheadSystems.com)