# HABIS EVU-Schnittstelle

## Interface Description TD04

Version **5.2**


Released: 2011/07/01

## History of Changes

| version | sections concerned | reason | author | date |
|---|---|---|---|---|
| 0.1 | all | creation<br>(incomplete version) | S. Buse, D. Döring, B. Jacobs | 13.11.2006 |
| 0.2 | all | completion for step 1 / inbound transport order | S. Buse, D. Döring, B. Jacobs | 22.11.2006 |
| 0.9 | all | several changes to all messages | D. Döring | 18.12.2006 |
| 1.0 | all | improvements according to internal review | D. Döring | 22.12.2006 |
| 1.1 | all | <TransportCompany> included in <BusinessDocumentDetail>, is mandatory in all messages.<br><RailwayBillType> added to the transport order.<br>No deletion of parts of an order. | D. Döring | 30.12.2006 |
| 1.2 | Title pages, header and footer | HPA logo, title, contact persons | Nicolai Port | 08.01.2007 |
| 1.3 | 3.3, 3.6, 4.2<br>3.5, 3.7<br>4.3.3<br><br>4.3.3.3<br>5.2<br>4.2.1.1, 5.3 | message type for Status is "ST"<br><br>Alias is "DAK"<br>discharge location is mandatory also with "DP" (departure)<br>extended check for CustomsProcedure<br>response values redefined<br>status qualifiers changed to "B", "E" | D. Döring | 14.2.2007 |
| 1.4 | all | enhancements for step 2 / outbound container traffic | D. Döring | 20.3.2007 |
| 2.0 | all | improvements according to internal review | D. Döring | 11.4.2007 |
| 2.1 | 1.2.1<br><br>3.9 | Validation for loading request and choice for customs tags changed.<br>Only CET will be used. | D. Döring | 14.6.2007 |
| 3.0 | 1.1, 2.2, 4.3, 4.4, 4.6<br>4.3.4.2 | enhancements for step 3 / outbound wagonload traffic<br>container number is not mandatory | D. Döring | 11.7.2007 |
| 3.1 | 4.3.5.2, 4.3.4.6 | customs registration number and dangerous goods information only for the first wagon | D. Döring | 13.8.2007 |
| 3.2 | 4.3.2.1, 4.3.4.6 del. | order number is mandatory, dangerous goods info for every wagon possible | D. Döring | 6.9.2007 |
| 3.9 | 1.1, 1.3, 2.4, 3.6, 3.7, 4.5, 4.6 | enhancements for step 4 / wagon sequences | D. Döring | 9.10.2007 |
| 4.0 | 4.2.1.1, 4.5 | improvements according to internal review | D. Döring | 16.10.2007 |
| 4.1 | 3.4, 3.6, 4.5 | extension for provider functionality, distinction between planned and actual departure, axles mandatory | D. Döring | 11.12.2007 |

| | | | | |
|---|---|---|---|---|
| 4.2 | 1.1, 2.4, 3.3, | instruction for station only for outbound, message significance for WS, WS for outbound traffic also at departure | D. Döring | 29.2.2008 |
| 4.3 | 1.4, 4.5 | WS in reduced version 02 | D. Döring | 23.4.2008 |
| 4.4 | 1.5, 4.5 | WS in version 03: planned arrival added | D. Döring | 11.11.2008 |
| 4.5 | 3.7 | format of WSEQNR explained | D. Döring | 19.12.2008 |
| 4.6 | 2.2 | scenario for completely loaded orders inserted | D. Döring | 31.3.2009 |
| 4.7 | 4.5.2 | added validation rule for single occurrence of vehicles within a wagon sequence | S.Buse | 16.07.2010 |
| 5.0 | all sections | new version of the TD04-interface for communication with the BPE | D. Döring | 17.11.2010 |
| 5.1 | 1.6, 4.5<br><br>2.4, 4.2.1, 5.3<br>1.6, 4.3.2.2 | some modifications for the new wagon sequence message<br>new status messages for wagons<br><br>ImportReference added to the transport order | D. Döring | 24.5.2011 |
| 5.2 | 1.6.1, 4.3.1, 4.3.3.2, 4.5, 4.5.1 | DangerousGoodDeclarant is no longer needed for the GEGIS reference. In WagonSequence the Train Time is now optional, and in the unit data the location (i.e. the terminal) can be specified. | D. Döring | 1.7.2011 |

**Contact persons**

This document was created by DAKOSY AG by order of Hamburg Port Authority AöR. For maintenance, change requests and comments concerning this document please use the following contacts:

**Hamburg Port Authority**
Anstalt des öffentlichen Rechts
- Hafenbahn -
Neuer Wandrahm 4
D - 20457 Hamburg

Karsten Schumacher
mailto:
Karsten.Schumacher@hpa.hamburg.de
**Phone:** +4940 – 428 47-1859
**Fax:** +4940 – 428 47-2881

**DAKOSY**
**Datenkommunikationssystem AG**
- Verkehrsträger -
Mattentwiete 2
20457 Hamburg

Nicolai Port
mailto:port@dakosy.de
**Phone:** +4940 – 37 003-0
**Fax:** +4940 – 37 003-370

**Configuration note**

The document was written using Microsoft® WORD 2003, the diagrams are produced with Rational Rose® and Altova xmlspy®.

# Table of Contents

# 1 Introduction

The interface description is written in English, in order to make it available to internationally operating companies. The message design (i.e. the XML schema definitions) is in English, too. The project title, however, is originally German and is therefore also contained in this document. "EVU" is a German abbreviation which stands for “rail transportation company"[1], and "Schnittstelle" is the German word for "interface". This document describes the interface of HABIS Classic for rail transportation companies for the communication of transport orders and of wagon sequences. The interface is also called "TD04-interface" since the transaction name used is "TD04" (cf. chapter 3.3).

With the development of a "Business Process Engine" (BPE) and new applications to replace HABIS Classic the decision was to still use the TD04-interface, and to enhance its features in order to cover the functionality of the new systems. Therefore, a new version of the messages for transport orders and wagon sequences are published, and new messages are designed to support the load planning via EDI. These extensions will not be implemented in HABIS Classic anymore, so from Version 5.0 on this document describes the TD04-interface of the BPE only. The changes for the new version are summarised in chapter 1.6.

The interface description consists of three parts: a procedural overview declaring the message scenarios, some technical definitions, and a description of the messages. Further details are provided with the schema definitions, especially the definition of the data elements.

Customs declarations are not considered in this interface because they are separately communicated to the HABIS customs application HZO. Therefore, the messages transferring transport order information just contain the HA-number as a data element referencing the primary key in the HZO application. Some data elements used in HABIS Classic for the customs procedures are still contained in the messages, in order to provide legacy support for HABIS Classic. These data elements are optional and may no longer be used when HZO is in full operation.

In this description the direction of transport is seen from the position of the port of Hamburg, i.e. "inbound" is used for trains and goods arriving at the port, "outbound" is used for trains and goods leaving the port.

## 1.1 Referenced Documents

| ID | title | author |
|---|---|---|
| [HPA_XSD] | XML Schema Definitions:<br>TransportOrder.xsd (Version 3.0 / 15-Nov-2010)<br>Response.xsd (Version 2.0 / 16-Mar-2007)<br>StatusInformation.xsd (Version 1.0 / 14-Dec-2006)<br>CustomsInformation.xsd (Version 1.0 / 9-Jul-2007)<br>MessageEnvelope.xsd (Version 2.0 / 14-Dec-2006)<br>TD04_core_Subj.xsd (Version 4.0 / 16-Nov-2010)<br>WagonSequence.xsd (Version 4.0 / 16-Nov-2010)<br>TrackDiagram.xsd (Version 1.0 / 17-Nov-2010) | B. Jacobs, D. Döring, S. Buse |

[1] The abbreviation "RTC" will be used within this document as the English equivalent of "EVU".

| ID | title | author |
|---|---|---|
| | LoadingPlan.xsd (Version 1.0 / 17-Nov-2010) | |
| [HAB_SVZ] | HABIS code lists, which are referenced in the XSD's, are published under www.rail-port-direct.de → Port of Hamburg → HABIS Code Tables<br>Rail station codes are published under www.rail-port-direct.de → Port of Hamburg → Rail Stations | |

*table 1 - referenced documents*

## 1.2 Changes in Message Version 02

The messages "TransportOrder" and "Response" are provided in an updated version 02, which requires also a change in the core schema "TD04_core_Subj".

### 1.2.1 TransportOrder

Some additional data elements are needed for outbound traffic:

A <HandlingIndicator> allows to state explicitly for every single order which is "incomplete" (see 2.1) if it may be completed by the HABIS operator or not.

In the <DischargeDetail> a <Condition> is added for the delivery, and <Date> / <Hour> for the planned arrival.

A <Destination> is added as an information for customs in case the specified discharge location is not the final destination of the shipping units.

In the <TransitDetail> a <RoutingPlanNumber> is added.

For the arrival station a second instruction element <CustomerInstructionDestination> is added per unit.

The <LoadingRemark> per unit is added for the remarks of the quay operator.

An <OverloadLicenceNumber> and the <OverloadLicenceYear> may now be specified.

The customs details are restructured. The type definition <CustomsOrderDetailDef> is no longer needed. The customs procedure name is no longer used, and the station for customs clearance is renamed to <ClearanceStation>. The customs procedure code is extracted from the type <FurtherTransportRelatedDataDef>. On the order level it is used only for outbound traffic, and only for orders being handled by customs with the HABIS Classic application, not with HZO. In all other cases the customs procedure has to be specified per unit.

In the <ShippingUnit>, the choice between <CustomsUnitDetail> and <CustomsUnitHZODetail> was wrongfully declared to be mandatory. It is changed in version 02 to an optional choice.

The 4-byte loading request code is necessary in HABIS and for the quay operator instead of the 2-byte code (validation rule in XSD changed).

Up to XSD-version 2.1 of the transport order the documentation for the tag <TransitDetail> <RouteCode> was insufficient: the route code is mandatory only for cross-border traffic. The

correction of the documentation is the only change in version 2.2, the message itself is not affected.

### 1.2.2 Response

A <GeneralResponseCode> is added in the header information of the Response message, since it has been shown to be unpractical to derive the intent of the reply from the text lines of the message. The new data element is optional in order to preserve compatibility with version 01.

### 1.2.3 TD04_core_Subj

The value set for the <MessageSignificance> is extended. This is only an annotation and does not affect the structure of any message.

## 1.3 Extension of 'core'-Schema

The value set for the <MessageSignificance> is again extended for wagon sequences.

With wagon sequences some technical data of the wagons have to be provided. New type definitions are added to the TD04_core_Subj.xml for length specifications. Length values can be specified using different units of the metric system. The new type definitions are <LengthDef> and <LengthUnit>.

## 1.4 Changes in Wagon Sequence Version 02

The message "WagonSequence" is provided in an updated version 02, which is a reduced version from which the following master data elements of a vehicle have been removed:

- <ModelID>
- <WagonCategory>
- <MaximumSpeed>
- <Axles>
- <WagonWeight>
- <LengthOverBuffers>
- <WheelSetDistance>
- <HandBrakeCode>
- <BrakeEquipmentCode>
- <MinCurveRadius>
- <MinVerticalRadius>
- <LoadLimitPattern>

## 1.5 Changes in Wagon Sequence Version 03

The message "WagonSequence" is provided in version 03, providing the opportunity to specify the planned arrival. With this information a better match to the train defined in HABIS is possible. The following data elements have been included:

- <ArrivalDate>

- <ArrivalTime>

## 1.6 Changes in the TD04-interface for the BPE

### 1.6.1 WagonSequence Version 04

For the <Vehicle> the < ForwardingRestrictionCode> and the <BrakeConditionCode> are no longer needed and thus not contained in the new version.

In a wagon sequence for incoming trains the indicator <TrainCompositionCheck> can be set to state that a manual control of the train will take place after arrival, and therefore the automated incoming handling shall not take place.

If dangerous goods on a vehicle have been declared directly in GEGIS, and can be referenced by their GEGIS reference number, these numbers can be written to the message instead of specifying the UN-Numer, class etc. for the dangerous goods.

If the transport orders for the units which are on the train have been provided to the BPE system, it is sufficient to specify the order references (order reference plus unit position number). Otherwise the type of transport (container or wagon load) is needed, the indication if the unit is full or empty, a wagon destination (i.e. the terminal for incoming load), and – if applicable - HA-number and customs procedure.

The authorisation to do the load planning and to do the shunting may be passed to other organisations, for every vehicle. This is only necessary if these tasks will not be done by the RTC itself.

With the version 04 of the wagon sequence message it is possible to transmit master data for the vehicles (see schema definition for details). This information is needed for wagons coming to the harbour area for the first time, and in case some data of a wagon has changed. The load planning company is part of the master data for a vehicle, so once it is set there is no need to specify it every time again.

Other new elements in the wagon sequence message are

an indicator to mark a vehicle as a through coach,

a set of operating procedure codes allowing to communicate several instructions for special handling, e.g. interdiction of hump-shunting. The value set for these codes is published on the rail-port-direct page (cf. 1.1 Referenced Documents).

The RTC may send wagon sequences in future also for outgoing trains, in the sense of a requirement used by the shunting organisation (cf. chapter 2.4). For this purpose the value "PL" is new for the <MessageSignificance> (see annotations in the core schema "TD04_core_Subj.xsd").

### 1.6.2 TransportOrder Version 03

Several data elements are not needed in the BPE and have therefore been removed from the message definition:

<HandlingIndicator>

<DispatchDetail><Condition>

<Destination>

<CustomsProcedure>

<PreviousRegistrationNumberType>

<PreviousRegistrationNumber>

<RailwayBillText>

<TransportPaper>

<WagonLoadData><CustomsTariff>

<ShippingUnit><CustomsUnitDetail>

<ShippingUnit><SheetLine>

<ShippingUnit><DangerousGoods><TransportIndicator>

<ShippingUnit><TransportContainer><ContainerLoadData><CustomsTariff>

<ShippingUnit><TransportContainer><ContainerDetail><OversizedIndicator>

<ShippingUnit><TransportContainer><LoadingRequest><Name>

Since the BPE does not provide the possibility for an automated ATLAS registration the <ShippingUnit><GeneralCustomsData> is reduced, only the ATB-number may be specified which is then passed to the terminal.

In the <TransitDetail> a maximum speed may be set which together with the rail class is used to check the maximum load weight for the wagons.

For units of the transport order an <ImportReference> is added as an optional element. This is the identification number for a unit in the import platform of the port of Hamburg.

As in the wagon sequence, also on the transport order GEGIS reference numbers can be written as an alternative to detailled dangerous goods specifications.

Some changes are made to the <DangerousGoods> section according to the structure of the GEGIS interface for dangerous goods declarations. This covers the actual amendments for different rules (IMDG, ADR, RID) for dangerous goods transports. The changes are:

The <GroupIdentification> section, < RegulationsAmendment>, <ExceptedQuantityIndicator>, <WaterPollutionClass>, <MarpolCategory> and <Packages><InstructionCode> are added.

The <EmptyUncleanedIndicator> replaces the code for empty tanks.

The <TransportCertificate> in the <Radioactive> section may occur up to three times.

### 1.6.3 New Message TrackDiagram

The TrackDiagram is a new message provided by the BPE for the support of container load planning. It specifies for a certain track at the loading station at a certain time the sequence of wagons which are planned to be there ready for loading. The data of the track diagram message originates from the quay operators.

### 1.6.4 New Message LoadingPlan

If a RTC carries the load planning out using its own system, it may send the result to the BPE as a LoadingPlan. The BPE receives this new message and passes the information on to the quay operator.

### 1.6.5 TD04_core_Subj

The value set for the <MessageSignificance> has changed: "PL" is added for the wagon sequence (cf. chapter 1.6.1), and in orders for inbound transport this element is no longer used. This is only an annotation and does not affect the structure of messages.

A lot of type definitions are added which are used for the additional elements in the wagon sequence and the transport order as well as in the new messages for the track diagram and the loading plan.

# 2 Message Scenarios

The scenarios provide a graphical representation of the communication processes between an RTC and HPA's BPE system. The communication of HPA with other systems is not completely shown in the scenarios. Some messages outside TD04 are added for a better understanding of the processes.

Technical receipt messages are omitted in the scenarios. For every message a receipt message has to be sent back, either as a confirmation or as a rejection of the incoming message (cf. chapter 3.10). The receipt message is called 'Response'.

## 2.1 Outbound Traffic (Container)

When an order is received by the BPE system, syntax and consistency check is done (see message description in chapter 4.3 for details). If formal errors are found, a negative response message specifying the errors will be sent as a reply. In this case the BPE has not saved the data of the message and it can be sent again with corrected data using the same order reference and version. If the message has no formal errors, the order will be created. The BPE then sends a positive response message and the status "accepted" to the RTC.

Accepted orders are transferred to the quay operator. Normal processing continues by the quay operator reporting the containers ready for loading, the scheduler doing the disposition and the quay operator loading the containers. The order-related communication ends with the order containing the loading details beeing reported to the RTC. Thereafter, the process for collection of the wagons and train formation will start.

Disposition can be done by the RTC in its own system using the track diagram and the loading plan messages. It can also be done using a dialogue function provided by the BPE system.

The message "BM" from the quay operator may also state that a container is not ready (e.g. when it has not arrived yet via ship). This does not interrupt the process for the other units. The order may be changed by sending a modified TransportOrder message.

An event possibly interrupting the normal processing of an order is a rejection which is also communicated by a status message. The status "rejected" indicates that it is not possible to process the order, at least not for the moment. A rejection may be articulated by the quay operator. The reason for the rejection can be found in the remarks of the status message. In this case it is also possible to modify the order.

Modifications can of course be sent independently from preceding status messages, if it is necessary to change some information in the order. Data for a shipping unit may be modified until the unit is loaded, and general order data may be modified until the last unit of the order is loaded. Since it must be possible to re-book the order to another train, some data may even be changed after the order has been loaded completely (see 4.3.4).

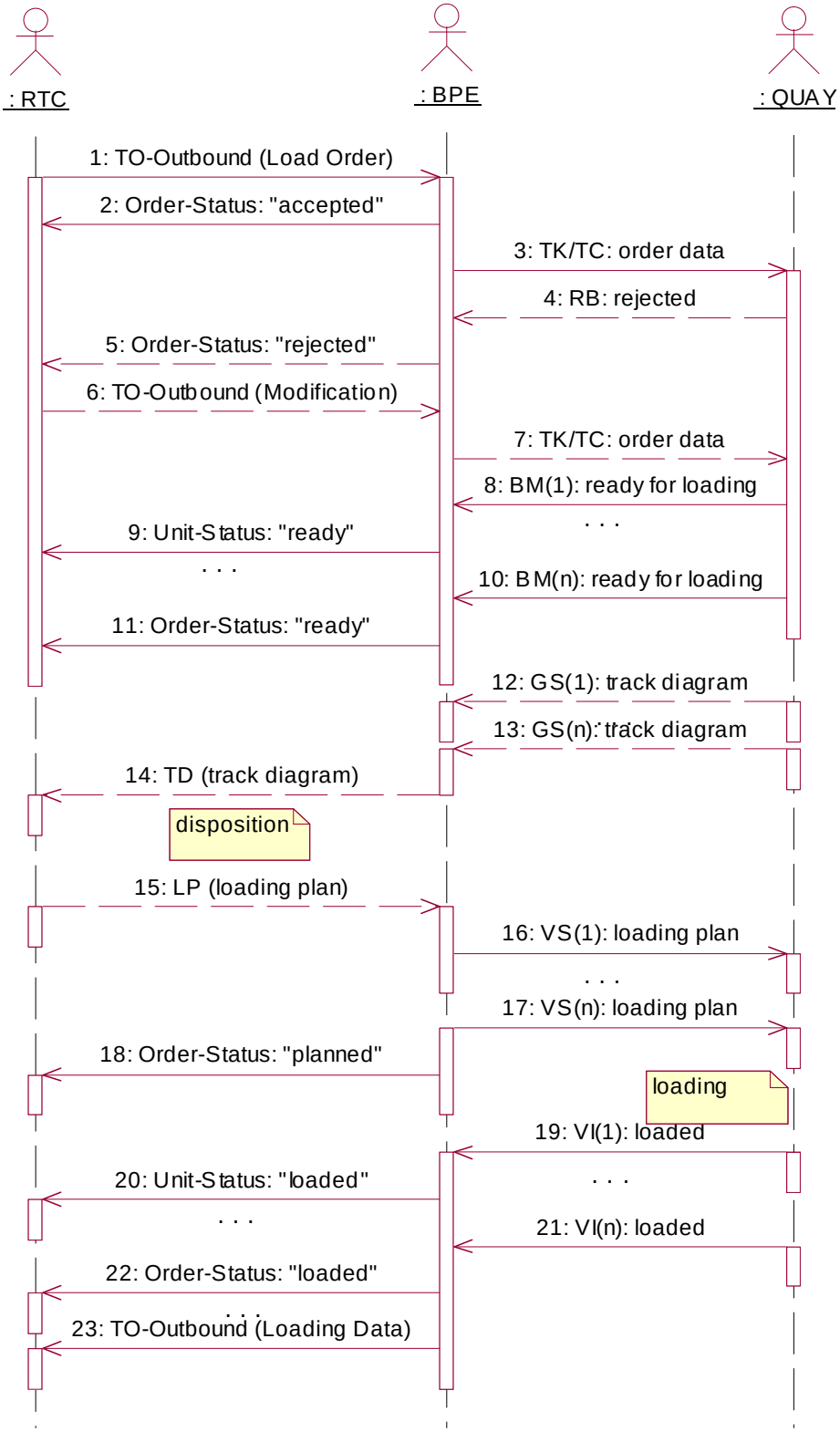


*Figure 1 - message scenario outbound traffic (container)*

An order can be cancelled using the status message as a deletion request (cf. 3.11). In the BPE system a cancellation will directly be in effect for an order which has not yet been transferred to the quay operator. After that, it is treated as a request and the response (which is also a status message) can be positive or negative. The decision is made by the quay operator depending on the progress of its work. If at least one unit of the order is already loaded, the deletion request will be rejected.

## 2.2 Outbound Traffic (Wagonload)

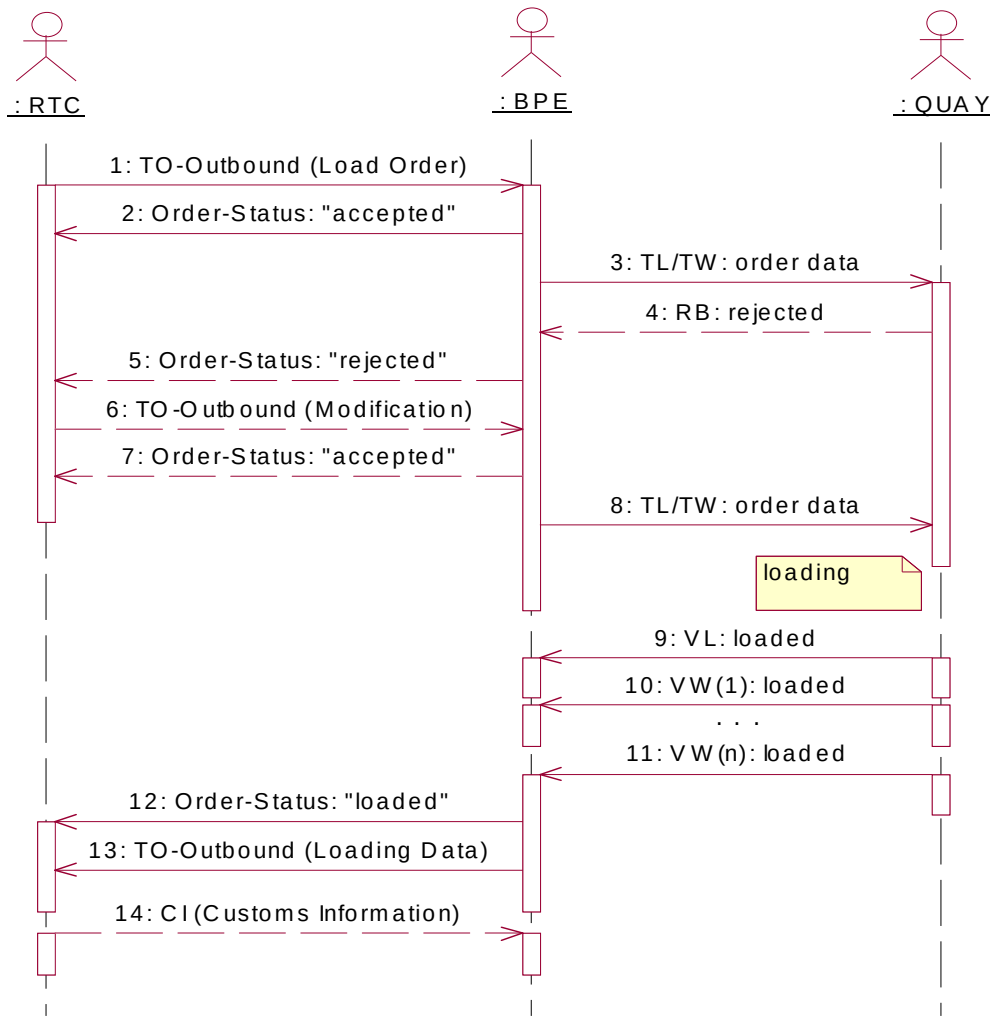


*Figure 2 - message scenario outbound traffic (wagon load)*

The treatment of an incoming order is the same as for container traffic, cf. 2.1. Rejections of an order are also possible as described there.

Accepted orders are transferred to the quay operator. Normal processing continues by the quay operator loading the wagons. This is reported for every wagon. After complete loading the order containing the loading details is reported to the RTC. The loading data can be quite different from the original message since during loading it may turn out that more (or less, or different) wagons are needed.

In many cases the concrete wagon numbers are not specified in the order but with the loading data. Customs declaration for the HZO application can then not be done until the loading data is given to the RTC. Therefore, after having received the loading data the RTC may send customs information for the wagons. This will be necessary for wagons leaving the free trade zone because the BPE has to report the HA-Numbers to customs before the train can start.

Rules for modification or cancellation of an order are similar to the rules for container traffic as described in 2.1. For details concerning the customs information and data for re-booking see 4.3.5.

Sometimes the process of wagon load traffic is different, and the orders are generated after complete loading of the goods. The order can then be sent using <MessageSignificance> = "LD" (Loading Data). In this case the order is not transmitted to the quay operator because everything is already done. The HA-Numbers can still be reported using the CI message.

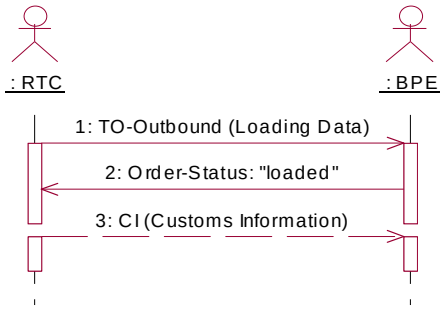


*Figure 3 - message scenario outbound traffic (wagon load: completely loaded)*

## 2.3 Inbound Traffic

Treatment of an incoming order, syntax check and consistency check is performed as described before in the section for outbound traffic (see details in chapter 4.3).

Manual rejections by the quay operator are not foreseen for inbound traffic in the BPE system.

Each message received in HABIS Classic will be forwarded to the quay operator, separated into single messages for every shipping unit[2]. When the status of a unit is set to 'arrival' in the BPE system, the final EB[3] (arrival notification) will be sent.

Modifications of the transport order are possible with every new message sent. After a shipping unit has been set to 'unloaded' in the BPE system, modifications and cancellations for this unit will no longer be accepted. Some data relevant for customs cannot be changed after the shipping unit has been set to 'arrival'.

Handling of the incoming units will be done using the BPE system. When a unit has arrived at its destination the status "unit delivered" will be reported to the RTC. Unloading may be

[2] container, swap body etc. for container traffic, wagon for wagonload traffic
[3] EB is the German abbreviation for 'arrival notification'. Since it is also the technical name of the message sent to the quay operator, it is not translated in this context.

reported for every unit by the quay operator sending the CODECO message, or may be done manually using a dialogue function provided by the BPE system.

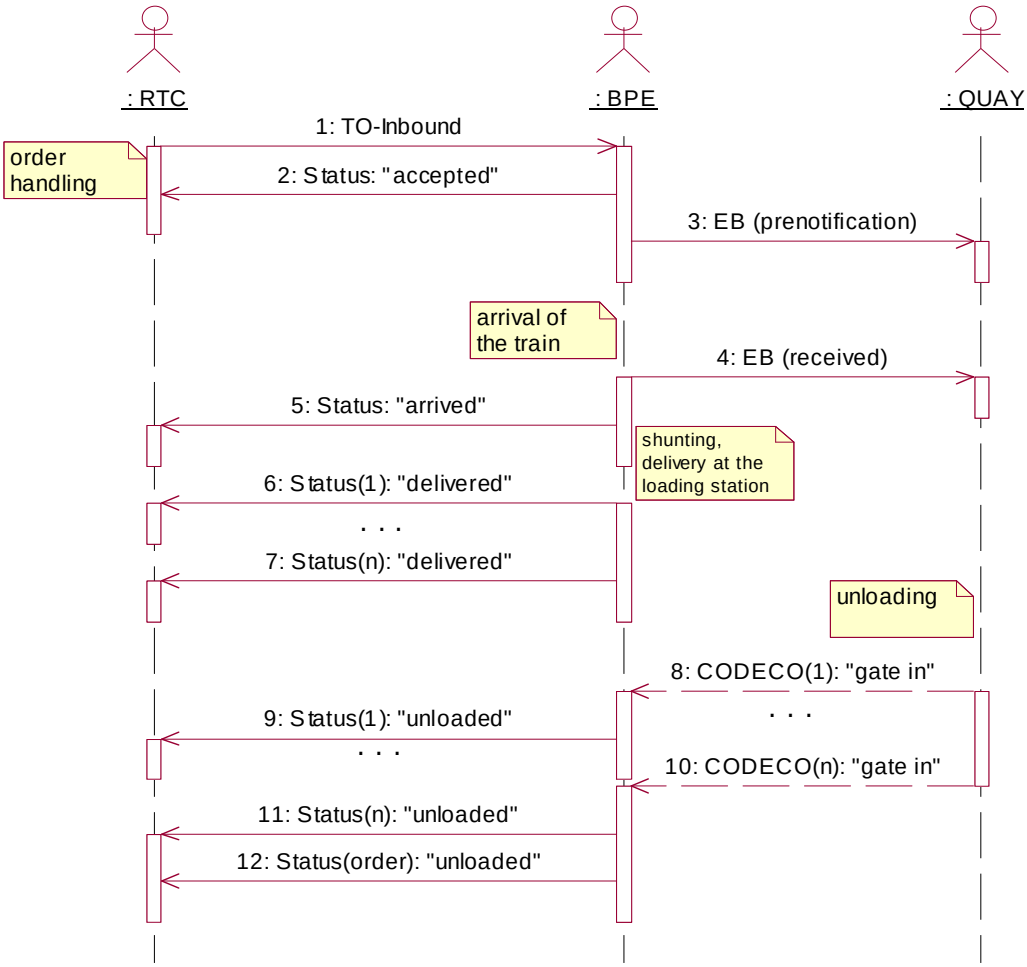


*Figure 4 - message scenario inbound traffic*

## 2.4 Production Messages

### 2.4.1 Outgoing Trains

For outgoing trains the BPE will send a wagon sequence when train formation is completed and the train is ready for access to the network. Since after this point in time in some cases changes to the train may have been made, another wagon sequence will be sent at departure, together with the status information.

The RTC may send a wagon sequence in advance declaring it with message significance "PL" (planned). This serves as a requirement for shunting.

The BPE sends status messages for outgoing trains when customs blocked or released the train

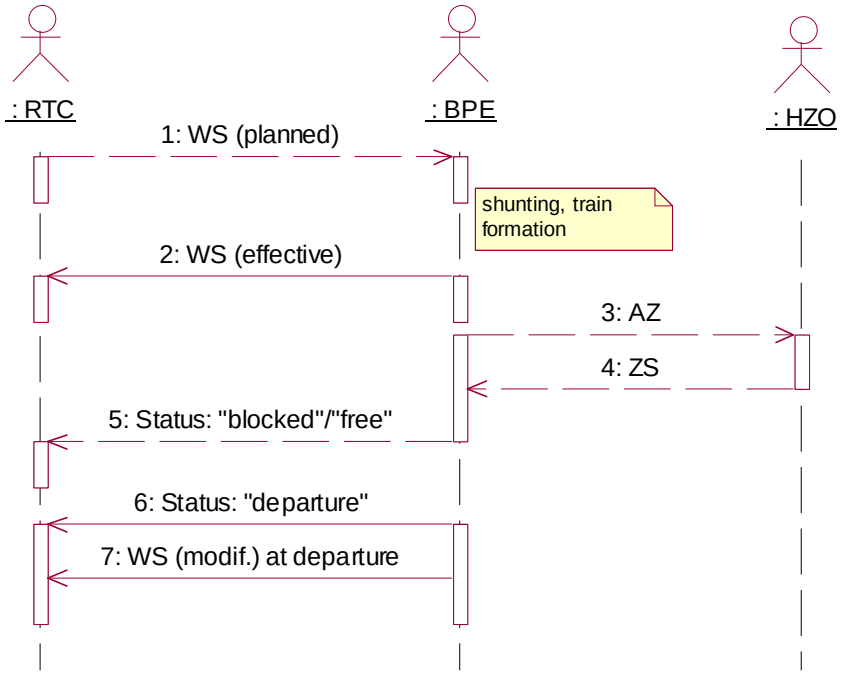


*Figure 5 - message scenario outgoing train*

### 2.4.2 Incoming Trains

For incoming trains a wagon sequence message is expected before the train arrives at the port of Hamburg. The BPE expects wagon sequence messages only for trains with destination station in the port of Hamburg. Modifications are accepted until arrival of the train. Each wagon sequence message received results in the forwarding of train and wagon data to the quay operators concerned.

Arrival of the train is noticed by the HPA operations control system and is reported to the RTC and to the quay operators by status messages.

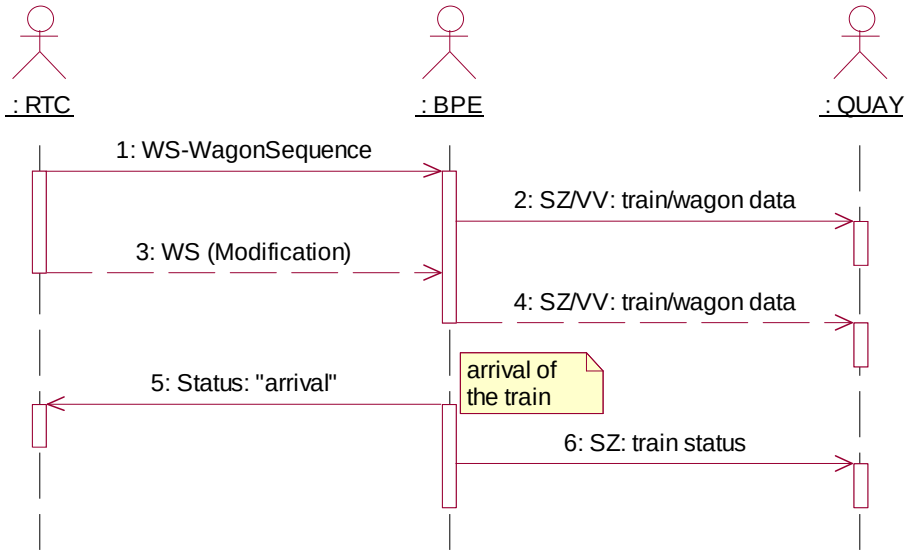


*Figure 6 - message scenario incoming train*

### 2.4.3 Wagon Status

The status for a wagon in context of customs handling is reported to the RTC by the HPA operations control system. It indicates if the movement of a wagon is restricted by customs or if the wagon can be moved. These status messages will be sent after arrival of an incoming train, and for an outgoing train when it has been reported to the customs system HZO.

# 3 Technical Specifications

## 3.1 Data Transfer

The data interchange is performed transferring files using for example FTP. Organisations intending to use the TD04-interface have to contact the HPA for registration. Technical details of the connection will then be negotiated on an individual basis.

## 3.2 Syntax

The exchange of information is done via messages in XML format. The messages are described in schema definitions (XSD), which are delivered with this document and form an integral part of the interface specification. Syntax checking of incoming messages is done against the XSDs with an appropriate tool.

## 3.3 File Structure

A data exchange file (called "document" in the schema definitions) consists of a part characterising the file properties (called <Metainfo>) and a number of messages. Only messages of the same type and technical version can be bundled in one file. The number of messages in a file is limited only by physical restrictions of the communication system, i.e. by the maximum file size that can be transferred.

In the < Metainfo> the basic information of the data exchange file is specified:

- First of all the file has a unique exchange number for identification. Each sender is responsible for creating the exchange numbers in his own system for the files he sends. The number of messages (<Count>) is not used in TD04 communication.

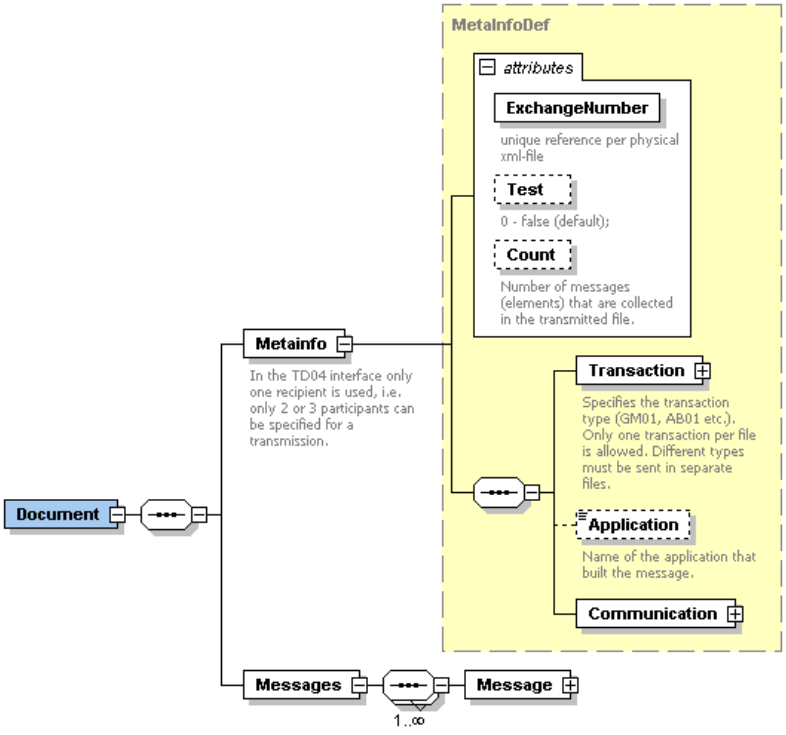


*Figure 7 - Structure of a data exchange file*

- In the "transaction" part the type of messages in the file, the message version and also the transaction are specified (the same type of message may be used in different contexts, even the application can be specified). The <Transaction>-attribute Code for this interface is "TD04", <Provider> is "HPA" and the <Application> is "BPE". For the <Transaction>-attribute Type the following values are used: "TO" for the message Transport Order, "WS" for Wagon Sequence, "TD" for Track Detail, "LP" for Loading Plan, "ST" for Status Information, "RE" for Response, "CI" for Customs Information.

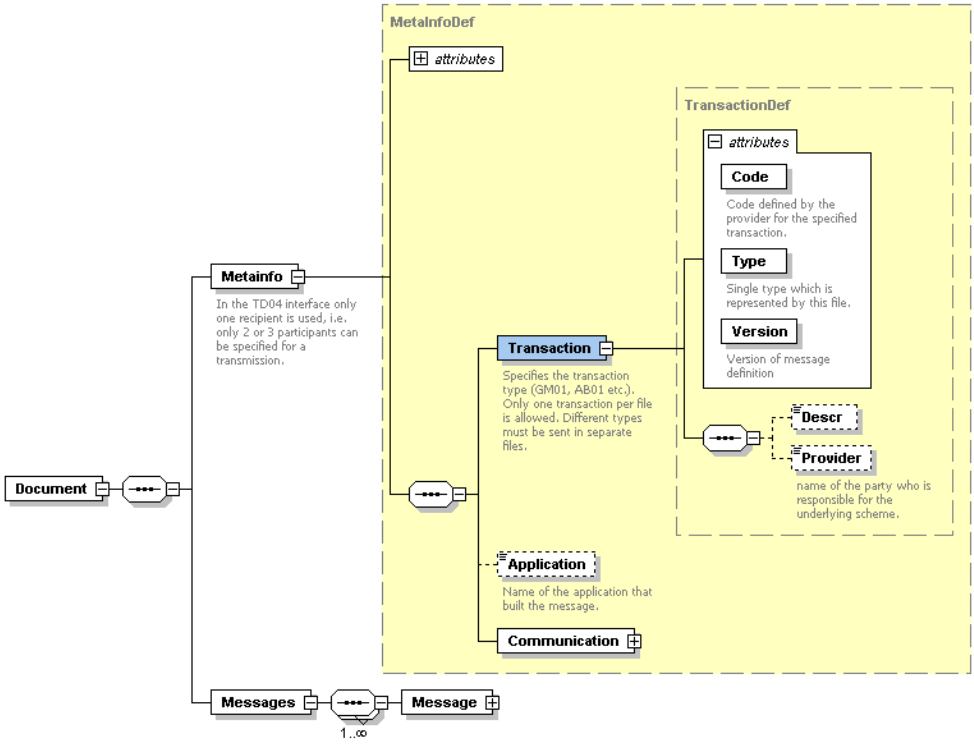


*Figure 8 - description of content of a data exchange file*

- The participants are specified in the <Communication> part (cf. chapter 3.4 for a detailed description), and a timestamp (<CreationTime>) is provided as an additional characteristic of the exchange file.

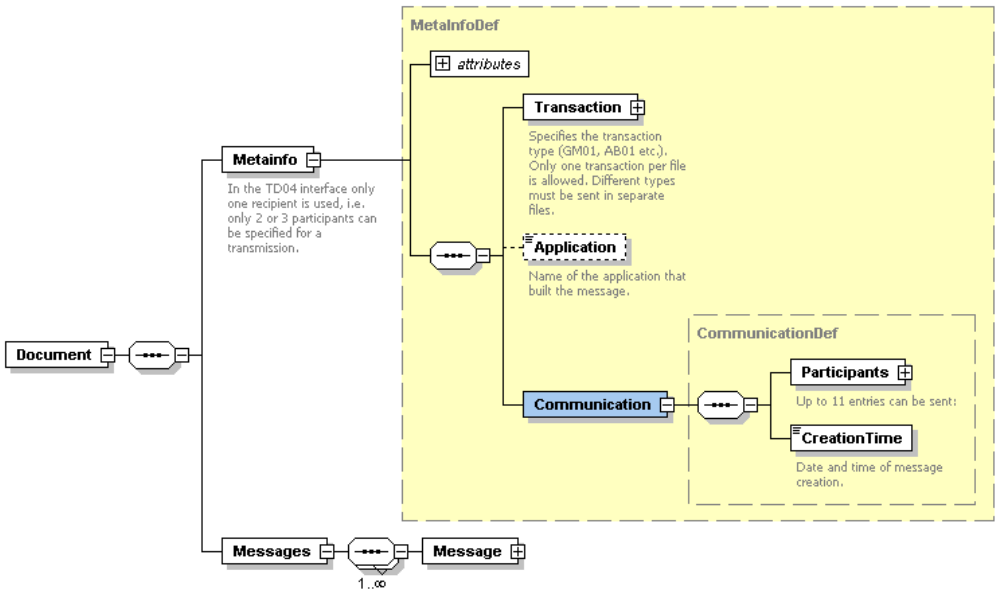


*Figure 9 - communication partners*

In the following figures the response message is shown as an example, but attributes and the <MessageMetaInfo> and <BusinessDocumentDetail> parts are identical for all messages.

The optional message attribute "Status" is not used within TD04. In the attribute "ReferenceNumber" a unique message reference number has to be provided as identification of the message itself. The sender is responsible to administer the message reference numbers in his own system in order to be able to match the response messages which he gets back. The response messages always refer to the message reference numbers of the original messages to which they reply. Further references are described in section 3.7. The body of a message may start with a <MessageMetaInfo> header in which a contact person can be named.

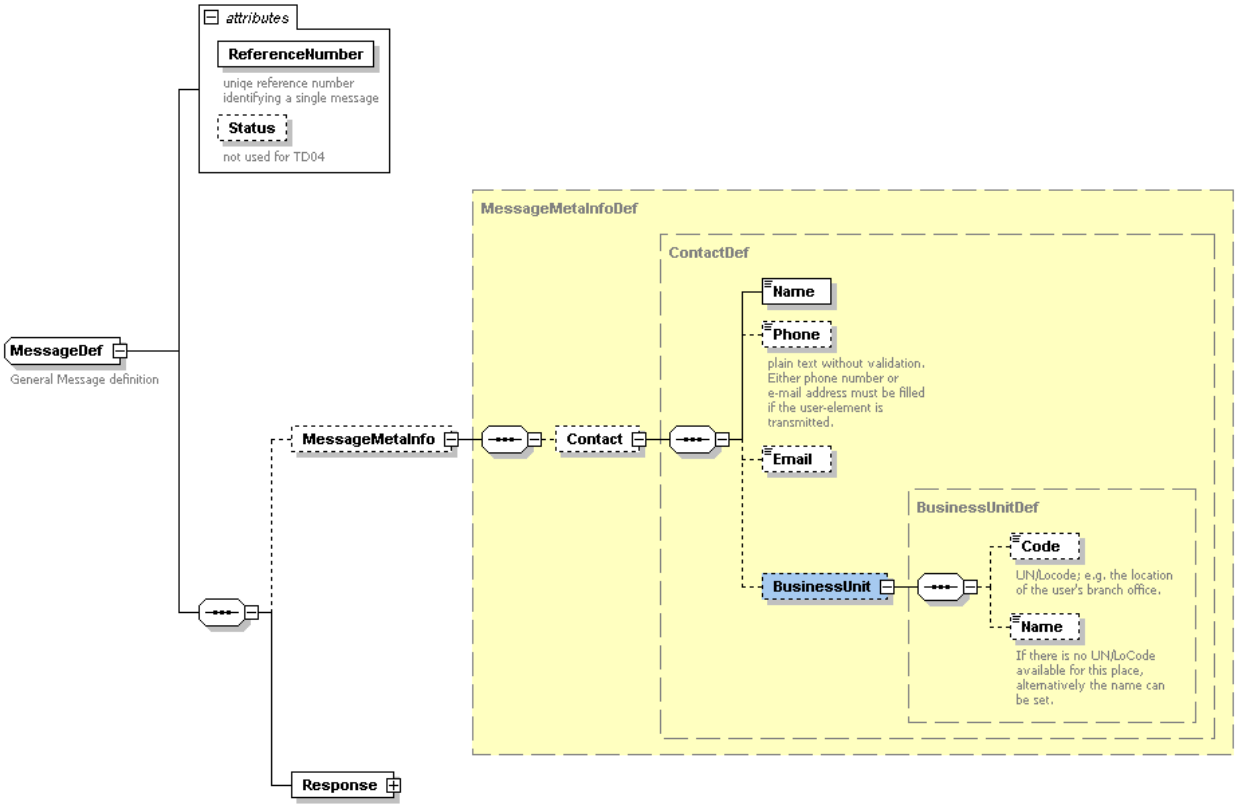


*Figure 10 - message metainfo structure*

Each message contains a <BusinessDocumentDetail> as the first element. In this part a <MessageSignificance> can be specified for certain messages. It is not used in the response and status messages. In a transport order for outbound traffic the significance is not used in the message sent from the RTC, but the BPE sends the transport order containing loading data with significance "LD". In a wagon sequence for inbound trains it has to be specified whether it is sent at the end of train formation or at departure. For outbound trains, a wagon sequence with significance "PL" can be sent by the RTC as a requirement for the train formation.

A message represents always a complete object (i.e. transport order) - partial updates (e.g. only of the shipping unit) cannot be specified separately in the TD04-messages. Such updates have to be communicated as an update of the whole object (i.e. the whole transport order).

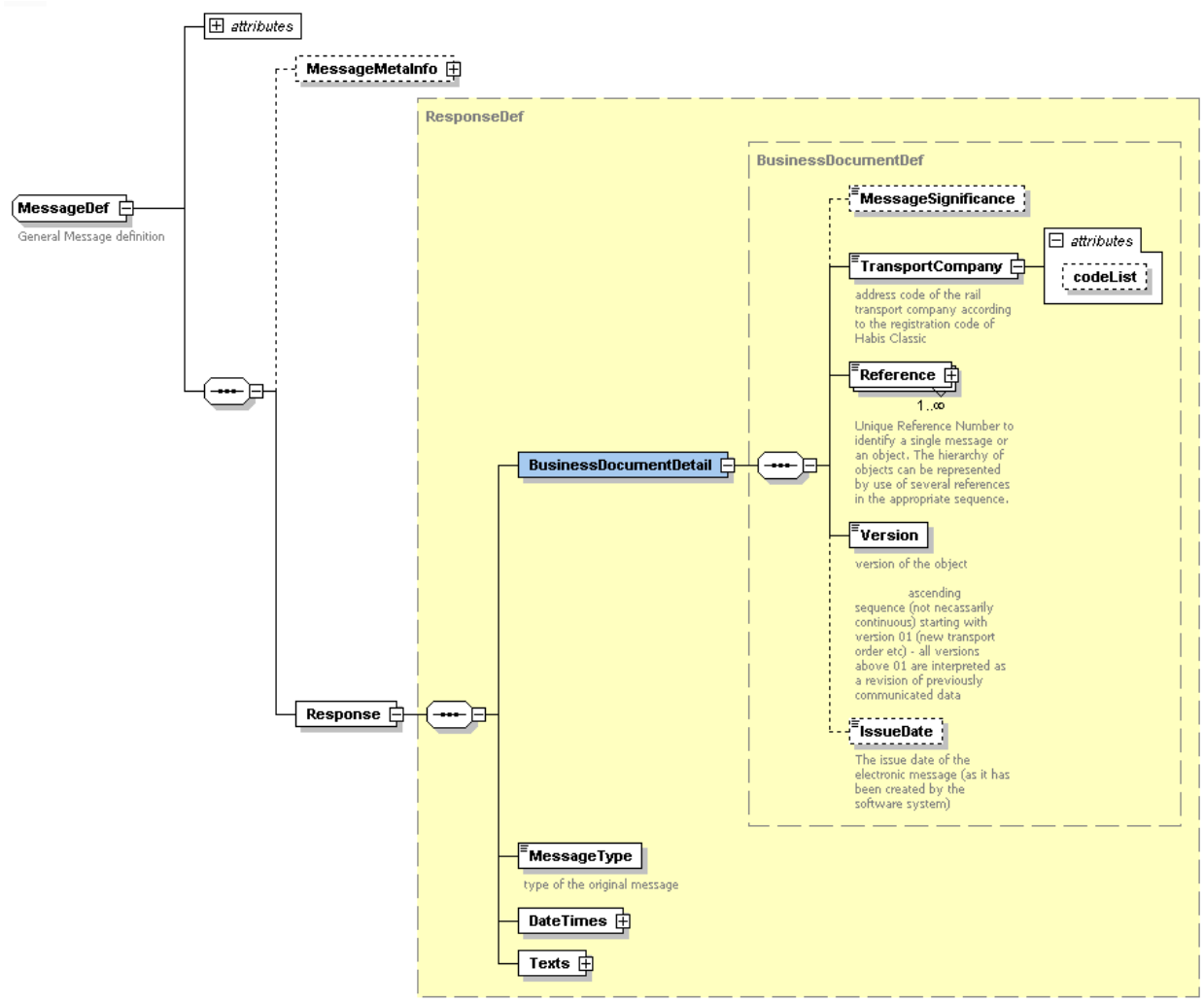


*Figure 11 - business document details*

## 3.4 Addressing

Addressing of a data exchange file is specified in the <Communication> part of the file. It is designed with the capability in mind to send messages to several receivers at the same time, but that feature is not used in the TD04-interface. For TD04 only three participants are specified.

A sender and a recipient are mandatory. The <TransportCompany> (see Figure 11) in the <BusinessDocumentDetail> represents the organisation which is responsible for the business content of the messages sent to HPA. It is the "SENDER" in messages sent to HPA, and the "RECEIVER" in messages from HPA. The <Participant> with attribute Role = "EDI_PROVIDER" is the sender of the file in a technical sense, i.e. the one who sends the file and who will receive the response messages. This is a provider to whom the RTC may delegate the communication task. The Role = "EDI_PROVIDER" is optional in the TD04-interface. If it is left blank the communication partner is the "SENDER" / "RECEIVER".

The participants are identified by their codes which have to be agreed between the communication partners. The "Alias" attribute allows the use of different code lists. Since the communication for the TD04-interface is technically handled using the DAKOSY EDI-system, the "Alias" used is "DAK".

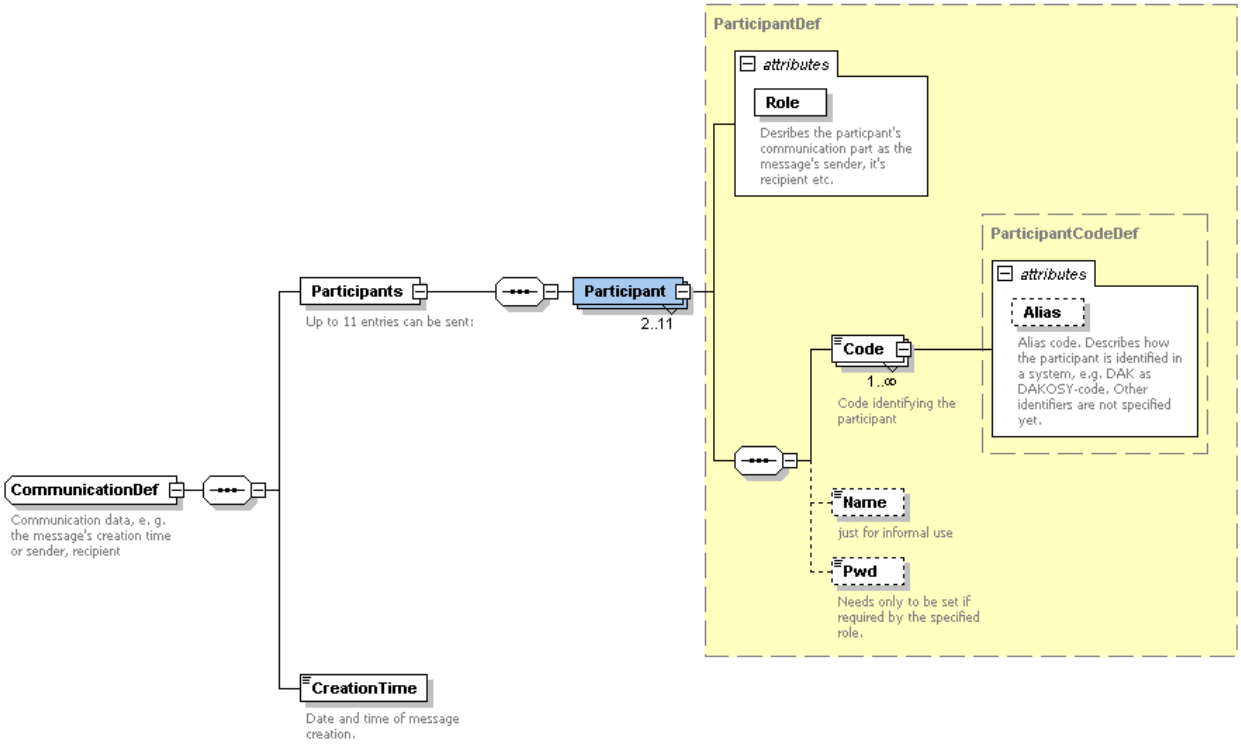


*Figure 12 - participants of a communication*

## 3.5 Message Versions

With further development of the system or the interface it may be necessary to modify existing or define new messages. In order to allow different communication partners of HABIS to operate either with the latest version or still with an older one, it is necessary to distinguish the definitions of a message by a version identifier. In HABIS it can be configured whom to send which message in which version.

The BPE manages the message versions in the same way. However, implementation in the BPE starts for all messages with the actual version, i.e. the BPE will not work with the Response in version 01, not with TransportOrder in version 01 or 02 and not with WagonSequence in versions 01 to 03.

The message version is specified in the <Metainfo>/<Transaction> part of an exchange file, see chapter 3.3. In the TD04-interface a two-byte number is used for the version, starting with "01".

## 3.6 Use of Envelope and Message Header

In the preceding chapters some details of the transmission header (called <Metainfo>) and the message header were described. The <Metainfo> serves as an envelope for a transmission, and is contained with its related definitions in the schema file "MessageEnvelope.xsd". The same file contains also the message header definitions. Since these headers are commonly used definitions serving for different interfaces, the following table is a summary of how the elements are used for the TD04-interface.

| element | use in TD04 |
|---|---|
| <Metainfo>, attribute "ExchangeNumber" | mandatory, unique number for the transmission |
| <Metainfo>, attribute "Test" | optional, default is '0', '1' means 'test' |
| <Metainfo>, attribute "Count" | not used |
| <Metainfo><Transaction>, attribute "Code" | constant: TD04 |
| <Metainfo><Transaction>, attribute "Type" | mandatory: message type (values: "TO", "ST", "RE", "CI", "WS", "TD", "LP") |
| <Metainfo><Transaction>, attribute "Version" | mandatory: version of message definition |
| <Metainfo><Transaction><Descr> | not used |
| <Metainfo><Transaction><Provider> | constant: HPA |
| <Metainfo><Application> | constant: BPE |
| <Metainfo><Communication><Participants><Participant> | Mandatory are two entries, one with Role = "SENDER", one with Role = "RECIPIENT". Only one recipient can be specified. Optional is a third entry with Role = "EDI_PROVIDER". |
| <Metainfo><Communication><Participants><Participant><Code> | mandatory, only one code per participant is used with Alias="DAK" |
| <Metainfo><Communication><Participants><Participant><Code>, attribute "Alias" | constant: DAK |
| <Metainfo><Communication><Participants><Participant><Name> | optional |
| <Metainfo><Communication><Participants><Participant><Pwd> | not used |
| <Metainfo><Communication><CreationTime> | mandatory |
| <Messages><Message>, attribute "ReferenceNumber" | mandatory, unique number for the message |
| <Messages><Message>, attribute "Status" | not used |
| <Messages><Message><MessageMetaInfo> | the complete section is optional |
| <Messages><Message><MessageMetaInfo><Contact> | if contact information is given, the <Name> is mandatory, and either <Phone> or <Email> has to be specified |
| <BusinessDocumentDetail><MessageSignificance> | Only used with message types "TO" and "WS".<br>Outbound traffic:<br>"LD" = loading data<br>Wagon sequence:<br>"TF" = end of train formation<br>"DP" = departure<br>"PL" = planned (target sequence) |

*table 2 - use of header elements*

## 3.7 Data Objects and Referencing

Technical keys used in the communication are the exchange number and the message reference number to identify a file transmitted or a single message (cf. chapter 3.3). The message reference number is used in the response message (cf. chapter 3.10), the exchange number is helpful to identify the file and analyse communication problems.

Each partner participating in the communication may have its own key data elements (like order numbers, container numbers, customer numbers etc.) which are specified in the data transferred. The main objects in the TD04-interface are transport orders and trains (wagon sequences), both having subsidiary objects. Track diagrams also specify (planned) sequences of wagons on a track, and a loading plan for a transport order specifies which shipping units shall be put on the wagons.

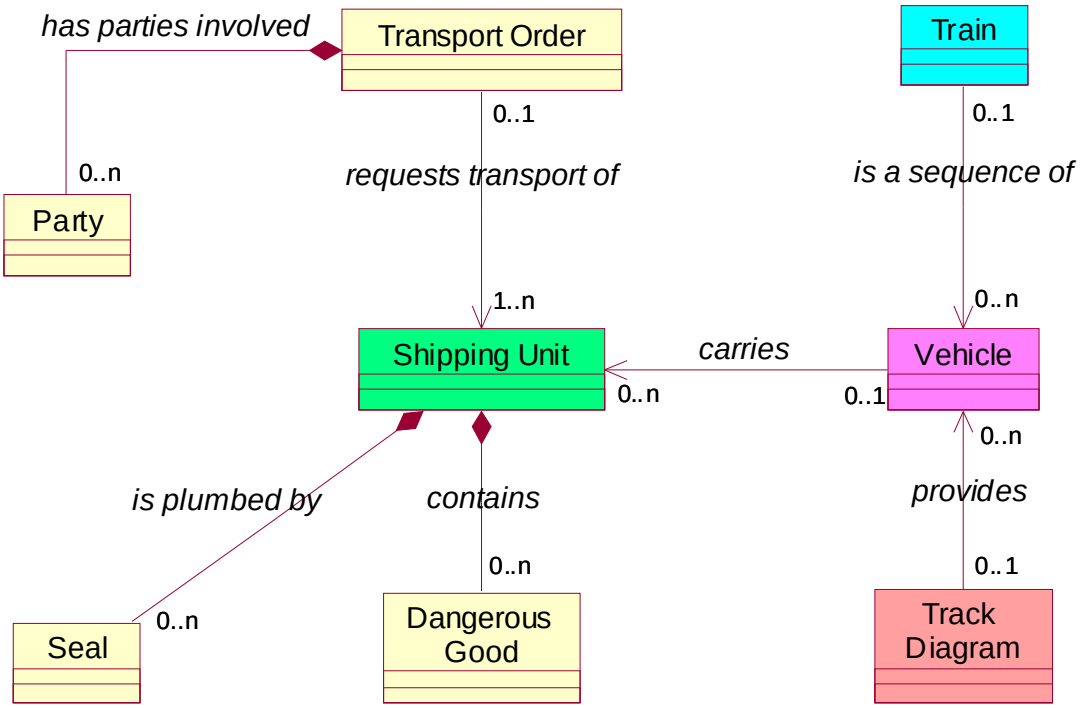


*Figure 13 - objects of communication*

A transport order is a request for the rail transportation of shipping units (containers, swap trailers, etc.). In a transport order some address data of the organisations involved may be communicated. At least the ordering party and the quay operator have to be specified as mandatory data elements. The transport order may also specify for each shipping unit seal numbers, supplements and dangerous goods information.

A train is a sequence of vehicles (wagons and locomotives) which may carry shipping units (or may be empty). The unique key of a train sequence in the HPA systems is the combination of train number and day of service. This is specified in <BusinessDocumentDetail> of the wagon sequence message with <Reference type= WSEQNR>. This reference must be specified as concatenation of 6 bytes (train number) and 10 bytes (date), e.g. "1234562011-03-09".

A track diagram gives the basis for disposition of container loading. It specifies for a track the vehicles which will be located there at a certain time ready for loading. The unique key of a track detail in the HPA systems is the combination of track location and date plus hour. When sending a track diagram message the BPE will generate a unique reference with type = TRACKD in <BusinessDocumentDetail>. A loading plan refers a transport order and is expected with <Reference type="CTOREF">.

For a transport order the BPE expects an order number which is unique within the RTC's system. This order number is specified in the <Reference> of the <BusinessDocumentDetail> in the transport order message with attribute type=CTOREF. The BPE treats the concatenation of transport company code and order number as the primary key of the sending application, and assigns its own key when creating a new order. This second key is still the key of HABIS Classic. It is necessary because it is the primary key in the TD01-communication with the quay operators.

The HABIS key for a transport order consists of the area code for the port goods station ("WHO" = Waltershof, "HHO" = Hafen Ost), the quay operator's code, and a 5-byte HABIS order number. This key is returned in the response message when a new order has been received and created (reference with type=TONR, cf. chapter 3.10). However, the original key will be used as identification in all subsequent messages concerning the transport order.

Shipping units, dangerous goods information and seal numbers of an order are expected to be identified by sequential numbers, which are stored and also used as identifiers by the BPE for outgoing messages. The shipping units will not be deleted physically. If a unit does not appear in an order message which represents a change (i.e. with a higher version) it will be marked as "cancelled", and its sequence number is still reserved.

## 3.8 Character Sets

ISO 8859-15 and UTF-8 may be used.

## 3.9 Date/Time Interpretation

The syntactical format of date and time information is according to the ISO 8601 standard. However, only the pure date and time format is used without any additional specifications (like "Z" for UTC, or "+1h"). The information is interpreted as the Hamburg local time, which is CET, i.e.UTC + 1h or UTC + 2h for summer time.

## 3.10 Response Message

The response message is used to confirm that a message (transport order, customs information, wagon sequence, track diagram, loading plan or deletion request) has been received. The original message to which the response replies is identified by its message reference number in the <BusinessDocumentDetail>/<Reference> element with attribute type = "ORIGMS" (see chapter 4.1 and the XSD for a detailed description of the data elements).

A positive response message states that the message received is accepted, i.e. the data received is stored and will be processed. This is communicated with <GeneralResponseCode> = "O" (o.k.) or = "W" (warning), and <Code> = "00000" in the first text element. The primary key of the object received (and optionally also the version) is in this case specified in another <Reference> element with an appropriate type attribute (e.g. the transport order number is given back with type = "CTOREF").

A negative response message is sent with <GeneralResponseCode> = "E" (error) if the message received can not be processed. Error codes and explanations are given in the following text elements.

The <GeneralResponseCode> does not exist for version 01 of the response message. With version 01 only the <Code> of the first text element can be used to derive if the original message was accepted.

## 3.11 Status Message

The Status message is used to inform a communication partner of the processing condition of a specified object (e.g. an order, a shipping unit, a train, a wagon) which has been exchanged before by use of the Transport Order message or the Wagon Sequence message. The information can have one of the following meanings and needs a different structure for each of these:

- a status information, to indicate that a certain event has occurred which is important for the process,
- an error message or rejection of a request, to indicate that the next step of the process can not be done as expected (normally this needs reaction from the partner addressed),
- a deletion request, which has to be answered by another Status message saying that the deletion is done or is not possible.

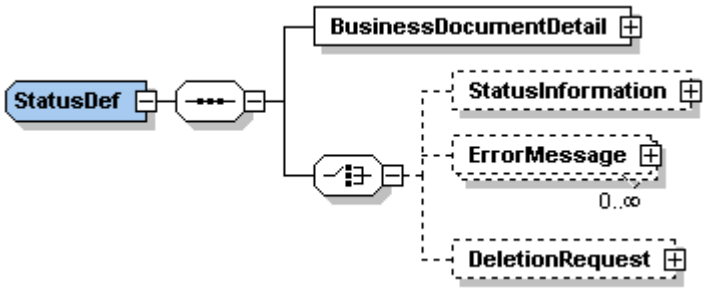


*Figure 14 - types of Status messages*

The references have the same structure as in the response message, but some more reference types appear in the status message to be able to specify different data objects to which the status information applies.

### 3.11.1 Status Information

The message StatusInformation communicates structured and coded information describing that certain steps in the process have been attained. A status normally represents explicitly defined points reached (like milestones, e.g. that clearance from customs is given), and therefore the status codes have to be well-known among the communication partners. Status values in the TD04-interface will be given for transport orders and in some cases also for single units of an order or for wagons.

Different status values can be used for the same object to express several distinct aspects of the progress of work or to give additional information. A typical example is a container which is already scheduled for delivery and customs requests inspection. This involves information from different organisations and consequently an object can have several status values at the same time that are equally valid.

The StatusInformation is also used to transfer certain key references for an object such as the HA-Number and other values. These key values may be communicated together with status values, but may also be sent on their own without any status information.

### 3.11.2 Error Message

An error message is sent to inform a partner that further processing for the specified object is not possible. The error message can be sent automatically by the IT-system or manually by a person working on the object. There may be several error specifications combined in one message.

The error message has a different origin than a negative response message. It states that an already received message (answered with a positive response) did not pass an automatic or manual validation. In the case of a Status message specifying an error the object (e.g. a transport order) has been received and is stored, but some incident prevents the standard processing.

The trigger for an error message can be either automatically determined by a program (e.g. for an order accepted there may be some data missing which is needed for further processing) or manually by a person (e.g. quay operator cannot do the loading as requested because of a missing unit).

Normally, the partner to whom the error message is sent has to analyse the problem and react accordingly. This can be done by either sending modified data or a deletion request.

### 3.11.3 Deletion Request

A deletion request has to specify the object to be deleted. Additional information regarding the content of the object is not needed. The object is identified by its type (transport order, wagon sequence) and by the key value.

Utilizing the TD04-Interface a deletion request can only be made for a complete transport order or wagon sequence. Removal of a single component like a shipping unit or a seal number is done by communicating an appropriately modified transport order.

# 4 Message Descriptions

In the following descriptions only the message structure is shown. Use of the schema definitions (XSD) is recommended for a detailed description of the messages. In this chapter specific validation rules are described which cannot be derived from the XSD's, and example messages are given.

## 4.1 Response

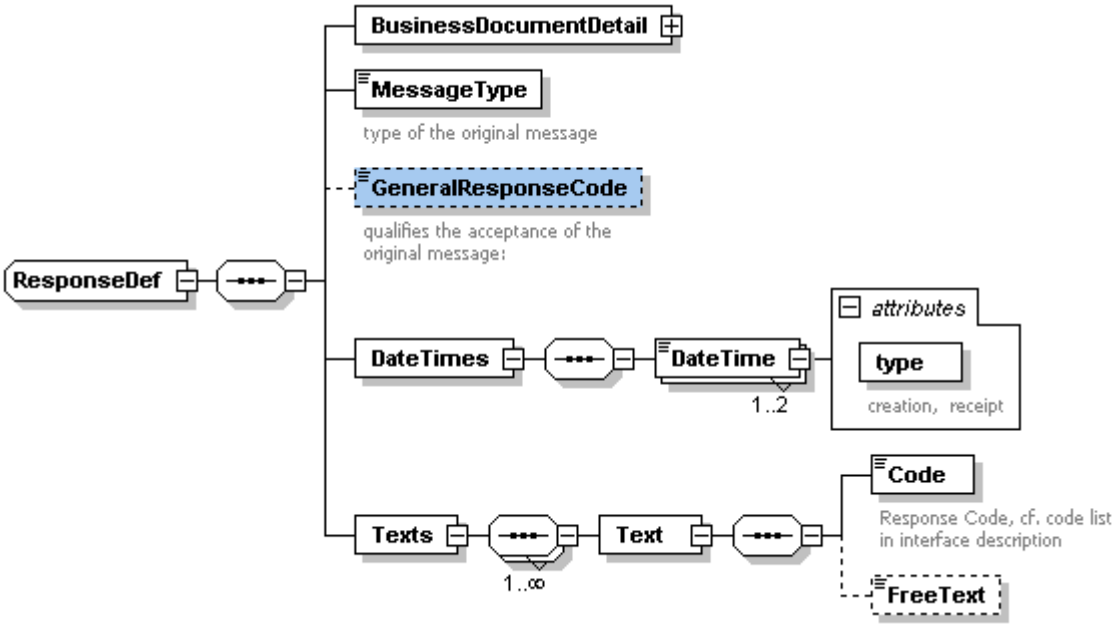


*Figure 15 - structure of the response message*

### 4.1.1 Validation Rules

**General**

There is no response to a response message, i.e. if a response message cannot be accepted by the BPE (e.g. due to errors in the message or due to unknown references) it will be ignored.

**ResponseDef / BusinessDocumentDetail / Reference**

In the response message up to two occurrences of <Reference> appear. The message reference of the response itself is specified in the attribute "ReferenceNumber" of element <Message>. The response message is an acknowledgment that a message was received, and therefore always contains the reference number of that message (<Reference type=ORIGMS>). If the message received is a transport order or a loading plan, the original order number is marked with type=CTOREF as second reference. If it was a wagon sequence, the original key is marked with type = WSEQNR. A response message for a track diagram is expected to contain the original reference with type=TRACKD.

**ResponseDef / GeneralResponseCode**

Correct values are "E", "O" or "W".

**ResponseDef / DateTimes / DateTime**

The BPE uses only one occurrence with type "receipt" to confirm the message receipt.

**ResponseDef / Texts / Text / Code**

If the response message states that the message received is accepted, the first text entry is contained with Code = "00000", but subsequent entries may follow with warnings. If it is not accepted the first text entry has a Code > "90000", and subsequent entries may follow specifying the reasons for non-acceptance (cf. code list in attachment 5.2).

### 4.1.2 Example

The following XML document is an example containing three response messages. The first contains an acknowledgement of a transport order. The second message is a negative answer because of a schema violation. The third message is an acknowledgement but contains a warning.

```
<?xml version="1.0" encoding="ISO-8859-15"?>
<Document xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation=
"Response.xsd">
    <Metainfo ExchangeNumber="032074085" Test="0">
        <Transaction Code="TD04" Type="RE" Version="02">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">DEMO</Code>
                    <Name>Demo-Absender</Name>
                </Participant>
            </Participants>
            <CreationTime>2011-03-08T09:46:47</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="Resp_TO_110308_001">
            <Response>
                <BusinessDocumentDetail>
                    <TransportCompany codeList="BPE">EVCD</TransportCompany>
                    <Reference type="ORIGMS">Test_TO_110308_1</Reference>
                    <Reference type="CTOREF">XYZ-8309744346</Reference>
                    <Version>01</Version>
                    <IssueDate>2011-03-08</IssueDate>
                </BusinessDocumentDetail>
                <MessageType>TO</MessageType>
                <GeneralResponseCode>O</GeneralResponseCode>
                <DateTimes>
                    <DateTime type="receipt">2011-03-08T09:45:16</DateTime>
                </DateTimes>
                <Texts>
                    <Text>
                        <Code>00000</Code>
                        <FreeText>Nachricht korrekt verarbeitet</FreeText>
                    </Text>
                </Texts>
            </Response>
        </Message>
        <Message ReferenceNumber="Resp_TO_110308_002">
            <Response>
```

```
                    <BusinessDocumentDetail>
                        <TransportCompany codeList="BPE">EVCD</TransportCompany>
                        <Reference type="ORIGMS">Test_TO_110308_2</Reference>
                        <Version>01</Version>
                        <IssueDate>2011-03-08</IssueDate>
                    </BusinessDocumentDetail>
                    <MessageType>TO</MessageType>
                    <GeneralResponseCode>E</GeneralResponseCode>
                    <DateTimes>
                        <DateTime type="receipt">2011-03-08T09:45:05</DateTime>
                    </DateTimes>
                    <Texts>
                        <Text>
                            <Code>99800</Code>
                            <FreeText>[Error:ID=3069;LEVEL=3] SegmentDescription:
checkAndResetChildrenCounter() not enough repetitions of the segment DocumentDate found: 0 instead of 1
offset :4272</FreeText>
                        </Text>
                    </Texts>
                </Response>
            </Message>
            <Message ReferenceNumber="Resp_TO_110308_003">
                <Response>
                    <BusinessDocumentDetail>
                        <TransportCompany codeList="BPE">EVCD</TransportCompany>
                        <Reference type="ORIGMS">Test_TO_110308_3</Reference>
                        <Reference type="CTOREF">XYZ-830311412A</Reference>
                        <Version>01</Version>
                        <IssueDate>2011-03-08</IssueDate>
                    </BusinessDocumentDetail>
                    <MessageType>TO</MessageType>
                    <GeneralResponseCode>W</GeneralResponseCode>
                    <DateTimes>
                        <DateTime type="receipt">2011-03-08T09:45:44</DateTime>
                    </DateTimes>
                    <Texts>
                        <Text>
                            <Code>00000</Code>
                            <FreeText>Nachricht korrekt verarbeitet</FreeText>
                        </Text>
                        <Text>
                            <Code>00158</Code>
                            <FreeText>Bitte pflegen Sie die Containerwerte</FreeText>
                        </Text>
                    </Texts>
                </Response>
            </Message>
        </Messages>
</Document>
```

## 4.2 Status

**StatusDef / BusinessDocumentDetail / Reference / attribute "type"**

A reference with type="ORIGMS" cannot be used in the status message. The BPE uses type "CTOREF" for the identification of a transport order, type "WSEQNR" for the identification of a wagon sequence. For track diagrams no status information will be exchanged.

### 4.2.1 Status Information

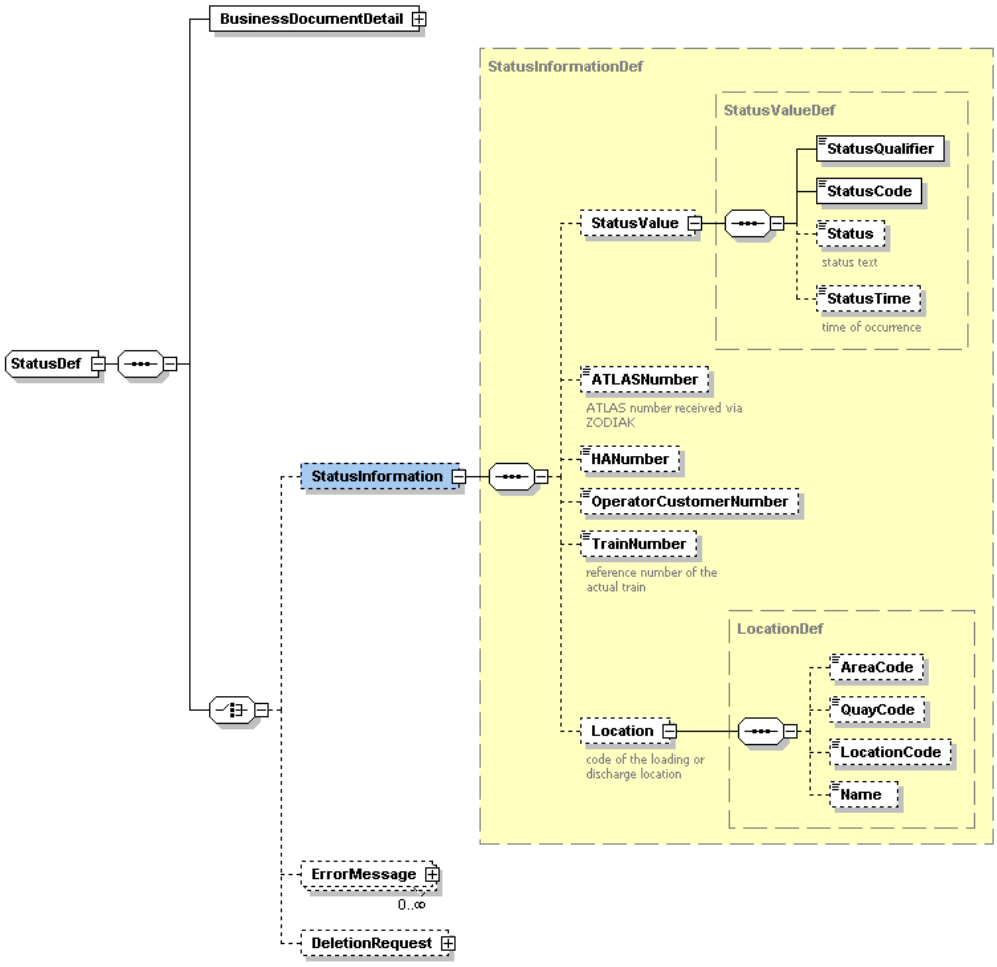


*Figure 16 - structure of a status information*

#### 4.2.1.1 Validation Rules

**StatusDef / BusinessDocumentDetail / Reference**

Objects which are part of a transport order or a wagon sequence can be specified using a sequence of references in the correct hierarchical order (cf. Figure 13 for the dependency of objects). Correct sequences are for example

<Reference type="CTOREF">xxxxxxxx</Reference>
<Reference type="UNITNR">nnn</Reference>

<Reference type="WSEQNR">xxxxxxxx</Reference>
<Reference type="WAGNR">nnn</Reference>

There is no method to communicate status information on business parties, dangerous goods information or seal numbers of a transport order.

**StatusDef / StatusInformation / StatusValue / StatusQualifier**

The BPE sends out status information for transport orders and for shipping units of a transport order. These qualifiers are used for order data:

A order status (outbound traffic)

B order status (inbound traffic)
D unit status (outbound traffic)
E unit status (inbound traffic)

For wagon sequences HABIS uses only these status qualifiers:

T train status (inbound and outbound traffic)
W wagon status (inbound and outbound traffic)

Other sorts of status information may be used by the communicating systems in both directions. This is left for future enhancements or individual arrangements.

**StatusDef / StatusInformation / StatusValue / StatusCode**

A code list is provided in attachment 5.3. Not all status values listed will be sent actively via a status message from the BPE. This is especially true for several of the unit status values because it is more reasonable to send a status for the whole transport order. In case of a completed loading for outbound wagon load traffic the value "loaded" is not sent via status message for every single wagon. An order status "loaded" is sent and the transport order as a complete loading report because the data appended or modified by the loading station has to be reported to the RTC.

#### 4.2.1.2 Example

```
?xml version="1.0" encoding="ISO-8859-15"?>
<Document xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
xsi:noNamespaceSchemaLocation="StatusInformation.xsd">
    <Metainfo ExchangeNumber="008474284" Test="0">
        <Transaction Code="TD04" Type="ST" Version="01">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">DEMO</Code>
                    <Name>Demo-EVU</Name>
                </Participant>
            </Participants>
            <CreationTime>2006-09-18T10:11:12</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="STSt-060918-003T">
            <Status>
                <BusinessDocumentDetail>
                    <TransportCompany codeList="HABIS">EVCD</TransportCompany>
                    <Reference type="CTOREF">TO-060918-01</Reference>
                    <Version>01</Version>
                    <IssueDate>2006-11-13</IssueDate>
                </BusinessDocumentDetail>
                <StatusInformation>
                    <StatusValue>
                        <StatusQualifier>A</StatusQualifier>
                        <StatusCode>40000</StatusCode>
                        <Status>disposition complete</Status>
                    </StatusValue>
                </StatusInformation>
            </Status>
        </Message>
```

```
    </Messages>
</Document>
```

## 4.2.2 Error Message

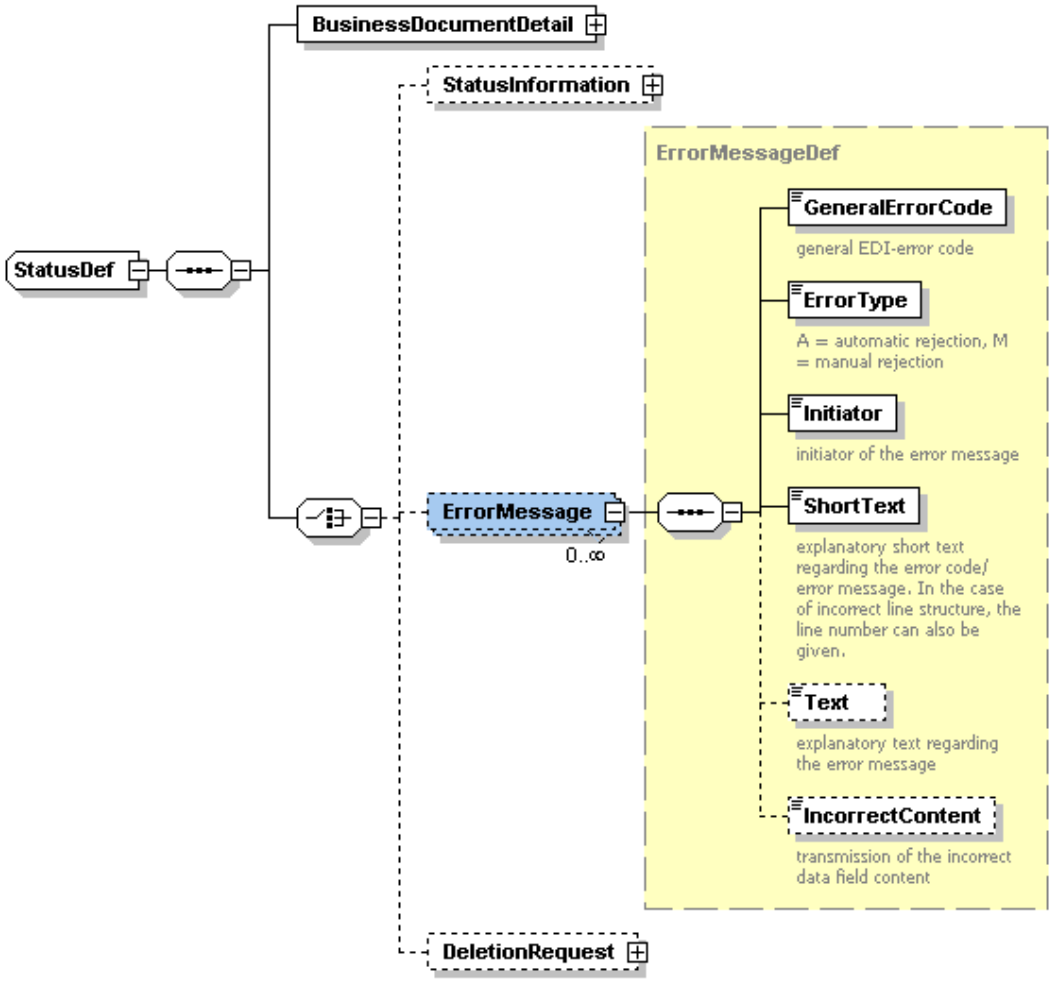


*Figure 17 - structure of an error message*

### 4.2.2.1 Validation Rules

**StatusDef / BusinessDocumentDetail / Reference**

Objects which are part of a transport order or a wagon sequence can be specified using a sequence of references in the correct hierarchical order (cf. Figure 13 for the dependency of objects). A correct sequence is for example

```
<Reference type="CTOREF">xxxxxxxx</Reference>
<Reference type="UNITNR">nnn</Reference>
<Reference type="SEALNR">nn</Reference>
```

**StatusDef / ErrorMessage / GeneralErrorCode**

*Error code list for automatic determination of errors and manual rejections will be published separately.*

**StatusDef / ErrorMessage / ErrorType**

In the TD04-interface the values "A" and "M" are used, for automatic or manual determination of the error.

#### 4.2.2.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
xsi:noNamespaceSchemaLocation="StatusInformation.xsd">
    <Metainfo ExchangeNumber="019285424" Test="0">
        <Transaction Code="TD04" Type="ST" Version="01">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">DEMO</Code>
                    <Name>Demo-Absender</Name>
                </Participant>
            </Participants>
            <CreationTime>2006-09-25T11:12:13Z</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="STErr-060925-002T">
            <Status>
                <BusinessDocumentDetail>
                    <TransportCompany codeList="HABIS">EVCD</TransportCompany>
                    <Reference type="CTOREF">TO-060918-01</Reference>
                    <Version>01</Version>
                    <IssueDate>2006-11-13</IssueDate>
                </BusinessDocumentDetail>
                <ErrorMessage>
                    <GeneralErrorCode>211</GeneralErrorCode>
                    <ErrorType>M</ErrorType>
                    <Initiator>HHLA - CTA</Initiator>
                    <ShortText>rejection from terminal</ShortText>
                    <Text>Message written by a terminal operator to explain the refusal of an order</Text>
                </ErrorMessage>
            </Status>
        </Message>
    </Messages>
</Document>
```

### 4.2.3 Deletion Request

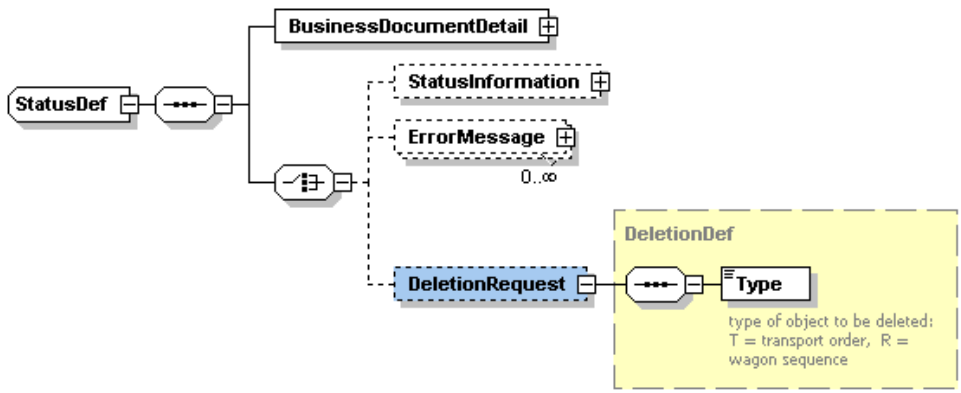


*Figure 18 - structure of a deletion request*

#### 4.2.3.1 Example

The following message is an example of a deletion request for a transport order:

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="StatusInformation.xsd">
    <Metainfo ExchangeNumber="032174285" Test="0">
        <Transaction Code="TD04" Type="ST" Version="01">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">DEMO</Code>
                    <Name>Demo-Absender</Name>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
            </Participants>
            <CreationTime>2010-09-08T10:11:06+02:00</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="ST-2010-09-08-001T">
            <MessageMetaInfo>
                <Contact>
                    <Name>A.Absender</Name>
                    <Phone>040 37003 0</Phone>
                    <Email>absender@test-firma.de</Email>
                    <BusinessUnit>
                        <Code>DEHAM</Code>
                        <Name>Hamburg</Name>
                    </BusinessUnit>
                </Contact>
            </MessageMetaInfo>
            <Status>
                <BusinessDocumentDetail>
                    <TransportCompany codeList="HABIS">EVCD</TransportCompany>
                    <Reference type="CTOREF">TO-100911-01</Reference>
                    <Version>01</Version>
                    <IssueDate>2010-09-08</IssueDate>
                </BusinessDocumentDetail>
                <DeletionRequest>
                    <Type>T</Type>
                </DeletionRequest>
            </Status>
        </Message>
    </Messages>
</Document>
```

## 4.3 Transport Order

Only one message definition is needed for the transport order, regardless of mode or direction of the transport. Utilizing the same message structure, only minor differences in validation have to be considered. The xml-tag <Direction> defines whether the order is for inbound or outbound traffic. The tag <TypeOfTransport> defines whether a transport order is for wagon load or container load.

It is recommended to use transport orders including only one shipping unit whenever it is possible. This recommendation is due to the fact that in case of an interruption of the process

for a single unit (e.g. an inspection by customs) the whole order is affected, i.e. all other units may also be paused.

### 4.3.1 Dangerous Goods

Dangerous goods which are on transport or on stock in the port of Hamburg have to be declared at the GEGIS system. If the declaration is made already, the reference number can be transmitted in the transport order for every shipping unit (<GEGISReferenceNumber>, see figure 20). As an alternative the data of the dangerous goods can be specified in the transport order (<DangerousGoods>). The BPE provides a service to use this data for an autaumated declaration at GEGIS.

### 4.3.2 General Validation Rules

Most validation rules are already specified in the schema definition - either directly as XSD-specification (length, enumeration, etc.) or in the documentation of the elements. Therefore, the following paragraphs describe only those rules which are beyond the specification in the XSD-file.

The order must contain at least one <ShippingUnit>.

When the <TypeOfTransport> is ‘K’ (wagon load) the <ShippingUnit> may contain only a <TransportWagon>-tag. For type ‘C’ (container load) the <ShippingUnit> may contain only a <TransportContainer>-tag.

The following element is mandatory when the <TypeOfTransport> is ‘K’, and must not be contained in the order when the <TypeOfTransport> is ‘C’:

> **TransportOrder / WagonLoadData** is an information element regarding the wagon load traffic. The <WagonLoadData> provides information common to all wagons of the transport order. Further validation rules are described in the following paragraphs.

All weights are transformed to kg in the BPE, except the <NetExplosiveValue> which is stored in gram.

#### 4.3.2.1 Order Level

The <TransportCompany> has to be registrated in the BPE as a RTC. The order number, i.e the <Reference> with type = "CTOREF", is mandatory for creation of an order and has to be unique per transport company.

All station codes have to be valid codes according to the BPE code list (see www.rail-port-direct.de -> Port of Hamburg -> Rail Stations) including the UIC code in the first two bytes.

The <Location> information is mandatory in <DispatchDetail> for outgoing traffic and in <DischargeDetail> for incoming traffic. It has to be coded according to the terminal code list (see www.rail-port-direct.de -> Port of Hamburg -> Terminals).

#### 4.3.2.2 Shipping Unit

The <HANumber> may only be given together with a customs procedure code according to the HZO code list. It has the following format:

bytes

| | |
|---|---|
| 1 - 3: | "HAE" (for inbound traffic) or "HAB" (for outbound traffic) |
| 4 - 5: | "25" or "28" according to the customs district for the dispatch / discharge location |
| 6 - 12: | 7 digits |
| 13 - 14: | 2 digits (month) |
| 15 - 16: | 2 digits (year) |
| 17 - 21: | "00000" |

A unit identifier (container number for container traffic, wagon number for wagon load traffic) is mandatory when a <HANumber> is specified.

A <CustomsProcedure> is mandatory for incoming transport, and for outgoing transport of type "C". Also mandatory for outgoing transport of type "C" is a <LoadingRequestCode>.

Several elements are validated against code lists published under www.rail-port-direct.de -> Port of Hamburg:

<PackageCode>
<CustomsProcedure>
<SecondaryPlacard>
<Commodity>
<ContainerDetail><Length>, <Heigth> and <Type>
<LoadingRequestCode>

The <WagonNumber> must be a correct number according to the modulo-10 method.

#### 4.3.2.3 Business Party

The transport order has different business parties involved. Every party has the same structure in the XSD-file, although not all elements are mandatory. Only the <Consignor> and the <Consignee> must be specified. Address data and contact information are not used in the BPE system.

The <CustomerNumber> and the <ReferenceNumber> can be used to give the customer the possibility to obtain information about his order in the Rail-Port-Direct application.

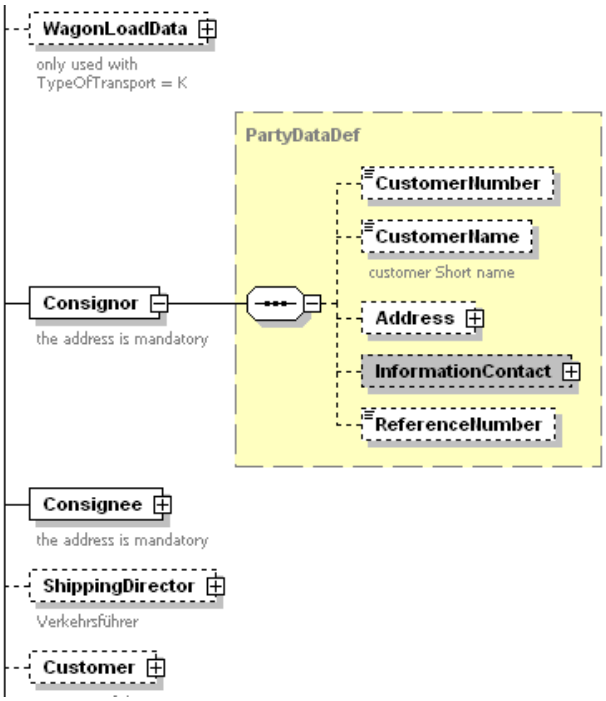


*Figure 19 - business parties used in the transport order*

## 4.3.3 Validation Rules for Inbound Traffic

#### 4.3.3.1 Order Level

The **DischargeDetail / Location** is mandatory (AreaCode, QuayCode, LocationCode).

#### 4.3.3.2 Shipping Unit

Mandatory for inbound transports are

**ShippingUnit / CustomsProcedure,**

**ShippingUnit / TrainDetail** (number and date),

**ShippingUnit / … / WagonNumber,**

**ShippingUnit / Weight** when the shipping unit is full,

for container traffic the **ShippingUnit / TransportContainer / ContainerNumber** when a HA-number is specified.

The **LoadingRequest** is not used for inbound traffic.

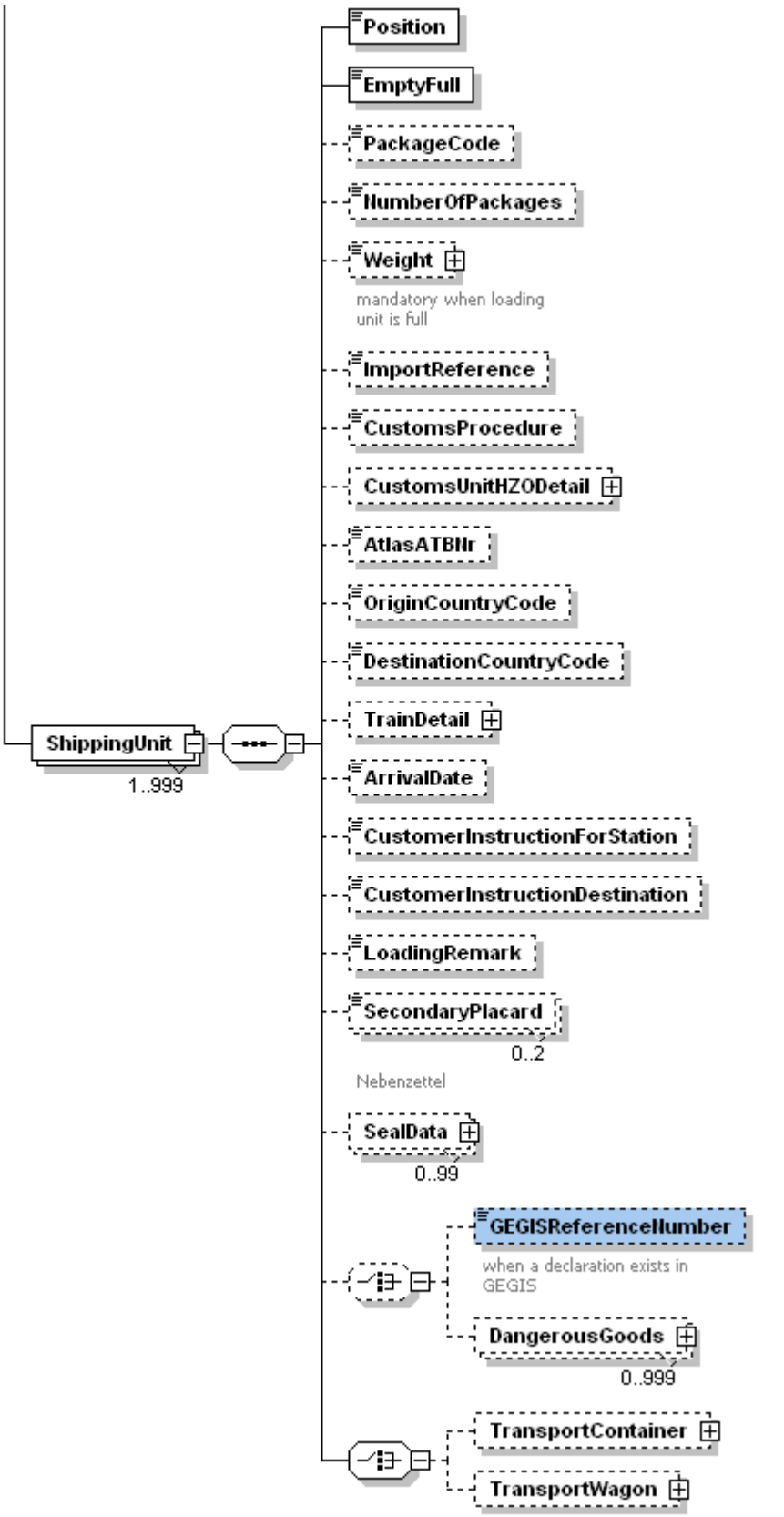


*Figure 20 - structure of the shipping unit*

#### 4.3.3.3 Example

The following example is a modification (<Version>03</Version>) of an order for container load.

```
?xml version="1.0" encoding="ISO-8859-1"?>
<Document xsi:noNamespaceSchemaLocation="TransportOrder.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <Metainfo ExchangeNumber="0705311333" Test="1">
        <Transaction Code="TD04" Type="TO" Version="03">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">SNDC</Code>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
            </Participants>
            <CreationTime>2010-10-31T10:33:47</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="EV393p86556">
            <TransportOrder>
                <BusinessDocumentDetail>
                    <TransportCompany codeList="HABIS">EVCD</TransportCompany>
                    <Reference type="CTOREF">Auftrag4711</Reference>
                    <Version>03</Version>
                    <IssueDate>2010-10-31</IssueDate>
                </BusinessDocumentDetail>
                <TypeOfTransport>C</TypeOfTransport>
                <Direction>I</Direction>
                <DispatchDetail>
                    <Date>2010-11-01</Date>
                    <RailStation>
                        <CountryCode>DE</CountryCode>
                        <Code>80202366</Code>
                    </RailStation>
                </DispatchDetail>
                <DischargeDetail>
                    <RailStation>
                        <CountryCode>DE</CountryCode>
                        <Code>80010884</Code>
                        <Name>Hamburg-Waltershof</Name>
                    </RailStation>
                    <Location>
                        <AreaCode>WHO</AreaCode>
                        <QuayCode>HHL</QuayCode>
                        <LocationCode>BK</LocationCode>
                    </Location>
                </DischargeDetail>
                <RailwayBillType>UIR</ RailwayBillType >
                <ScheduledTrain>
                    <Number>82443</Number>
                    <Date>2010-11-01</Date>
                </ScheduledTrain>
                <Consignor>
                    <CustomerName>Deutsche Röhren AG</CustomerName>
                    <Address>
                        <Name>Deutsche Röhren</Name>
                        <StreetAndNumber>Neuer Wall 15</StreetAndNumber>
                        <Place>Berlin></Place>
                        <PostCode>10781</PostCode>
                        <Country>DE</Country>
                    </Address>
                    <InformationContact>
                        <Name>Heinrich Lohse</Name>
                        <Email>lohse@deutsche-roehren.com</Email>
                    </InformationContact>
```

```
</Consignor>
<Consignee>
    <Address>
        <Name>Alfred Harrold Ltd</Name>
        <StreetAndNumber>Sandyland</StreetAndNumber>
        <Place>Wisbech</Place>
        <PostCode>PE13 1TF</PostCode>
        <Country>UK</Country>
    </Address>
</Consignee>
<ShippingDirector>
    <CustomerName>Verkehrsführer</CustomerName>
    <ReferenceNumber>VKF1111111111</ReferenceNumber>
</ShippingDirector>
<ShippingUnit>
    <Position>1</Position>
    <EmptyFull>F</EmptyFull>
    <PackageCode>C2</PackageCode>
    <NumberOfPackages>1</NumberOfPackages>
    <Weight unit="kg">18250</Weight>
    <CustomsProcedure>TN</CustomsProcedure>
    <CustomsUnitHZODetail>
        <HANumber>HAE28000345671010000000</ HANumber >
        <VubIndicator>N</ VubIndicator >
    </CustomsUnitHZODetail>
    <OriginCountryCode>DE</OriginCountryCode>
    <DestinationCountryCode>UK</DestinationCountryCode>
    <TrainDetail>
        <Number>82443</Number>
        <Date>2010-11-01</Date>
    </TrainDetail>
    <ArrivalDate>2010-11-01</ArrivalDate>
    <SecondaryPlacard>03</SecondaryPlacard>
    <SealData>
        <SequenceNumber>01</SequenceNumber>
        <Number>A123647FFtz4</Number>
        <TypeCode>2</TypeCode>
        <PlaceCode>2</PlaceCode>
    </SealData>
    <SealData>
        <SequenceNumber>02</SequenceNumber>
        <Number>D12364tz6tz4</Number>
        <TypeCode>2</TypeCode>
        <PlaceCode>3</PlaceCode>
    </SealData>
    <TransportContainer>
        <ContainerNumber>DAKU1234566</ContainerNumber>
        <WagonNumber>123459987457</WagonNumber>
        <ContainerLoadData>
            <Content>Röhren für Kaltwasser</Content>
            <Commodity>760820</Commodity>
        </ContainerLoadData>
        <OceanCarrierData>
            <Name>Reedername</Name>
            <BookingNumber>ReederBuchNr</BookingNumber>
        </OceanCarrierData>
        <ContainerDetail>
            <Length>20</Length>
            <Height>86</Height>
            <Type>DC</Type>
            <TareWeight unit="kg">1805</TareWeight>
        </ContainerDetail>
        <OceanVoyage>
            <Code>GBABD</Code>
            <Name>Destination Port</Name>
            <ShipName>Vessel Name</ShipName>
        </OceanVoyage>
        <TemperatureDetail>
```

```
                        <Refrigeration>N</Refrigeration>
                    </TemperatureDetail>
                </TransportContainer>
            </ShippingUnit>
        </TransportOrder>
    </Message>
</Messages>
</Document>
```

## 4.3.4 Validation Rules for Outbound Traffic, Container

### 4.3.4.1 Order Level

**RailwayBillType, DispatchDetail / Location** (AreaCode, QuayCode, LocationCode) and **DispatchDetail / Date** (i.e. the shipping date) are mandatory.

### 4.3.4.2 Shipping Unit

Mandatory for outbound container transport are

**ShippingUnit / Weight** if the shipping unit is full,

**ShippingUnit / CustomsProcedure**,

**ShippingUnit / TransportContainer / ContainerDetail / Length**, **Height, Type** and **TareWeigth**,

**ShippingUnit / TransportContainer / ContainerLoadData / Content** and **Commodity**,

**ShippingUnit / LoadingRequestCode**.

### 4.3.4.3 Information relevant for customs

Information relevant for customs cannot be modified when the order has already been transferred to the quay operator, i.e. when the order status (qualifier "A") is 20000 or greater. This restriction concerns the following data elements:

order data
- <DischargeDetail><RailStation>
- <KLVIndicator>
- <Consignor>

unit data
- <EmptyFull>
- <Weight>
- <CustomsProcedure>
- <OriginCountryCode>
- <DestinationCountryCode>
- <TransportContainer><ContainerNumber>
- <TransportContainer><ContainerLoadData><Content>
- <CustomsUnitHZODetail><HANumber>

Furthermore, it is not allowed to add a unit to the order.

#### 4.3.4.4 Re-booking after loading

If an order cannot go with the train for which it was planned it has to be possible to re-book the order even after complete loading of all units. Therefore, for an order having status "loaded" (50000) it is allowed to modify the following data elements:

<DispatchDetail><Date>
<DischargeDetail><Date> / <Hour> / <Location>
<TransitDetail> *(all elements)*
<ScheduledTrain> *(all elements)*
<ShippingUnit><TrainDetail> *(all elements)*

It is not allowed to add a unit to the order.

#### 4.3.4.5 Example

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Document xsi:noNamespaceSchemaLocation=" TransportOrder.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <Metainfo ExchangeNumber="0703201424" Test="1">
        <Transaction Code="TD04" Type="TO" Version="03">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">TD04</Code>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
            </Participants>
            <CreationTime>2007-03-20T14:24:47</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="Msg-TO-KV-Beispiel-01">
            <TransportOrder>
                <BusinessDocumentDetail>
                    <TransportCompany codeList="HABIS">TD04</TransportCompany>
                    <Reference type="CTOREF">TO-KV-Bsp-01</Reference>
                    <Version>01</Version>
                    <IssueDate>2007-03-20</IssueDate>
                </BusinessDocumentDetail>
                <TypeOfTransport>C</TypeOfTransport>
                <Direction>O</Direction>
                <DispatchDetail>
                    <Date>2007-03-21</Date>
                    <RailStation>
                        <CountryCode>DE</CountryCode>
                        <Code>80010884</Code>
                    </RailStation>
                    <Location>
                        <AreaCode>WHO</AreaCode>
                        <QuayCode>EUK</QuayCode>
                        <LocationCode>EKOM</LocationCode>
                    </Location>
                </DispatchDetail>
                <DischargeDetail>
                    <Condition>2</Condition>
                    <Date>2007-03-23</Date>
                    <Hour>19</Hour>
                    <RailStation>
```

```
                    <CountryCode>IR</CountryCode>
                    <Code>96011338</Code>
                </RailStation>
            </DischargeDetail>
            <RailwayBillType>CIM</RailwayBillType>
            <TransitDetail>
                <RouteCode>8199</RouteCode>
                <RoutingPlanNumber>032656</RoutingPlanNumber>
                <RailwayClass>C3</RailwayClass>
                <GuidingValue>96030</GuidingValue>
            </TransitDetail>
            <ModeOfTransport>3</ModeOfTransport>
            <Consignor>
                <CustomerName>Testfirma Absender</CustomerName>
                <Address>
                    <Name>Testfirma Absender</Name>
                    <StreetAndNumber>Teststrasse 1</StreetAndNumber>
                    <Place>Teststadt</Place>
                    <PostCode>12345</PostCode>
                    <Country>NO</Country>
                </Address>
                <InformationContact>
                    <Name>Vorname Nachname</Name>
                    <Email>VNn@testfirma.de</Email>
                </InformationContact>
            </Consignor>
            <Consignee>
                    <CustomerName>Testempfaenger</CustomerName>
            <Address>
                    <Name>Testempfaenger</Name>
                    <StreetAndNumber>Teststrasse 2</StreetAndNumber>
                    <Place>Isfahan</Place>
                    <PostCode>ABC12</PostCode>
                    <Country>IR</Country>
                </Address>
            </Consignee>
            <ShippingDirector>
                <CustomerName>Verkehrsführer</CustomerName>
                <Address>
                    <Name>Verkehrsführer</Name>
                    <StreetAndNumber>Teststrasse 3</StreetAndNumber>
                    <Place>Teststadt3</Place>
                    <PostCode>98765</PostCode>
                    <Country>DE</Country>
                </Address>
            <ReferenceNumber>Vkf-Ref-1119</ReferenceNumber>
            </ShippingDirector>
            <ShippingUnit>
                <Position>1</Position>
                <EmptyFull>F</EmptyFull>
                <PackageCode>EC</PackageCode>
                <NumberOfPackages>24</NumberOfPackages>
                <Weight unit="kg">13256</Weight>
                <CustomsProcedure>GW</CustomsProcedure>
                <CustomsUnitHZODetail>
                    <HANumber>HAB28001045671010000000</ HANumber >
                    <VubIndicator>N</ VubIndicator >
                </CustomsUnitHZODetail>
                <OriginCountryCode>NO</OriginCountryCode>
                <DestinationCountryCode>IR</DestinationCountryCode>
                <TrainDetail>
                    <Number>50398</Number>
                    <Date>2007-03-22</Date>
                    <Time>01:15:00</Time>
                </TrainDetail>
                <ArrivalDate>2007-03-23</ArrivalDate>
                <CustomerInstructionForStation>Anweisungen für Versandbahnhof
</CustomerInstructionForStation>
```

```
                        <SecondaryPlacard>34</SecondaryPlacard>
                        <SealData>
                            <SequenceNumber>01</SequenceNumber>
                            <Number>ABC1236474</Number>
                            <TypeCode>2</TypeCode>
                            <PlaceCode>2</PlaceCode>
                        </SealData>
                        <SealData>
                            <SequenceNumber>02</SequenceNumber>
                            <Number>ABC1236479</Number>
                            <TypeCode>2</TypeCode>
                            <PlaceCode>2</PlaceCode>
                        </SealData>
                        <DangerousGoods>
                            <SequenceNumber>1</SequenceNumber>
                            <LegalNorm>RID05</LegalNorm>
                            <Class>3</Class>
                            <UNNumber>1133</UNNumber>
                            <PackingGroup>II</PackingGroup>
                            <ProperShippingName>KLEBSTOFFE, mit entzündbarem flüssigem Stoff
</ProperShippingName>
                            <TechnicalNameSupplement>Dampfdruck bei 50 ℃ größer als 110 kPa, aber
höchstens 175 kPa</TechnicalNameSupplement>
                            <GoodsLabel>30</GoodsLabel>
                        </DangerousGoods>
                        <TransportContainer>
                            <ContainerNumber>DAKU1234563</ContainerNumber>
                            <WagonNumber>218059987451</WagonNumber>
                            <ContainerLoadData>
                                <Content>Klebstoffe</Content>
                                <Commodity>350691</ Commodity >
                            </ContainerLoadData>
                            <ContainerDetail>
                                <Length>20</Length>
                                <Height>20</Height>
                                <Type>DC</Type>
                                <TareWeight unit="kg">2317</TareWeight>
                            </ContainerDetail>
                            <OceanVoyage>
                                <Name>Best.-Hafen</Name>
                                <ShipName>Wappen von Hamburg</ShipName>
                            </OceanVoyage>
                            <TemperatureDetail>
                                <Refrigeration>N</Refrigeration>
                                <MaxValue unit="Celsius">28</MaxValue>
                                <MinValue unit="Celsius">-5</MinValue>
                            </TemperatureDetail>
                            <LoadingRequestCode>0000</LoadingRequestCode>
                        </TransportContainer>
                    </ShippingUnit>
                </TransportOrder>
            </Message>
        </Messages>
</Document>
```

## 4.3.5 Validation Rules for Outbound Traffic, Wagon Load

### 4.3.5.1 Order Level

Mandatory for outbound wagonload transport are

**RailwayBillType,**

**DispatchDetail / Location** (AreaCode, QuayCode, LocationCode) and **Date** (i.e. the shipping date),

**DischargeDetail / RailStation / Code** (i.e. the destination station),

**WagonLoadData / Content** (i.e. the desription of goods).

#### 4.3.5.2 Shipping Unit

The **ShippingUnit / Weight** is mandatory if the shipping unit is full.

The **ShippingUnit / TransportContainer** must not be contained in a message for wagonload traffic.

#### 4.3.5.3 Information relevant for customs

In contrast to container traffic the unit-IDs (i.e. the wagon numbers) might not be known before loading is complete. In this case the declarations at HZO can be made after loading, and the HA-numbers can be delivered afterwards using the CI message (cf. chapter 4.4). Therefore, information relevant for customs cannot be modified when the order has a status (qualifier "A") of 20000 or greater and the units contain HA-numbers. This restriction concerns the following data elements:

order data
<DischargeDetail><RailStation>
<WagonLoadData><Content>
<Consignor>

unit data
<EmptyFull>
<Weight>
<OriginCountryCode>
<DestinationCountryCode>
<CustomsProcedure>
<TransportWagon><WagonNumber>
<CustomsUnitHZODetail><HANumber>

Furthermore, it is not allowed to add a unit to the order.

#### 4.3.5.4 Re-booking after loading

In contrast to container traffic there is no possibility to re-book a wagonload transport. Therefore, for an order having status "loaded" (50000) no changes of data elements and no changes of the number of units are allowed.

#### 4.3.5.5 Example

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Document xsi:noNamespaceSchemaLocation=" TransportOrder.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <Metainfo ExchangeNumber="0707061424" Test="1">
        <Transaction Code="TD04" Type="TO" Version="03">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">TD04</Code>
```

```
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
            </Participants>
            <CreationTime>2007-07-06T14:24:47</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="Msg-TO-WLV-Beispiel-01">
            <TransportOrder>
                <BusinessDocumentDetail>
                    <TransportCompany codeList="HABIS">TD04</TransportCompany>
                    <Reference type="CTOREF">TO-WLV-Bsp-01</Reference>
                    <Version>01</Version>
                    <IssueDate>2007-07-06</IssueDate>
                </BusinessDocumentDetail>
                <TypeOfTransport>K</TypeOfTransport>
                <Direction>O</Direction>
                <DispatchDetail>
                    <Date>2007-07-09</Date>
                    <RailStation>
                        <CountryCode>DE</CountryCode>
                        <Code>80010801</Code>
                    </RailStation>
                    <Location>
                        <AreaCode>HHO</AreaCode>
                        <QuayCode>UNK</QuayCode>
                        <LocationCode>UCT</LocationCode>
                    </Location>
                </DispatchDetail>
                <DischargeDetail>
                    <Date>2007-07-09</Date>
                    <Hour>19</Hour>
                    <RailStation>
                        <CountryCode>AT</CountryCode>
                        <Code>81010728</Code>
                    </RailStation>
                </DischargeDetail>
                <RailwayBillType>CIM</RailwayBillType>
                <TransitDetail>
                    <RailwayClass>C3</RailwayClass>
                    <GuidingValue>81-030</GuidingValue>
                </TransitDetail>
                <ModeOfTransport>3</ModeOfTransport>
                <ScheduledTrain>
                    <Number>44767</Number>
                    <Date>2007-07-09</Date>
                </ScheduledTrain>
                <WagonLoadData>
                    <Content>Warenbeschreibung, im WLV für ganzen Auftrag</Content>
                    <Commodity>871110</Commodity>
                    <EquipmentDetail>
                        <TypeCode>7</TypeCode>
                        <Quantity>24</Quantity>
                        <Weight unit="g">720</Weight>
                    </EquipmentDetail>
                </WagonLoadData>
                <Consignor>
                    <CustomerName>Testfirma Absender</CustomerName>
                    <Address>
                        <Name>Testfirma Absender</Name>
                        <StreetAndNumber>Teststrasse 1</StreetAndNumber>
                        <Place>Teststadt</Place>
                        <PostCode>12345</PostCode>
                        <Country>NO</Country>
                    </Address>
                    <InformationContact>
```

```
                        <Name>Vorname Nachname</Name>
                        <Email>VNn@testfirma.de</Email>
                    </InformationContact>
                </Consignor>
                <Consignee>
                    <CustomerName>Testempfaenger</CustomerName>
                <Address>
                        <Name>Testempfaenger</Name>
                        <StreetAndNumber>Teststrasse 2</StreetAndNumber>
                        <Place>Isfahan</Place>
                        <PostCode>ABC12</PostCode>
                        <Country>AT</Country>
                    </Address>
                </Consignee>
                <ShippingUnit>
                    <Position>1</Position>
                    <EmptyFull>F</EmptyFull>
                    <Weight unit="kg">13256</Weight>
                    <CustomsProcedure>GW</CustomsProcedure>
                    <OriginCountryCode>NO</OriginCountryCode>
                    <DestinationCountryCode>AT</DestinationCountryCode>
                    <ArrivalDate>2007-07-09</ArrivalDate>
                    <CustomerInstructionForStation>Anweisungen für
Versandbahnhof</CustomerInstructionForStation>
                    <SecondaryPlacard>01</SecondaryPlacard>
                    <SealData>
                        <SequenceNumber>01</SequenceNumber>
                        <Number>ABC1236474</Number>
                        <TypeCode>2</TypeCode>
                        <PlaceCode>2</PlaceCode>
                    </SealData>
                    <SealData>
                        <SequenceNumber>02</SequenceNumber>
                        <Number>ABC1236479</Number>
                        <TypeCode>2</TypeCode>
                        <PlaceCode>2</PlaceCode>
                    </SealData>
                    <TransportWagon>
                        <WagonNumber>218059987451</WagonNumber>
                    </TransportWagon>
                </ShippingUnit>
            </TransportOrder>
        </Message>
    </Messages>
</Document>
```

## 4.4 Customs Information

The message is used for outbound wagonload traffic to specify the customs procedure and the HA-number for every wagon of a transport order. The HA-number is not in every case mandatory. It is defined in the master data for the customs procedure values if a HA-number is expected or not.

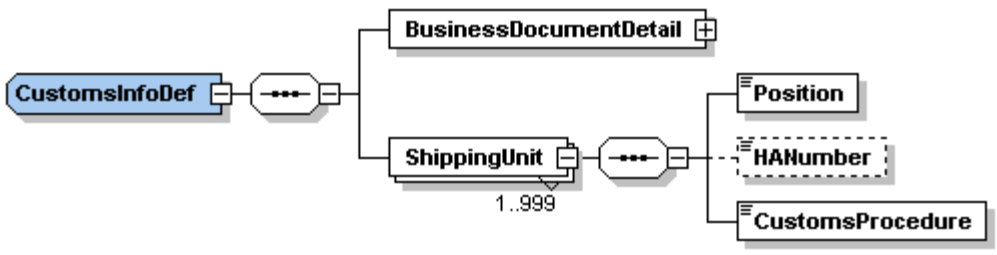


*Figure 21 - structure of the Customs Information message*

### 4.4.1 Validation Rules

The message is only accepted for outgoing transport orders for wagonload traffic which are already loaded (order status "50000").

The **ShippingUnit / Position** has to exist in the transport order specified under <Reference> and must not be deleted.

When a **ShippingUnit / HANumber** is specified it is checked that the data in HZO is consistent with the data of the order position.

### 4.4.2 Example

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Document xsi:noNamespaceSchemaLocation=" CustomsInformation.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <Metainfo ExchangeNumber="0707091106" Test="1">
        <Transaction Code="TD04" Type="CI" Version="01">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">TD04</Code>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
            </Participants>
            <CreationTime>2007-07-09T11:06:47</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="Msg-CI-Beispiel-01">
            <CustomsInfo>
                <BusinessDocumentDetail>
                    <TransportCompany codeList="HABIS">TD04</TransportCompany>
                    <Reference type="CTOREF">TO-WLV-Bsp-02</Reference>
                    <Version>01</Version>
                    <IssueDate>2007-07-09</IssueDate>
                </BusinessDocumentDetail>
                <ShippingUnit>
                    <Position>1</Position>
                    <HANumber>HAB280000130070700000</HANumber>
                    <CustomsProcedure>AM</CustomsProcedure>
                </ShippingUnit>
                <ShippingUnit>
                    <Position>2</Position>
                    <HANumber>HAB280000131070700000</HANumber>
                    <CustomsProcedure>AM</CustomsProcedure>
                </ShippingUnit>
                <ShippingUnit>
                    <Position>3</Position>
                    <CustomsProcedure>LE</CustomsProcedure>
                </ShippingUnit>
                <ShippingUnit>
                    <Position>4</Position>
                    <HANumber>HAB280000132070700000</HANumber>
                    <CustomsProcedure>AM</CustomsProcedure>
                </ShippingUnit>
            </CustomsInfo>
        </Message>
    </Messages>
</Document>
```

## 4.5 Wagon Sequence

The message is used to report vehicle sequences, for incoming and outgoing trains. Trains are identified by their number and the day of service. A wagon sequence message for an incoming train can be sent by the RTC when train formation is finished or at departure (<MessageSignificance> = "TF" or "DP"). For an outgoing train the RTC may send a planned wagon sequence as a requirement for shunting (<MessageSignificance> = "PL"). The effective sequence of an outgoing train will then be sent from the BPE to the RTC with "TF" or "DP".

Some overall data for the train (e.g. weights, number of axles, ...) can be specified as shown in the following figure. The <TrainTime> is the planned time of departure corresponding to the day of service. A differing actual departure (date and time) may be specified, also the planned arrival.

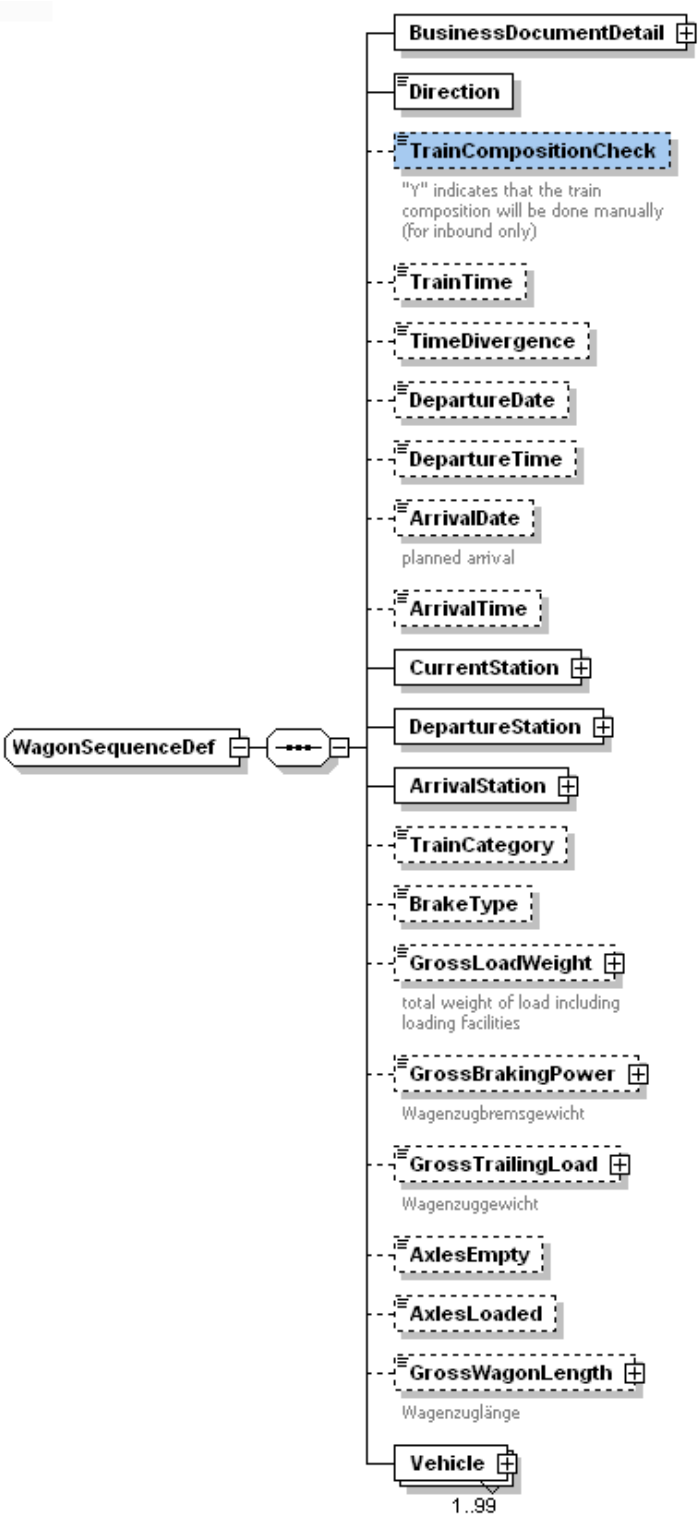


*Figure 22 - structure of the Wagon Sequence message*

### 4.5.1 Vehicle Data

Vehicles in the sequence are identified by their position in the train. Position numbers have to start with number 1 for the first vehicle in direction of traffic, and have to be an uninterrupted ascending sequence of numbers. The type of vehicle (wagon or locomotive) has to be specified. For a wagon the wagon number is mandatory, and also the information if the wagon is empty or loaded. Data for a vehicle may provide voyage related information, some technical information, and information with regard to the loaded goods.


*Figure 23 - vehicle data*

The message contains the actual weights (WagonWeight is the total). For a wagon some basic information on dangerous goods can be specified if necessary (<DangerousGoodsIndication> in figure below). A better way, however, is to declare the dangerous goods at GEGIS using the transport order data (cf. chapter 4.3), and to transmit the reference number of the GEGIS declaration in the wagon sequence message.

If it is a loaded wagon the shipping unit's identification (container numbers etc.) can be given, and for every unit a relation to the transport order can be established using the order reference and position number. For wagonload traffic the unit number is the wagon number itself.

If special handling is foreseen for a wagon, due to vehicle properties or characteristics of the load, several operating procedure codes can be specified.

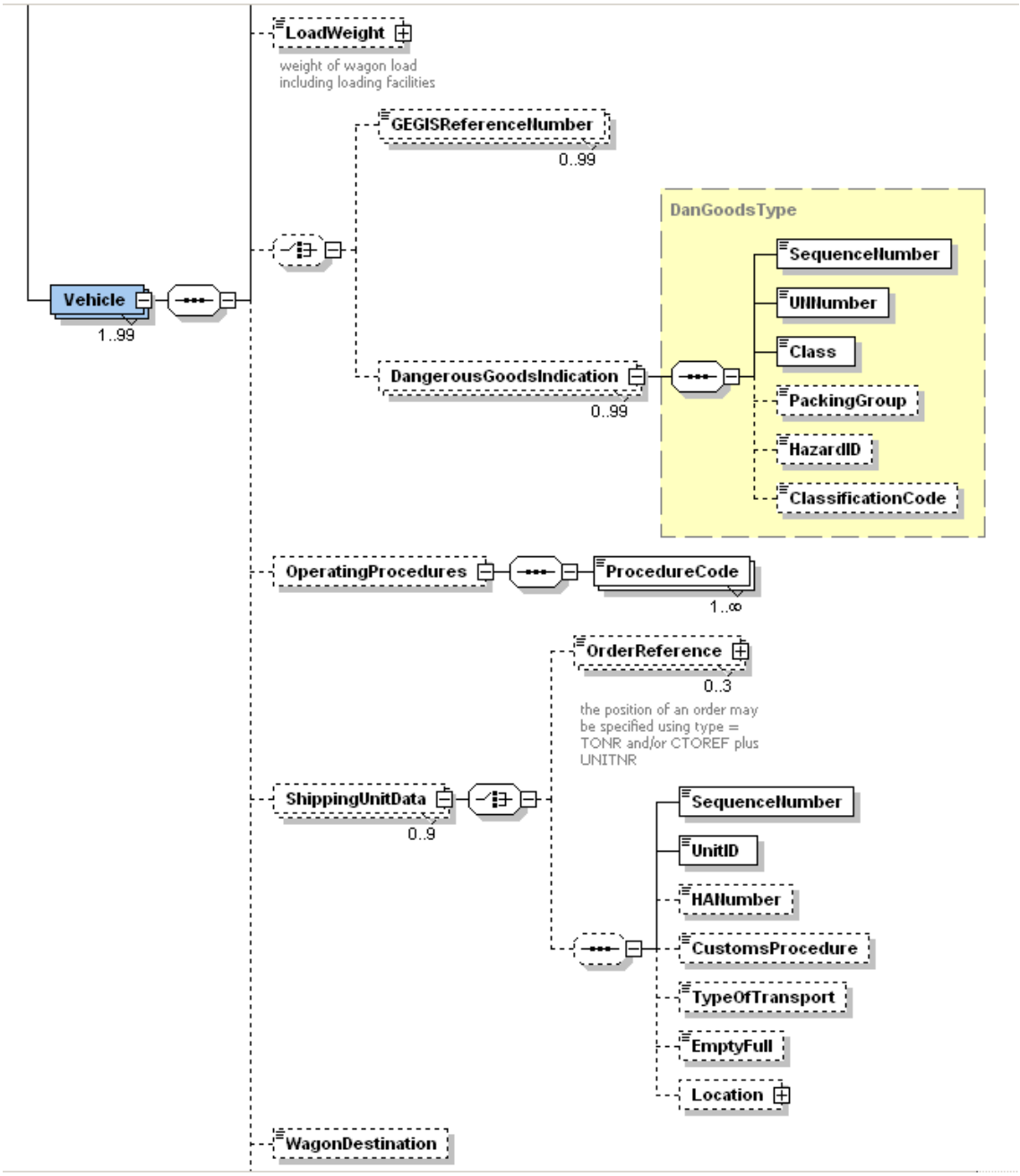


*Figure 24 - vehicle data: load information*

## 4.5.2 Vehicle Master Data

Most of the technical information on a wagon is specified in the master data of the BPE for vehicles, although the master data for a wagon may also be transmitted together with the data for the actual transport (<WagonMasterData>). If a wagon is not yet contained in the BPE master data and no master data is contained in the wagon sequence, the message will be rejected. For the structure of the master data see the XSD specification.

### 4.5.3 Validation Rules

Most validation rules are already specified in the schema definition - either directly as XSD-restriction (length, enumeration, etc.) or in the documentation of the elements. Therefore, the following paragraphs describe only those rules which are beyond the specification in the XSD-file.

The message must contain at least one <Vehicle>. The vehicles (i.e. locomotive and wagons) in a wagon sequence message have to be numbered in an uninterrupted ascending order starting with 1 for the first vehicle in the direction of traffic.

A specific vehicle may occur only once within the wagon sequence.

The <LoadWeight> must be given for a wagon marked as "full". All weights are transformed to tons in the BPE, except the tare weight of a single wagon being transformed to kg.

All station codes have to be valid codes according to the BPE code list (see www.rail-port-direct.de -> Port of Hamburg -> Rail Stations) including the UIC code in the first two bytes.

If there are problems detected in the reference to transport orders (e.g. "unknown order") this will not lead to rejection of the wagon sequence message. In this case warnings will communicate the errors found.

### 4.5.4 Example

The following message is a wagon sequence for an incoming train being composed of a locomotive and three wagons, two loaded and an empty one.

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<Document xsi:noNamespaceSchemaLocation="WagonSequence.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <Metainfo ExchangeNumber="0709191554" Test="1">
        <Transaction Code="TD04" Type="WS" Version="04">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">Test-RTC</Code>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
            </Participants>
            <CreationTime>2007-09-19T15:54:47</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="Msg-WS-Beispiel01-1">
            <WagonSequence>
                <BusinessDocumentDetail>
                    <MessageSignificance>TF</MessageSignificance>
                    <TransportCompany codeList="HABIS">TD04</TransportCompany>
                    <Reference type="WSEQNR">44286 2007-09-19</Reference>
                    <Version>01</Version>
                    <IssueDate>2007-09-19</IssueDate>
                </BusinessDocumentDetail>
                <Direction>I</Direction>
                <TrainCompositionCheck>Y</ TrainCompositionCheck >
```

```
<TrainTime>16:20:00</TrainTime>
<TimeDivergence>-10</TimeDivergence>
<ArrivalDate>2007-09-19</ArrivalDate>
<CurrentStation>
    <CountryCode>DE</CountryCode>
    <Name>MASCHEN RBF</Name>
</CurrentStation>
<DepartureStation>
    <CountryCode>DE</CountryCode>
    <Name>MASCHEN RBF</Name>
</DepartureStation>
<ArrivalStation>
    <CountryCode>DE</CountryCode>
    <Code>80010884</Code>
    <Name>HAMBURG-WALTERSHOF</Name>
</ArrivalStation>
<BrakeType>C</BrakeType>
<GrossLoadWeight unit="t">61</GrossLoadWeight>
<GrossBrakingPower unit="t">126</GrossBrakingPower>
<GrossTrailingLoad unit="t">109</GrossTrailingLoad>
<AxlesEmpty>2</AxlesEmpty>
<AxlesLoaded>8</AxlesLoaded>
<GrossWagonLength unit="m">74</GrossWagonLength>
<Vehicle>
    <Position>01</Position>
    <VehicleType>L</VehicleType>
</Vehicle>
<Vehicle>
    <Position>02</Position>
    <VehicleType>W</VehicleType>
    <WagonNumber>218012345678</WagonNumber>
    <EmptyFull>F</EmptyFull>
    <DestinationStation>
        <CountryCode>DE</CountryCode>
        <Code>80010884</Code>
        <Name>HAMBURG-WALTERSHOF</Name>
    </DestinationStation>
    <ModeOfTransport>1</ModeOfTransport>
    <Remarks>remark remark remark</Remarks>
    <WagonWeight unit="kg">37350</WagonWeight>
    <BrakingPower unit="t">25</BrakingPower>
    <LoadWeight unit="kg">24150</LoadWeight>
    <DangerousGoodsIndication>
        <SequenceNumber>1</SequenceNumber>
        <UNNumber>2535</UNNumber>
        <Class>3</Class>
        <HazardID>338</HazardID>
        <ClassificationCode>FC</ClassificationCode>
    </DangerousGoodsIndication>
    <ShippingUnitData>
        <SequenceNumber>1</SequenceNumber>
        <UnitID>BSPU1234567</UnitID>
        <OrderReference type="CTOREF">Bsp-Ref-Order002356</OrderReference>
        <OrderReference type="UNITNR">1</OrderReference>
    </ShippingUnitData>
</Vehicle>
<Vehicle>
    <Position>03</Position>
    <VehicleType>W</VehicleType>
    <WagonNumber>227090123456</WagonNumber>
    <EmptyFull>F</EmptyFull>
    <DestinationStation>
        <CountryCode>DE</CountryCode>
        <Code>80010884</Code>
        <Name>HAMBURG-WALTERSHOF</Name>
    </DestinationStation>
    <ModeOfTransport>1</ModeOfTransport>
    <WagonWeight unit="kg">39600</WagonWeight>
```

```
                    <BrakingPower unit="t">28</BrakingPower>
                    <LoadWeight unit="kg">26800</LoadWeight>
                    <ShippingUnitData>
                        <SequenceNumber>1</SequenceNumber>
                        <UnitID>BSPU8901234</UnitID>
                          <OrderReference type="CTOREF">Bsp-Ref-Order-003 </OrderReference>
                        <OrderReference type="UNITNR">1</OrderReference>
                    </ShippingUnitData>
                    <WagonMasterData>
                        <WagonCategory>ROOS</WagonCategory>
                        <ModelID>639</ModelID>
                        <Axles>4</Axles>
                        <WheelBase>13.90</WheelBase>
                        <MinCurveRadius>35.00</MinCurveRadius>
                        <UnladenWeight unit="kg">26700</UnladenWeight>
                        <LengthOverBuffers unit="cm">1980</LengthOverBuffers>
                        <LoadLimitPerAxle unit="kg">19500</LoadLimitPerAxle>
                        <MaxSpeedEmpty>120</MaxSpeedEmpty>
                        <MaxSpeedLoaded>120</MaxSpeedLoaded>
                        <Stars>2</Stars>
                        <WagonOwnerCode>DBSR</WagonOwnerCode>
                        <WagonOwnerCountry>DE</WagonOwnerCountry>
                        <LoadPlanner>AKN</ LoadPlanner >
                        <LoadLimitPattern>
                            <SpeedLimit>100</SpeedLimit>
                            <RailwayClass>C</RailwayClass>
                            <LoadLimit unit="kg">53500</LoadLimit>
                        </LoadLimitPattern>
                        <LoadLimitPattern>
                            <SpeedLimit>120</SpeedLimit>
                            <RailwayClass>C</RailwayClass>
                            <LoadLimit unit="kg">51000</LoadLimit>
                        </LoadLimitPattern>
                        <LoadLimitPattern>
                            <SpeedLimit>120</SpeedLimit>
                            <RailwayClass>C</RailwayClass>
                            <ValidityArea>DE</ValidityArea>
                            <LoadLimit unit="kg">52000</LoadLimit>
                        </LoadLimitPattern>
                    </WagonMasterData>
                </Vehicle>
                <Vehicle>
                    <Position>04</Position>
                    <VehicleType>W</VehicleType>
                    <WagonNumber>218078901234</WagonNumber>
                    <EmptyFull>E</EmptyFull>
                    <DestinationStation>
                        <CountryCode>DE</CountryCode>
                        <Code>80010884</Code>
                        <Name>HAMBURG-WALTERSHOF</Name>
                    </DestinationStation>
                    <BrakingPower unit="kg">11200</BrakingPower>
                </Vehicle>
            </WagonSequence>
        </Message>
    </Messages>
</Document>
```

## 4.6 Track Diagram

The TrackDiagram specifies a sequence of wagons which are planned to be ready for loading. This information refers to a certain track at the loading station at a certain time. The data of the track diagram message originates from the quay operators. It is a precondition for the load planning in container traffic and is passed to the RTC by the BPE.

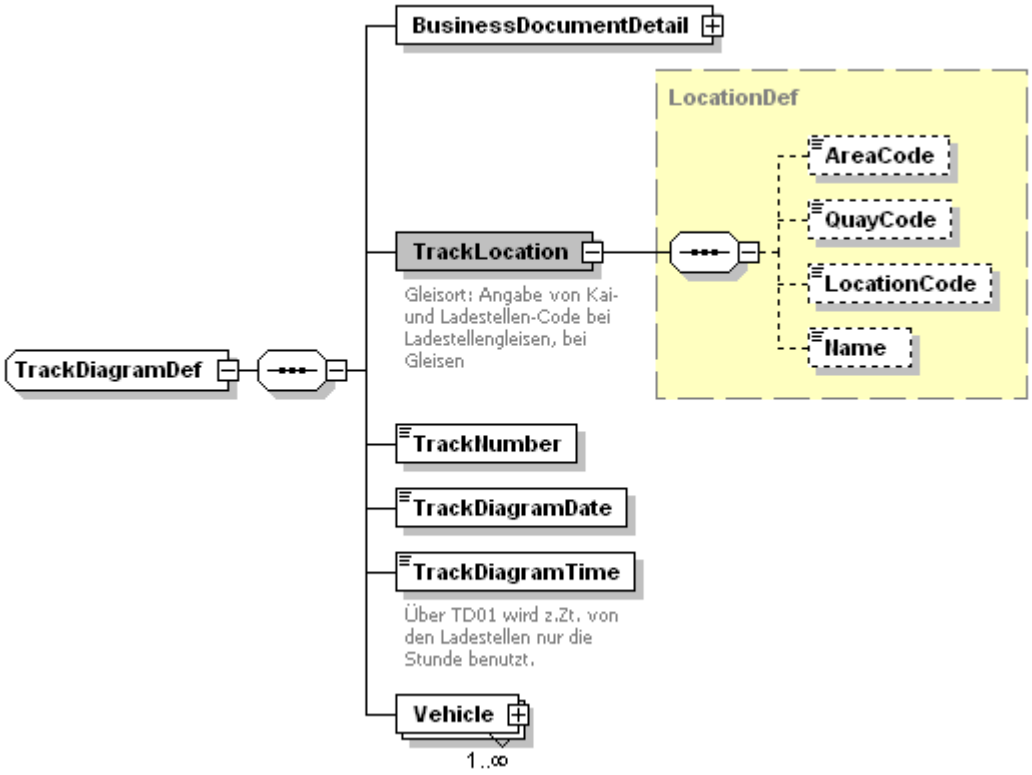


*Figure 25 - structure of the track diagram message*

The vehicles in the track diagram are listed with their position (normally starting with number 1 at the buffer of the track), the wagon number and wagon category. Additional information useful for load planning may be given, see figure below.

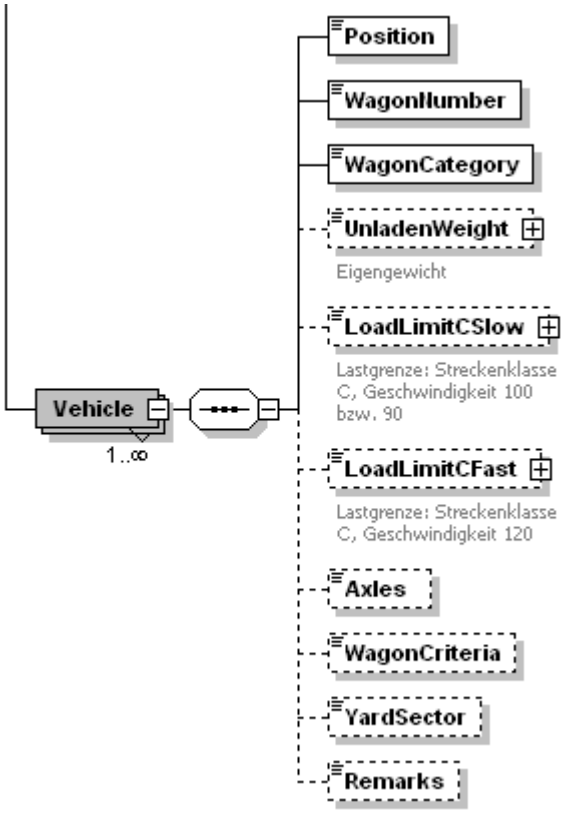


*Figure 26 - track diagram: vehicle information*

### 4.6.1 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xsi:noNamespaceSchemaLocation="TrackDiagram.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <Metainfo ExchangeNumber="T-TCT003-201011171400" Test="1">
        <Transaction Type="TD" Version="01" Code="TD04">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">EVUTD04</Code>
                    <Name>TD04-TestEVU</Name>
                </Participant>
            </Participants>
            <CreationTime>2010-11-17T10:30:47</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="TD-TestMsg-101117-002">
            <TrackDiagram>
                <BusinessDocumentDetail>
                    <TransportCompany codeList="HPA">EVUTD04</TransportCompany>
                    <OperatorCode codeList="HPA">OpTD04</OperatorCode>
                    <Reference type="TRACKD">TCT-003-20101117-14</Reference>
                    <Version>01</Version>
                    <IssueDate>2010-11-17</IssueDate>
                </BusinessDocumentDetail>
                <TrackLocation>
                    <AreaCode>HHO</AreaCode>
                    <QuayCode>HHL</QuayCode>
                    <LocationCode>TCT</LocationCode>
                    <Name>HHLA TOLLERORT CONT.TERMINAL</Name>
                </TrackLocation>
                <TrackNumber>003</TrackNumber>
                <TrackDiagramDate>2010-11-17</TrackDiagramDate>
                <TrackDiagramTime>14:00:00</TrackDiagramTime>
                <Vehicle>
                    <Position>01</Position>
                    <WagonNumber>018033470867</WagonNumber>
                    <WagonCategory>KBS</WagonCategory>
                    <UnladenWeight unit="kg">11300</UnladenWeight>
                    <LoadLimitCSlow unit="kg">43000</LoadLimitCSlow>
                    <LoadLimitCFast unit="kg">41000</LoadLimitCFast>
                    <Axles>2</Axles>
                    <WagonCriteria>12</WagonCriteria>
                    <YardSector>3300</YardSector>
                    <Remarks>Bemerkung, Besonderheiten, etc.</Remarks>
                </Vehicle>
                <Vehicle>
                    <Position>02</Position>
                    <WagonNumber>118039005533</WagonNumber>
                    <WagonCategory>RS</WagonCategory>
                    <UnladenWeight unit="kg">24400</UnladenWeight>
                    <LoadLimitCSlow unit="kg">54000</LoadLimitCSlow>
                    <LoadLimitCFast unit="kg">51500</LoadLimitCFast>
                    <Axles>4</Axles>
                    <WagonCriteria>91</WagonCriteria>
                    <YardSector>5940</YardSector>
                </Vehicle>
                <Vehicle>
                    <Position>03</Position>
                    <WagonNumber>215034424907</WagonNumber>
```

```
                        <WagonCategory>KKKLMS</WagonCategory>
                        <UnladenWeight unit="kg">11200</UnladenWeight>
                        <LoadLimitCSlow unit="kg">40000</LoadLimitCSlow>
                        <LoadLimitCFast unit="kg">38000</LoadLimitCFast>
                        <Axles>2</Axles>
                        <WagonCriteria>11</WagonCriteria>
                        <YardSector>7342</YardSector>
                    </Vehicle>
                </TrackDiagram>
            </Message>
        </Messages>
</Document>
```

## 4.7 Loading Plan

The LoadingPlan message is used in container traffic only. It is designed to transmit the requirements for the loading of shipping units of a transport order on wagons. It refers therefore to a transport order which is named in the <BusinessDocumentDetail><Reference> with type = "CTOREF". If the load planning is not done by the RTC itself but by another company in the name of the RTC, this company is specified in <BusinessDocumentDetail> with the <OperatorCode>.

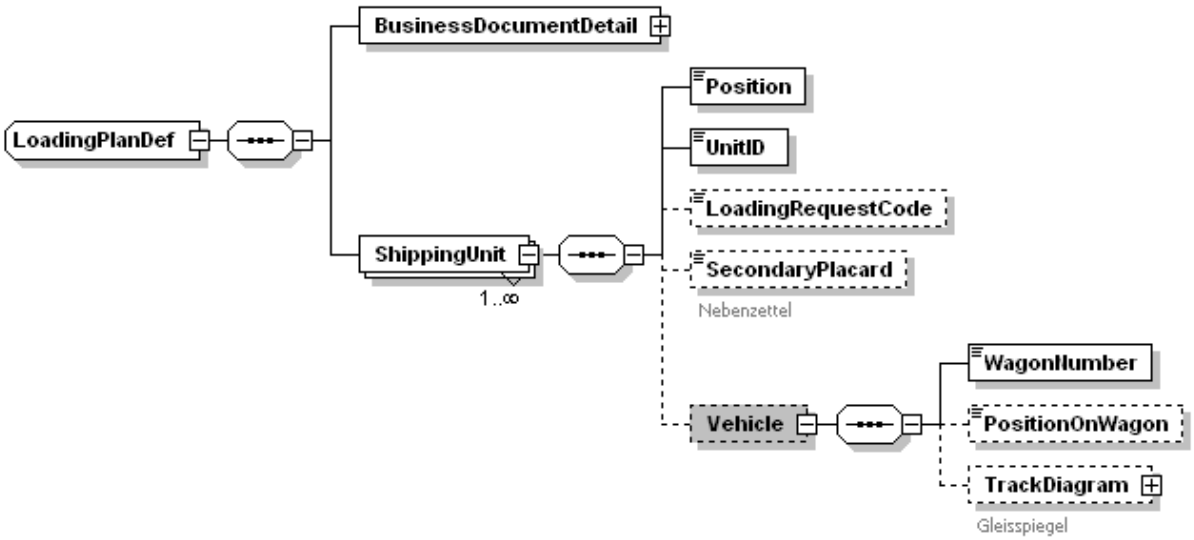


*Figure 27 - structure of the loading plan message*

The message lists shipping units of the specified order (not necessarily all of them), and for each unit it may be defined on wich wagon it shall be loaded. A loading request code and placards for labelling may also be specified.

When a wagon is specified it has to refer to a track diagram, although in the message the <TrackDiagram> is marked as an optional element. This is due to future requirements, but for the moment the terminal operators expect in their systems that a vehicle in the loading plan is one of those reported in a track diagram before. The track diagram is referenced by the complete key composed of track location, track number, date and time as shown in the figure below.

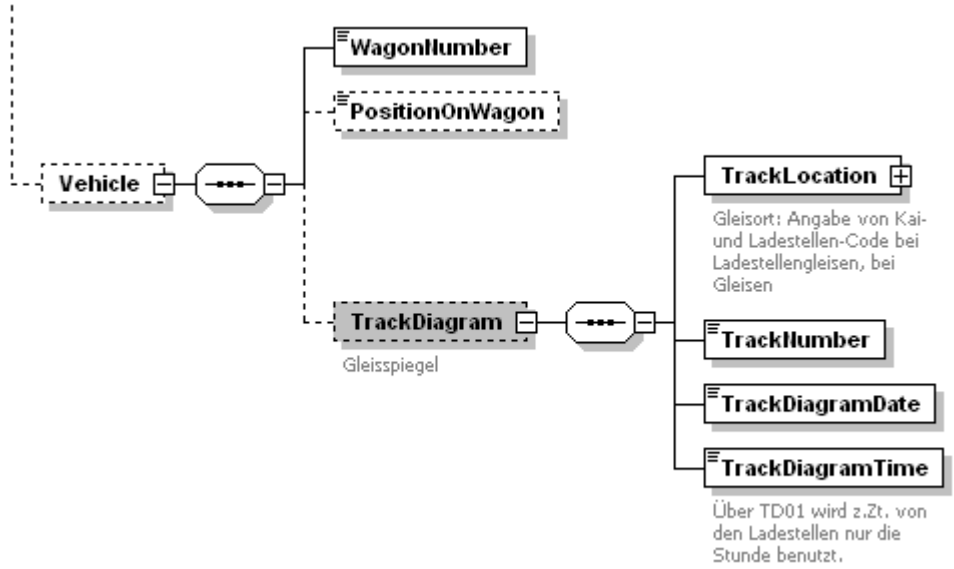


*Figure 28 - loading plan: reference to track diagram*

### 4.7.1 Validation Rules

A <Vehicle> specified for a shipping unit must contain the complete reference to an existing track diagram.

A <LoadingRequestCode> has to be valid according to the BPE code list (see www.rail-port-direct.de -> Port of Hamburg).

Some validations are done to check if the loading plan can be accepted. These validations include the check of status values of the order and the units as well as authorisation checking. If load planning is done by an operator for the RTC the right to use the wagon can be specified already in the prior wagon sequence (cf. chapter 4.5.1).

### 4.7.2 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xsi:noNamespaceSchemaLocation="LoadingPlan.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <Metainfo ExchangeNumber="LP-TCT003-201011171400" Test="1">
        <Transaction Type="LP" Version="01" Code="TD04">
            <Provider>HPA</Provider>
        </Transaction>
        <Application>BPE</Application>
        <Communication>
            <Participants>
                <Participant Role="SENDER">
                    <Code Alias="DAK">EVUTD04</Code>
                    <Name>TD04-TestEVU</Name>
                </Participant>
                <Participant Role="RECIPIENT">
                    <Code Alias="DAK">BPE</Code>
                </Participant>
            </Participants>
            <CreationTime>2010-11-17T12:05:16</CreationTime>
        </Communication>
    </Metainfo>
    <Messages>
        <Message ReferenceNumber="LP-Test-101117-005">
            <LoadingPlan>
                <BusinessDocumentDetail>
```

```
                    <TransportCompany codeList="HPA">EVUTD04</TransportCompany>
                    <OperatorCode codeList="HPA">OpTD04</OperatorCode>
                    <Reference type="CTOREF">TOKV-2-101116-T003</Reference>
                    <Version>02</Version>
                    <IssueDate>2010-11-16</IssueDate>
                </BusinessDocumentDetail>
                <ShippingUnit>
                    <Position>1</Position>
                    <UnitID>PONU1309221</UnitID>
                    <LoadingRequestCode>0001</LoadingRequestCode>
                    <SecondaryPlacard>01</SecondaryPlacard>
                    <Vehicle>
                        <WagonNumber>118039005533</WagonNumber>
                        <PositionOnWagon>1</PositionOnWagon>
                        <TrackDiagram>
                            <TrackLocation>
                                <AreaCode>HHO</AreaCode>
                                <QuayCode>HHL</QuayCode>
                                <LocationCode>TCT</LocationCode>
                            </TrackLocation>
                            <TrackNumber>003</TrackNumber>
                            <TrackDiagramDate>2010-11-17</TrackDiagramDate>
                            <TrackDiagramTime>14:00:00</TrackDiagramTime>
                        </TrackDiagram>
                    </Vehicle>
                </ShippingUnit>
                <ShippingUnit>
                    <Position>2</Position>
                    <UnitID>CTRLU9055763</UnitID>
                    <LoadingRequestCode>0001</LoadingRequestCode>
                    <SecondaryPlacard>01</SecondaryPlacard>
                    <Vehicle>
                        <WagonNumber>118039005533</WagonNumber>
                        <PositionOnWagon>2</PositionOnWagon>
                        <TrackDiagram>
                            <TrackLocation>
                                <AreaCode>HHO</AreaCode>
                                <QuayCode>HHL</QuayCode>
                                <LocationCode>TCT</LocationCode>
                            </TrackLocation>
                            <TrackNumber>003</TrackNumber>
                            <TrackDiagramDate>2010-11-17</TrackDiagramDate>
                            <TrackDiagramTime>14:00:00</TrackDiagramTime>
                        </TrackDiagram>
                    </Vehicle>
                </ShippingUnit>
            </LoadingPlan>
        </Message>
    </Messages>
</Document>
```

# 5 Attachments

## 5.1 Abbreviations

| abbreviation | description |
|---|---|
| BM | message (TD01 interface): "Bereitmeldung" (German for "ready for loading") |
| BPE | Business Process Engine: central node and communication entry point for the HPA systems |
| CET | central european time |
| EB | message (TD01 interface): "Eingangsbenachrichtigung" (German for "arrival notification") |
| FTP | File Transfer Protocol |
| GEGIS | "Gefahrgut Informations System", the information system for dangerous goods in the port of Hamburg |
| HA-Number | registration number of a customs declaration in the HZO application |
| HPA | Hamburg Port Authority |
| HZO | HABIS Zoll (new application for customs in the port of Hamburg) |
| KLV | german: "kombinierter Ladungsverkehr"<br>used in this context for containers entering the harbour area for the purpose of being reloaded (between truck and train), and leaving the harbour without any change |
| RB | message (TD01 interface): "Rückweisung" (German for "rejection") |
| RTC | rail transportation company |
| SFTP | Secure Shell File Transfer Protocol |
| SumA | "summarische Anmeldung": declaration for interim custody of a container in the ATLAS system of german customs |
| SZ | message (TD01 interface): "Status Eingangszug" (German for "status of incoming train") |
| TK/TC | message (TD01 interface): transport order |
| TO | transport order |
| UIC | Union International des Chemins de fer |
| UTC | coordinated universal time |
| VI | message (TD01 interface): "Verlade-Ist" (German for "loading done") |
| VS | message (TD01 interface): "Verlade-Soll" (German for "loading request") |
| VV | message (TD01 interface): "Vormeldung Wagen" (German for "announcement of wagon") |
| XML | Extended Markup Language |
| XSD | XML Schema Definition |

*table 3 – abbreviations*

## 5.2 Response Values

| code | text | description |
|---|---|---|
| 00000 | accepted | The message received is accepted, data is stored, further processing will be done on the data received. |
| 99900 | not accepted | The message received is not accepted, the transmitted data is not stored. The reason is explained in the text fields of the message. |

| code | text | description |
|---|---|---|
| 99800 | error messages from schema validation | The message is not valid, checking against the schema definition failed. |

*table 4 - response values*

## 5.3 Status Values

The following table summarises the status values communicated or expected by HABIS. For identification of a status only the code can be used, not the text of the status. The status text in the following table is for explanation only, in the message the text will be in german. Also, the status text is derived from a master table, it is thus possible that it will be changed.

| order status outbound traffic (qualifier A) | | |
|---|---|---|
| status | code | description |
| rejected | 19000 | There is a rejection from the quay operator for the transport order. |
| accepted | 20000 | Data of a transport order is accepted and stored in the BPE system. The transport order will be forwarded to the quay. |
| ready | 30000 | All units of the transport order are reported by the quay operator to be ready for loading. |
| planned | 40000 | Disposition for the transport order is complete, and all loading requests have been sent to the quay operator. |
| loaded | 50000 | All units of the transport order are reported by the quay operator to be loaded. |
| cancelled | 99900 | The order has been cancelled. |
| unit status outbound traffic (qualifier D) | | |
| status | code | description |
| ready for loading | 30000 | The shipping unit has been reported by the quay operator to be ready for loading. |
| not ready | 19000 | The shipping unit has been reported by the quay operator not to be ready. |
| loaded | 50000 | The unit has been reported by the quay operator to be loaded. |
| departure | 60000 | The shipping unit has left the rail station. |
| cancelled | 99900 | The shipping unit has been cancelled from the order. |
| order status inbound traffic (qualifier B) | | |
| status | code | description |
| accepted | 20000 | Data of a transport order is accepted and stored in the BPE system. The transport order will be forwarded to the quay. |
| arrived | 30000 | All units of the transport order arrived at a rail station in the port of Hamburg. The transport order will be forwarded to the quay. When the order status is 30000 or higher, no more changes are accepted for the order. |
| unloaded | 50000 | All units of the transport order are reported by the quay operator to be unloaded. |
| cancelled | 99900 | The order has been cancelled. |
| unit status inbound traffic (qualifier E) | | |
| status | code | description |
| accepted | 10000 | The shipping unit has been created with the order and is stored. |
| arrived | 30000 | The shipping unit has arrived at a rail station in the port of Hamburg. |
| delivered | 40000 | The shipping unit has been delivered to the loading station. |
| unloaded | 50000 | The unit has been reported by the quay operator to be unloaded. |
| cancelled | 99900 | The shipping unit has been cancelled from the order. |
| train status inbound traffic (qualifier T) | | |

| status | code | description |
|---|---|---|
| departure | 30000 | Departure of the train (to be reported by the RTC). |
| arrival | 50000 | Train arrived at a rail station in the port of Hamburg. |
| train status outbound traffic (qualifier T) | | |
| status | code | description |
| departure blocked | 19000 | Departure of the train is blocked due to customs directive. |
| free for departure | 20000 | The train is released by customs and is free for departure. |
| departure | 30000 | The train has left the rail station. |
| wagon status inbound and outbound traffic (qualifier W) | | |
| status | code | description |
| restricted | 19000 | Movement of the wagon is restricted due to customs directive. |
| enabled | 20000 | The wagon is free for movement.. |

*table 5 - status values*

## 5.4 Figure Index

## 5.5 Table Index