

Basic Integration Guideline For The Transsmart Webservice Endpoint

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Purpose of this document

The purpose of this document is to explain how the Transsmart webservice work and can be used to connect to the online Transsmart platform. In order to work with the platform, a separate commercial agreement is required. An account code, user name and password will be provided to you.

Transsmart can be accessed by means of an API interface as well. The document at hand doesn't contain information regarding that interface. You can find the API documentation at <https://devdocs.transsmart.com>.

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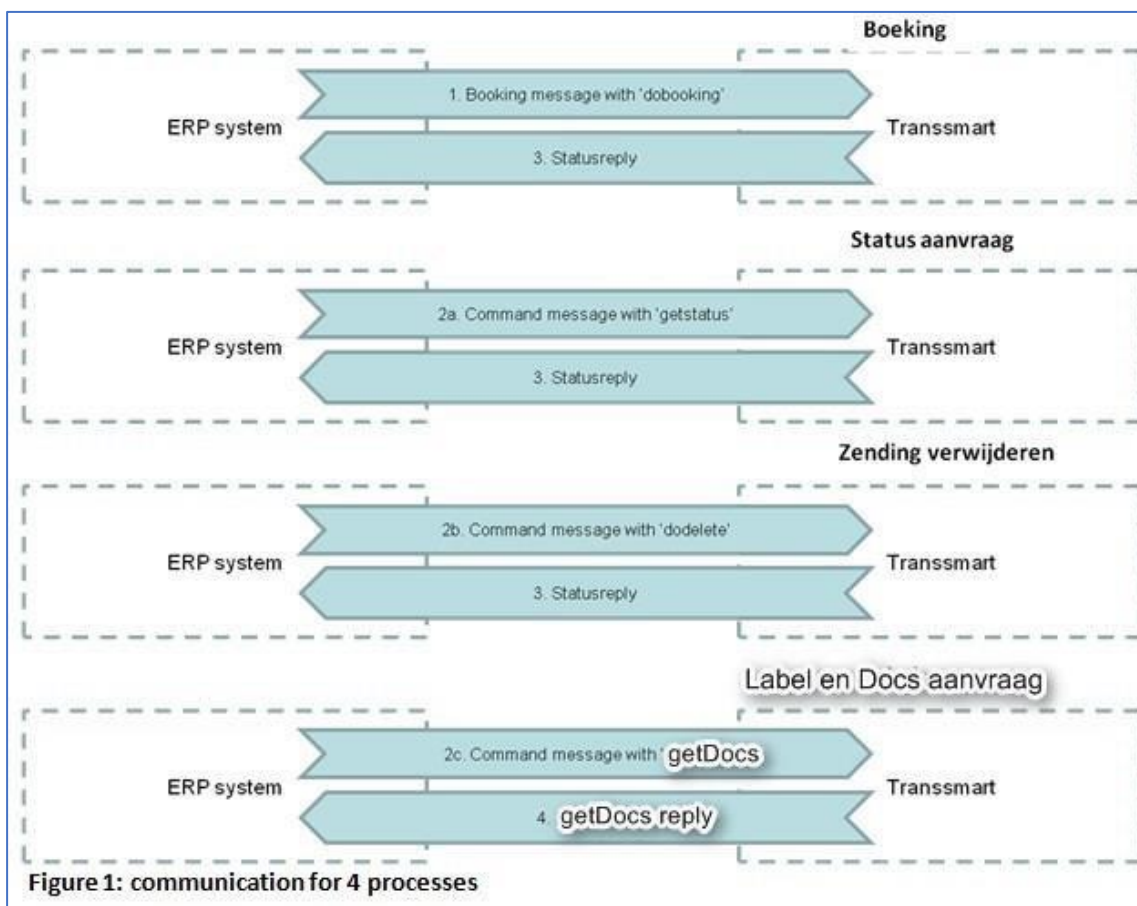
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1 Basic proces and message set for the communication with the Transsmart Webservice

Transsmart facilitates a bases process for shipping out of ERP and WMS systems. On the Transsmart platform the carrier contracts and settings per customer are being registered, and the bases process is being organised by 4 steps:

1. Booking
2. Label printing
3. Status monitoring
4. Deletion

Additional services such as business rules, address-checks, E-mailing and pre-notification are being done automatically or by the user on the web platform. Track & Trace links are being managed on the Transsmart platform and can be advised by a generic link. Later on in this document the process will be explained more in detail.



The message set for the communication as displayed above consists of several bases messages.

2 types of input-messages:

- A booking message with all relevant data about the shipment for step 1.
- A standard action message that contains a different command per requested action for step 2,3 and 4.

2 types of output-messages:

- A status message for step 1,2 and 4.
- A label/printing message for step 3.

2 Explanation of specification message 1: Booking Message

In appendix one can find an example of the booking message. In several specific lines a paragraph number is displayed and below further explanation on these topics can be found.

2.1 Costcenter

Costcenters can be used to:

- To display departments of a customer
- To display sub-customers of a customer (e.g. a printing office that ships packages for 10 different companies. This setup needs 10 additional cost centers)

On the Transsmart platform the cost centers are used to:

- To communicate shiptmens of different cost centers to different (multiple) accounts of for example 1 carrier
- To display on the carrier label per costcenter a different 'SENDER' address Both can be adjusted on the Transsmart platform.

2.2 Carrier

The carrier is the transportation company on which contract is being booked. This can be for examples DHL or UPS, but e.g. also Cheapcargo, IJsGlobal or Smart Contracts who act as an agent. In other words the party of whom the transport invoice is being received.

For each carrier a creditor number is being registered in the source system.

2.3 ExecutingCarrier

This is the carrier that takes care off the transport. If one books on own contracts at a carrier than the variable will be the initial carrier. When for example an agent like Cheapcargo is used, and a booking is being done on a DHL contract of Cheapcargo, then the carrier is Cheapcargo and the executing carrier is DHL.

2.4 Mailtype

On the Transsmart platform E-mails are configured that are sent to the customer. In the booking message has to be indicated which mail this is: from 01 t0 99.

2.5 Language

Used to determine the language of the emails send and/or the carrier track and trace language.

2.6 Additional References

The main reference is being generated by the ERP or WMS-system. In general this is the order number, and can be extended with an underscore and a sequence number in case of partial shipments.

So the 1st shipment for order 123 can be ref. 123 or 123_1. The 2nd shipment can be 123_2. This is purely an advise.

Also the additional references can be send along, in some cases these references can also be attached to the labels or e-mails towards the customers of the customer.

The references can be of the following types:

Kind	Value	Annotation
minLength	1	
maxLength	64	
enumeration	INVOICE	
enumeration	CUSTOMERORDER	
enumeration	ORDER	
enumeration	DELIVERYNOTE	
enumeration	DELIVERYID	
enumeration	CUSTOMER	
enumeration	OTHER	
enumeration	SERVICEPOINT	
enumeration	SP_NAME	
enumeration	PROJECT	
enumeration	YOUR_REFERENCE	
enumeration	ENGINEER	
enumeration	ADR_IDCODE	
enumeration	ADR_UNCODE	
enumeration	ADR_PACKGROUP	
enumeration	ADR_PACKTYPE	
enumeration	AGENTREFERENCE	
enumeration	ROUTE_ID	

A limited number of additional references refer to specifiek processes, like ADR For single use of DG products only), Service points (to enter the service point id of a carrier) and Route_ID (to assign a trucking unit to a shipment). Your consultant/project manager can advise you ho wand when to use those.

2.7 Monetary Values

It is possible to include multiple amounts, both on shipment and on package level.

There is a collection of monetary value elements available to accommodate these.

For every amount specified the type, value and currency are mandatory.

```
"values": [{
  "type": "customs",
  "value": "15.99",
  "currency": "EUR"
}, {
  "type": "insurance",
  "value": "60.48",
  "currency": "EUR"
}, {
  "type": "cashondelivery",
  "value": "100.59",
  "currency": "EUR"
}, {
  "type": "freightcharges",
  "value": "10.87",
  "currency": "EUR"
}]
```

The monetary value types are described below.

Type	Description	Use Case
GOODS	Statistic value that the customer calculates.	<ul style="list-style-type: none"> DPD asks for value of goods and customs value. TOF asks for goods value. UPS/FED ask for customs value
CUSTOMS	The value of the goods for customs purposes.	<ul style="list-style-type: none"> DPD asks for value of goods and customs value. TOF asks for value of goods. UPS/FED ask for customs value
INSURANCE	Type used to provide the value of the shipment for insurance purposes.	Insurance-services for several carriers like DPD.
COD	Cash on delivery value.	Cash on delivery-services for several carriers like DDM.
FREIGHT	Freight costs of the shipment.	One of the mandatory fields in the DDM CN23 customs document.
TAXES	Taxes.	No current use case available, but recommended by Marcel. Comsol has recommended the value 'incoterms', but this suggestion is better.
DUTIES	Import and/or export duties.	No current use case available, but recommended by Marcel. Comsol has recommended the value 'incoterms', but this suggestion is better.
SPOTPRICE	Spotprice.	Used by some Exact globe customers.

2.8 Services

Services is a description of the content, these can have the following values:

- DOCS parcels with documents
- NON-DOCS parcels with non-documents
- ENVELOPE postal pieces with documents

This is also relevant for customs purposes. Advice is to set this standard on non-docs and to make it changeable on shipment level.

2.9 ServicelevelTime

These are the service levels that can be booked with respect to time-phased (day/time-definite) services. Examples are: EXPRESS, SAVER, EXPRESS0900, EXPRESS1000.

2.10 ServiceleverOther

These service levels can be booked in respect to other additional services. Examples are: REMBOURS, COD, ADR (dangerous goods), SAT (Saturday delivery).

2.11 Inco-terms

Below one can find the Inco-terms. Incoterms do indicate the financial and operational responsibility in respect to the shipment.

Possible values with the Transsmart Platform are:

Soorten incoterms

Er zijn 11 incoterms: 4 zijn er specifiek bedoeld voor transport over water. De andere 7 gelden voor alle soorten transport (multimodaal transport).

Multimodaal transport	Transport over water
EXW: ex works	FAS: free alongside ship
FCA: free carrier	FOB: free on board
CPT: carriage paid to	CFR: cost and freight
CIP: carriage and insurance paid to	CIF: cost insurance and freight
DAT: delivered at terminal	
DAP: delivered at place	
DDP: delivered duty paid	

Leg de incoterm die u overeenkomt bij voorkeur vast in het contract of in de algemene voorwaarden. Vermeld daarbij de versie van de afgesproken incoterm, bijvoorbeeld 'ex works Utrecht Incoterms 2010'.

2.12 Loadmeter

This is a parameter that is being calculated on the Transsmart platform by a standard formula:

$$(\text{Length} * \text{Width}) / 2.4$$

In case the load is stackable then this can be adjusted.

However, the calculation of loadmeter remains a human component. An example: can the long box be loaded on top of the pallets or not?

This field has the goal to be able to overwrite this formula. In case that feedback is being received of the carrier that the calculation above does not suffice or that special agreements have to be made.

2.13 Shipment lines

A shipment line is a variable to:

- To bundle Similar packages for an efficient booking
- To entry information on different elements of a shipment

The shipment lines are especially being used to enter different packages or measurements. The feedback of information out of Transsmart platform does not take place on shipment line level, but on collo-level. These shipment lines are purely a mean to display the information briefly.

Important issue is that weight in the shipment lines is not the result for the total content of shipment line, but only per packaging.

Only the first shipment line is mandatory (there always has to be one shipment line).

2.14 PackageType

This concerns packages, which can have the following values. Packagetype are always to be agreed and configured in conjunction with Transsmart, as a mapping to the carrier coding needs to take place.

Examples are:

- BOX
- PALLET
- EUROPALLET
- BLOKPALLET
- BUNDEL
- ENVELOPE
- FTL
- DIVERSEN

2.15 Address types

A address can contain 4 types:

1. SEND : the shipper address
2. RECV : the destination address
3. INVC : the address where the invoice of the shipment contents is being send to
4. 3PTY : 3rd party billing address

2.16 Accountno.

This field is being used for THIRDPARTYBILLING or BILL 2 RECEIVER processes[] it contains the carriers account of the paying party.

Only in the case of 3PTY and Bill 2 Reciever this field is mandatory.

2.17 VATnumber

This is the VAT number which belongs to SEND, RECEIVE or INVOICE address data, these data serve to be listed on a pro-forma, these data are not mandatory for a shipment.

2.18 Deliverynote

The possibility exists to give along the packing not data in a booking. This serves three goals:

- Automated creation of pro-formas/commercial invoices or other related documents
- Required information for paperless invoice processen of express carriers
- Electronic delivery note communication towards customers which contains the Track & Trace data

The packing note data exist of data on header level (packing not number, currency and total amount) on the one hand and on the other hand on shipment line level. In this way it canbe determined with article(s) and what quantity(s) are allocated to each package.

2.19 ADR-data (dangerous goods)

In the booking message dangerous goods data can be included. Some carriers accept basic information. Others expect full data before accepting a shipment. Therefore, Transsmart has started a co-operation with partner DG plus and aligned the webservices with theirs. In this case, clients can purchase DG data services in order to enhance and verify DG product data, calculate ADR points etc. etc.. (This is an optional service).

When sending ADR or ADRLQ (limited quantity) products, fields in the DG section need to be filled according to the carriers specifications.

These data-elements will have to included out of the source systems (e.g. SAP, Microsoft, etc.).

The following fields are available in the webservice on shipment line level (so per package):

```

<xs:element name="dangerousGoodsInfoGds" nillable="true">
  <xs:complexType>
    <xs:all>
      <xs:element ref="t:gdsNumber" minOccurs="0">
        <xs:annotation>
          <xs:documentation>GDS id that identifies the unique record at GDS
(DGPlus)</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element ref="t:unNumber" minOccurs="0">
        <xs:annotation>
          <xs:documentation>ADR Un number</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element ref="t:packagingGroup" minOccurs="0">
        <xs:annotation>
          <xs:documentation>ADR packaging group I, II, III or empty</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element ref="t:class" minOccurs="0">
        <xs:annotation>
          <xs:documentation>ADR class 1, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 3, 4.1, 4.2, 4.3, 5.1,
5.2, 6.1, 6.2, 7, 8 or 9</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element ref="t:transportCategory" minOccurs="0">
        <xs:annotation>
          <xs:documentation>ADR transport category 0, 1, 2, 4</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element ref="t:nettoQuantity" minOccurs="0">
        <xs:annotation>
          <xs:documentation>Netto quantity of 1 dangerous product</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element ref="t:nettoQuantityUom" minOccurs="0">
        <xs:annotation>
          <xs:documentation>L, ml, kg, g regarding to the single dangerous product</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element ref="t:packageCode" minOccurs="0">
        <xs:annotation>
          <xs:documentation>Package type package, also known as the outer packaging (compared to
the inner packaging)</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element ref="t:nettoWeight" minOccurs="0">
        <xs:annotation>
          <xs:documentation>Total netto quantity </xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:all>
  </xs:complexType>
</xs:element>

```

```
<xs:element ref="t:brutoWeight" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Total gross weight </xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element ref="t:nosTextNl" minOccurs="0">
  <xs:annotation>
    <xs:documentation>N.e.g. text (niet elders genoemd)</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element ref="t:nosTextDe" minOccurs="0">
  <xs:annotation>
    <xs:documentation>N.a.g. text (nicht anders genannt)</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element ref="t:nosTextFr" minOccurs="0">
  <xs:annotation>
    <xs:documentation>N.s.a. text (non spécifiés ailleurs)</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element ref="t:nosTextEn" minOccurs="0">
  <xs:annotation>
    <xs:documentation>N.o.s. text (not otherwise specified)</xs:documentation>
  </xs:annotation>
</xs:element>
</xs:all>
</xs:complexType>
</xs:element>
```

3 Notification of specification message 2 a/b/c: Action-message

In the appendix (see different folders) an example is displayed for each of the action messages.

3.1 Action calls

For a status request, a label request, or a deletion the scheme of the message is identical, the only field that varies is the field <action>.

- For a Status request the value is: GetStatus
 - In order to receive extended information; optionally an extended status response can be returned, subject to configuration in the backend of Transsmart.
- For labelprinting and documents is the value: GetDocs
 - <action> calls are : getLabel; getDocs and getLabelandDocs.
- For labelprinting is the value: GetLabel
 - It's preferred **NOT** to use this webservice call any more, nut to use the GetDocs call with <action> getLabel in stead. This webservice will gradually be phased out.
- For the deletion the value is: DoDelete
- For selected customers: shipment data can be retrieved via the value: GetShipments

The action can be requested using a reference. By default this is the shipment reference. In addition, you can add a referenceType to use an additional reference.

4 Notification on the specification message: Status Reply

This is the standard response on a booking, a status request or a deletion.

The updating of the ERP / WMS systems has to take place on basis of this message type and Transsmart advises to update the database field at each status reply. This way all changes on the Transsmart platform are nicely displayed in the ERP / WMS systems.

4.1 Status

This is that status of the booking in het Transsmart system (not the status of the shipment at the carrier). Possible values are:

- OK
- WARNING
- ERROR

4.2 ShipmentStatusCode

See par. 4.6 for possible values. This is the generic status of a shipment. The is the most 'early' status that can be found for a colli. So when collo 4 of the 5 colli are being delivered, and 1 is still in Transit, then the value TRNS.

4.3 Deliverydate

This is the day on which the shipment is reported as Complete for the carrier. This field is empty when the shipment has not been delivered yet.

4.4 Deliverytime

This is the time on which the shipment is reported as Complete for this carrier. Not all carriers are being notified back by all carriers. This field is empty when the shipment has not been delivered yet.

4.5 AcceptedBy

This is the name of the person that has signed for receipt for the specific package. Not all carriers do notify back for all service levels. This field is empty when shipment has not been delivered to customer yet.

This information is being communicated byt the carrier on collo level, when done on shipment level the data is being copied from the first collo.

4.6 AWB

The Track and Trace number of the carrier. This data is normally only generated when label printing is done and for younger status the field is empty. The numbers are being assigned by a lot of carriers on collo level. For the shipment the Track en Trace number and the awb of the collo are used.

4.7 GenericStatusCode

This is a generic statuscode that is being assigned by Transsmart. Transsmart translates the status notifications of all carriers to this generic status code. Which is especially useful for status- and/or exeception reporting.

Possible values:

- NONE shipment is in draft mode, not yet ready for booking
- NEW shipment is new on the Transsmart Platform, but not yet booked
- BOOK shipment is validated on contents and booked at carrier
- REFU validation on contents is not successful, shipment is refused
- LABL Label is generated and the AWB is assigned
- MANI the shipment has been communicated to carrier
- ACCEP the carrier has confirmed receipt of the shipment data
- TRNS shipment is on its way, status information has been received by carrier
- DONE Shipment has been delivered
- ERR the mistake has been identified with the data-validation for the booking
- DEL shipment has been deleted by user
- APOD shipment has automatically being put on delivered. Same status as 'DONE' but by a system-action, not triggered by feedback of the carrier. Mostly done within 30 days.

4.8 CarrierStatusCode

This is more detailed status information and varies per carrier.

4.9 CarrierStatusDescription

Description of the carrierstatuscode, also this one varifies per carrier.

4.10 Additional functionality getStatus webservice

To be able to give back more shipment information in the reply's ('StatusReply', 'doBookingResponse', 'doDeleteReply', and 'GetRatesReply') it is possible to activate an extensive reply on account level.

These reply messages contain extensive shipment information such as costcenter on shipment header level but also shipment details on shipment line level; such as measurements, weight, AWB's, etc.

These messages can be activated on account level. This has to be activated by Transsmart in the configuration.

In the attached Word-document 'getStatusResponseExtended' and the xsd-bestand

'getStatusResponseExtended_2' the data-fields are indicated and described. Further examples of the XML's are attached of a getStatusrequest and a StatusReply.

5 Notification of specification message 4: Labelreply

The Labelreply contains the label-information which is being send to the printer.

5.1 LabelType

The label is being communicated in several ways, which is being set in the parameters of a customer on the Transsmart platform. This indicated the format of the label information. Possible values are:

- ZPL
- PDF
- URL
- HTML (In this case the printer does not have to be leaded, this happens from the platform. The action is the activation of the URL)

5.2 printerType

The Printer type on which the labels are printed. This influences the way of the formatting of the label. This is being set in the parameters of a customer on the Transsmart platform. Possible values:

- LASER
- LABEL

5.3 PrinterName

The printername of the printer. Transsmart prefers to use local printers, when network printers are being used, then for the name one has to put 2 or 3 times the sign '/' followed by the network location.

5.4 LabelData

This is the content of the label. The content of the message-element has to be send to the printer. The labeldata is specified per collo.

6 Specification of Docsreply message

The Docsreply contains the label- and the document information that can / will be send to the printer(s).

6.1 TemplateID

The kind of label or document of which the data has been collected. For documents this can be for example CONSIGNMENT NOTE, PROFORMA, COMMERCIAL INVOICE, etc. For (Zebra) labels is this in general the STANDARDLABEL.

6.2 DocType

The document can be retrieved on several ways, this can be set in the parameters of a customer on the Transsmart platform. This indicates the format of the document being returned. Most common return values are:

- ZPL
- PDF
- GIF

Optional values(limited):

- TIFF
- JPG
- XML
- DOC

6.3 DocsData

This is the content of the document. The content of this message-element has to be sent to the printer. The document data is specified on collo level. The data is different for ZPL labels and other (graphic) labels or documents. Of course can a graphic label also be send to a LABEL printer, but the quality will be of lesser quality, in comparison with a specific (Zebra)label.

7 Carrier Select / getRates

7.1 How does it work?

The goal of the carrier select also called GetRates functionality is to collect / select one or multiple available carriers, service levels and its costs. The result will be presented which makes it possible for a user to compare all possibilities and select the most optimal carrier and service level.

The added value is that it offers the customer the possibility to choose a carrier, service level based on costs and lead time.

The place for the GetRates is before the booking process. The result is the chosen shipment method and which results in the transportation booking.

In the transportation booking a separate function has to be addressed. This is often a button with the text "carrier select". This triggers the "getRate" function which is identical to the Dobooking.xml.

The result of this function is that a message will be send back (getRatesResponse_getRates) with following information:

- Carrier
- Service level time
- Service level Other
- Rate
- Transit-time

This message normally is displayed in a separate pop up screen. The user makes then the by him or her desired choice. This choice overwrites the initial shipment method and the actual transportation booking is being done.

7.2 Additional functionality getRates webservice

In the getRates process additional functionality is build. This makes it possible to only retrieve one specific result (read: one combination carrier and service level). By using in the getRates webservice the <action> 'prebooking' in the getRatesReply only one vervoerder, service level combination will be in the reply. In fact the business rules are addressed and the same logic will be used as by the doBooking process.

Next to the variable 'Prebooking' also a service Level 'e.g. ECONOMY' and carrier 'e.g. AUT (Autoselect)' in the call have to enclosed in the GetRates call.

As addition in the 'getRates reply' also the <costcenter> will be given back; this is displayed on header-niveau in the Reply.

In attached Word-document 'getRates_2' the xsd is displayed in detail.