VDA Verband der Automobilindustrie

Packaging Order Process

VDA 4946

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Process description

This document describes the information flow with standardised EDI messages in the Packaging Order process. It further details the information given in the Recommendation VDA 5007 – Packaging Management.

The document intends to support interested users to understand the flow and content of ordering information in the overall process and how specific business situations can be represented in the EDI messages. For the complete EDI message implementation guidelines refer to the Annexes.

The recommendation is also published at Odette as document number OM43 - Packaging order process description.

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1 Packaging Order Process Description

The Packaging order process is part of the pull-process-scenario in the empty Packaging supply chain. In this scenario the Packaging Ordering Party (Receiving Point) has to issue in one or another way a formal order for empty Packaging.

A logical sequence of messages as shown in Figure 1 forms the EDI communication between Packaging Manager (PM) and Packaging Ordering Party and vice versa.

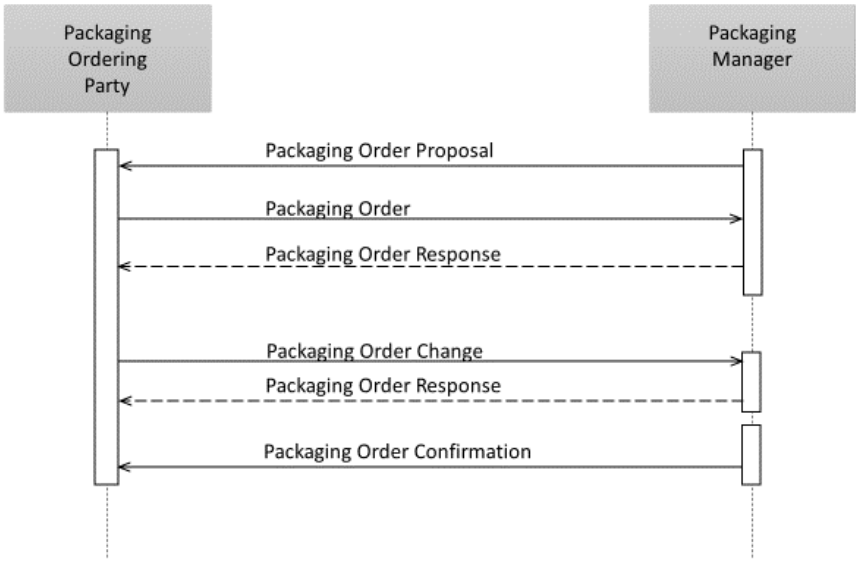

Figure 1: Sequence diagram of messages in the order process

1.1 Packaging Order Proposal

The Packaging Order Proposal is an optional message in the information flow. The Packaging Manager calculates the demand of a specific ship-to (+ unloading point, if known) based on delivery forecast and instruction figures available to the Packaging Manager and sends these figures to the Packaging Ordering Party.
The interchange comprehends the order proposals for a specified ordering period (e.g. one week). For each combination of ship-to (+ unloading point, if known) & delivery date a separate message (UNSM ORDERS) is generated, listing all Packaging types and their delivery quantities for that specified date.

The process can continue in two possible scenarios:

a) Without any additional agreement the Packaging Ordering Party can take the order proposal as an advice but has to actively order each delivery (for further details see Packaging Order).
b) Upon special agreement an automatic ordering process (we call this “standing order”) can be used: if the Packaging Ordering Party does not provide any alternative feedback, upon the arrival of the frozen horizon the Packaging Manager creates the formal order on behalf of the Packaging Ordering Party based on the initially generated Packaging Order Proposal and processes it accordingly, i.e. sends a firm order confirmation to the Packaging Ordering Party. In this case, the Order Proposal Number becomes the Order Number and will be referenced in the Order Confirmation.
    - In doing so, the contractual requirements of the pull process are combined with the ease of use of the push process.
    - If the Packaging Ordering Party needs additional Packaging, he can raise additional packaging orders.

1.2 Packaging Order

The Packaging Order is the core message of the ordering process and is sent from Packaging Ordering Party to Packaging Manager.

The interchange is comprised of the orders for a specified ordering period (e.g. one week). For each combination of ship-to (+ unloading point, if known) & delivery date a separate message (UNSM ORDERS) is generated, listing all Packaging types and their delivery quantities for that specified date. Each order is identified by an order number which has to be unique per Packaging Ordering Party (ordering party: NAD+BY) and calendar year. This order number together with the identifier of the Packaging Ordering Party serves as unique key of reference for all subsequent transactions in the process.

Again, as in the order proposal all packaging types shall be listed with their total delivery quantities for the specified delivery date, whether or not they belong to or identify a bundle.

If both partners agree, standardised bundle codes may be used for the ordering process. If standardised bundle codes are used in the order data exchange, it is the recommended business practice to use them consistently in the whole empty packaging supply chain up to the goods receiving process. For the internal packaging accounting systems however, the bundle figures must be resolved and converted into the quantities of their packaging components in order to update the packaging accounts correctly.

1.3 Packaging Order Change

Between the initial order and the latest ordering date time (start of the frozen horizon) the Packaging Ordering Party can use the Packaging Order Change message (UNSM ORDCHG) to change or amend the original order.
Changes are limited to the following subjects:

- Order quantity of an ordered Packaging
- Additional order lines
- Cancellation of order lines
- Cancellation of the complete order
- Change in the requested delivery date for the whole order

If the Packaging Ordering Party wishes to change the ship-to he has to cancel the complete order and issue a new one.

The following rules apply to a Packaging Order Change:

- One Packaging Order Change can only refer to one individual Packaging Order
- If already ordered quantities must be changed or cancelled (set to zero), the line number(s) in the order change must be the same as in the original order. If a quantity of the original order does not change, then it is not necessary to send the corresponding line item in the order change.
- If a line is to be cancelled, the delivery quantity has to be set to zero
- An order change can add additional lines to an order, the line numbers must be different from those in the original order or previous order changes (alternatively, additional orders can be raised, of course).
- If the RTI type is to be changed, the delivery quantity for the initially ordered RTI type must be set to zero and a new order line with a new line number, the substitute RTI type and the delivery quantity has to be transmitted.
- If a complete order is cancelled, the line items can be omitted in the order change message because the cancellation status is given in the header information. If, however, the line items are transmitted, then all the quantities must be set to zero.
- If the requested delivery date is to be changed, only the header information needs to be included in the order change.

- A Packaging Order Change can be sent even before a Packaging Order Response has been received.
- A Packaging Order Change cannot be sent after a Packaging Order Confirmation has been received.

1.4 Packaging Order Response and Packaging Order Confirmation

The Packaging Order Response message is sent from the Packaging Manager to the Packaging Ordering Party. One Packaging Order Response relates to one Packaging Order, possibly amended by one or more Packaging Order Change messages.

We distinguish between (preliminary) order responses and the final (firm) Order Confirmation. If a Packaging Order Response is sent with the status "not accepted" then it is the final message in this order process.

The delivery dates and quantities in the Packaging Order Response / Packaging Order Confirmation messages overrule/replace the dates and quantities in the original order as described below.

The Packaging Order Response is an optional message, but it must be sent in the following cases:

- if the complete order is not accepted (e.g. latest possible order date/time has passed); in this case there will be no Order Confirmation, of course.
- if the planned delivery date differs from requested delivery date: the changed delivery date must be before the requested delivery date. If the Packaging Manager cannot ensure the delivery on time, he must refuse the order and an exception process starts.
- if the ordered packaging type is not allowed for this receiver;
- if the ordered packaging quantity is larger than the allowed order quantity;

The Packaging Order Response may include information on split delivery quantities.

The Packaging Order Response may be used after each incoming order or order change to indicate the message has been processed and the demand has been added to the Packaging Manager's database.

Unless there has been a ‘Not Accepted’ Packaging Order Response, the Packaging Order Confirmation is mandatory and must explicitly confirm all order lines.

2 Example messages

The following example messages illustrate the information flow in an order scenario.

Assumptions:
The supplier delivers parts on a daily basis.
The parts are typically packed in small load containers (KLT6428).
Shipments take place with 12 KLT6428 on a pallet (000PAL) and covered with a lid (LID123).

2.1 Packaging Order

In compliance with received delivery instructions the parts supplier generates an initial packaging order interchange, sent on 15th September covering the period from 1st October to 5th October.

Table 1: Order data

1. Initial Order Interchange: 15. September					
Msg. Type					
ORDERS (1)	Message date=Order date	15. Sep			DTM+137
	Message No. = Order No.	111001			BGM/DE1004
	Req. delivery date	01. Okt			DTM+2
	POS	1	5	000PAL	
		2	60	KLT6428	
		3	5	LID123	
ORDERS (2)	Message date=Order date	15. Sep			DTM+137
	Message No. = Order No.	111002		(BGM/DE1004)	BGM/DE1004
	Req. delivery date	02. Okt			DTM+2
	POS	1	10	000PAL	
		2	120	KLT6428	
		3	10	LID123	
ORDERS (3)	Message date=Order date	15. Sep			DTM+137
	Message No. = Order No.	111003			BGM/DE1004
	Req. delivery date	03. Okt			DTM+2
	POS	1	10	000PAL	
		2	120	KLT6428	
		3	10	LID123	
ORDERS (4)	Message date=Order date	15. Sep			DTM+137
	Message No. = Order No.	111004			BGM/DE1004
	Req. delivery date	04. Okt			DTM+2
	POS	1	5	000PAL	
		2	60	KLT6428	
		3	5	LID123	
ORDERS (5)	Message date=Order date	15. Sep			DTM+137
	Message No. = Order No.	111005			BGM/DE1004
	Req. delivery date	05. Okt			DTM+2
	POS	1	5	000PAL	
		2	60	KLT6428	
		3	5	LID123	

The EDIFACT interchange of the ORDERS messages would look like this:
light green = interchange header / trailer
light grey = message header / trailer
light blue = line item header

Table 2: ORDER message Interchange

Segment	Explanation
UNA:+.? '	Service string advice
UNB+UNOC:3+OD0177A001EDI:59:123+ 987654321:1:LEFAS+160915:1446+144659'	Interchange header: syntax version 3, character set UNOC (ISO 8859-1), with Odette station ID of the sender and receiver station ID as DUNS number, interchange date and time, interchange number
UNH+1+ORDERS:D:16A:UN:GBOB10'	Header segment of the first message, message type ORDERS, D.16A
BGM+144::6:(2) Packaging Order+111001+9'	Begin of message, order number 111001, message scenario: Packaging Order, original
DTM+137:20160915:102'	Message/ order date in format CCYYMMDD
DTM+2:20161001:102'	Requested delivery date in Format CCYYMMDD
NAD+BY+776655::O91++Supplier Inc.:Automotive Division+Windsor Road 51+London++W5 3UP+GB'	Buyer of the packaging service - typically an automotive supplier, identified with a number issued by the seller of the packaging service
RFF+ANK:123456789'	Additional: the DUNS number or the party identified in NAD+BY
NAD+EQ+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Identification of the Packaging manager, in this case a department of the OEM; in this case, identified with the DUNS number
NAD+SE+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Seller of the packaging service - identified with the DUNS number
NAD+MS+776655::92++Supplier Inc.:Automotive Division+Windsor Road 51+London++W5 3UP+GB'	Identification of the message sender
NAD+MR+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Identification of the message receiver
NAD+ST+77665501::O91++Supplier Inc.:Plant Oxford+Mars Business Park:Gate 25+Oxford++OX2 8AB+GB'	Identification of the receiver of the empty Packaging, identified with the supplier number + index
LOC+11+Dock 15::O91'	Unloading point at ship-to's premises
RFF+ANK:123456799'	DUNS number of the ship-to plant
CTA+IC+Empties Dept.:Steve Miller'	Contact information at ship-to
COM+00441234567890:TE'	Contact's telephone number
LIN+1++000PAL:SA'	1st line item: Packaging type code 000PAL (assigned by the seller/supplier of the service)
QTY+21:5:PCE'	Ordered quantity 5 pieces
LIN+2++KLT6428:SA'	2nd line item: Packaging type code KLT6428 (assigned by the seller/supplier of the service)
QTY+21:60:PCE'	Ordered quantity 60 pieces
LIN+3++LID123:SA'	3rd line item: Packaging type code LID123 (assigned by the seller/supplier of the service)
QTY+21:5:PCE'	Ordered quantity 5 pieces

UNS+S'	Section control
UNT+25+1'	Message trailer first message - 25 segments
UNH+2+ORDERS:D:16A:UN: GBOB10'	Header segment of the second message, message type ORDERS, D.16A
BGM+144::6:(2) Packaging Order+111002+9'	Begin of message, order number 111002, message scenario: Packaging Order, original
DTM+137:20160915:102'	Message/ order date in format CCYYMMDD
DTM+2:20161002:102'	Requested delivery date in format CCYYMMDD
NAD ...	all parties identified as in message #1
LIN+1++000PAL:SA'	1st line item: Packaging type code 000PAL
QTY+21:10:PCE'	Ordered quantity 10 pieces
LIN+2++KLT6428:SA'	2nd line item: Packaging type code KLT6428
QTY+21:120:PCE'	Ordered quantity 120 pieces
LIN+3++LID123:SA'	3rd line item: Packaging type code LID123
QTY+21:10:PCE'	Ordered quantity 10 pieces
UNS+S'	Section control
UNT+25+2'	Message trailer second message - 25 segments
UNH+3+ORDERS:D:16A:UN: GBOB10'	Header segment of the third message
BGM+144::6:(2) Packaging Order+111003+9'	Begin of message, order number 111003, message scenario: Packaging Order, original
DTM+137:20160915:102'	Message/ order date in format CCYYMMDD
DTM+2:20161003:102'	Requested delivery date in format CCYYMMDD
NAD ...	all parties identified as in message #1
LIN+1++000PAL:SA'	1st line item: Packaging type code 000PAL
QTY+21:10:PCE'	Ordered quantity 10 pieces
LIN+2++KLT6428:SA'	2nd line item: Packaging type code KLT6428
QTY+21:120:PCE'	Ordered quantity 120 pieces
LIN+3++LID123:SA'	3rd line item: Packaging type code LID123
QTY+21:10:PCE'	Ordered quantity 10 pieces
UNS+S'	Section control
UNT+25+3'	Message trailer third message - 25 segments
UNH+4+ORDERS:D:16A:UN: GBOB10'	Header segment of the fourth message
BGM+144::6:(2) Packaging Order+111004+9'	Begin of message, order number 111004, message scenario: Packaging Order, original
DTM+137:20160915:102'	Message/ order date in format CCYYMMDD
DTM+2:20161004:102'	Requested delivery date in format CCYYMMDD
NAD+...	all parties identified as in message #1
LIN+1++000PAL:SA'	1st line item: Packaging type code 000PAL
QTY+21:5:PCE'	Ordered quantity 5 pieces
LIN+2++KLT6428:SA'	2nd line item: Packaging type code KLT6428
QTY+21:60:PCE'	Ordered quantity 60 pieces
LIN+3++LID123:SA'	3rd line item: Packaging type code LID123
QTY+21:5:PCE'	Ordered quantity 5 pieces
UNS+S'	Section control
UNT+25+4'	Message trailer fourth message - 25 segments
UNH+5+ORDERS:D:16A:UN: GBOB10'	Header segment of the fifth message
BGM+144::6:(2) Packaging Order+111005+9'	Begin of message, order number 111004, message scenario: Packaging Order, original
DTM+137:20160915:102'	Message/ order date in format CCYYMMDD
DTM+2:20161005:102'	Requested delivery date in format CCYYMMDD
NAD+...	all parties identified as in message #1
LIN+1++000PAL:SA'	1st line item: Packaging type code 000PAL
QTY+21:5:PCE'	Ordered quantity 5 pieces
LIN+2++KLT6428:SA'	2nd line item: Packaging type code KLT6428
QTY+21:60:PCE'	Ordered quantity 60 pieces

LIN+3++LID123:SA'	3rd line item: Packaging type code LID123
QTY+21:5:PCE'	Ordered quantity 5 pieces
UNS+S'	Section control
UNT+25+5'	Message trailer fifth message - 25 segments
UNZ+5+144659'	Interchange trailer - 5 messages in the interchange

2.2 Packaging Order Response of the Packaging Manager

As indicated above, there are three status levels foreseen for a response to an order or order change:

1. Preliminary order response, indicating that the order has been processes and is stored within the receiver's data base. This is not yet a firm confirmation and the ordering party can still make amendments to the order.
2. Packaging order confirmation: the packaging manager confirms the delivery of Packaging material; further amendments to the order are not possible.
3. Packaging order rejection: the packaging manager rejects the complete order.

The distinction between one and the other is made in data element 1225 in the BGM segment of the ORDRSP message.
1225 = 11: (Preliminary) Order response
1225 = 6 : Order confirmation, ordered items are confirmed and cannot be changed anymore
1225 = 27: Order is not accepted

We assume, the package manager does not change anything and responds to the order interchange as follows:

Table 3: Order respose data

Order Response Interchange: 16. September					
Msg. Type					
ORDRSP (1)	Message date	16. Sep			DTM+137
	Message number	234882			BGM/DE1004
	Order No.	111001			RFF+ON
	Order date	15. Sep			DTM+171
	Req. delivery date	01. Okt			DTM+2
	Line item data as in the ORDERS				
ORDRSP (2)	Message date	16. Sep			DTM+137
	Message number	234883			BGM/DE1004
	Order No.	111002			RFF+ON
	Order Date	15. Sep			DTM+171
	Req. delivery date	02. Okt			DTM+2
	Line item data as in the ORDERS				
ORDRSP (3)	Message date	16. Sep			DTM+137
	Message number	234884			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111003			RFF+ON
	Req. delivery date	03. Okt			DTM+2
	Line item data as in the ORDERS				

ORDRSP (4)	Message date	16. Sep			DTM+137
	Message number	234885			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111004			RFF+ON
	Req. delivery date	04. Okt			DTM+2
	Line item data as in the ORDERS				
ORDRSP (5)	Message date	16. Sep			DTM+137
	Message number	234886			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111005			RFF+ON
	Req. delivery date	05. Okt			DTM+2
	Line item data as in the ORDERS				

2.2.1 Short order response

If the Packaging manager does not change any quantity or date, only the header information and the status 11 in the BGM needs to be sent.
If there are changes at line item level, the all line items must be sent.

The following example shows the short order response variant of the first order response:

Table 4: Short ORDRSP interchang

UNA:+.? '	Service string advice
UNB+UNOC:3+987654321:1:LEFAS+ OD0177A001EDI:59:123+160916:1333+12345'	Interchange header
UNH+1+ORDRSP:D:16A:UN:GBOD10'	Message header of the first message, reference number in interchange = 1
BGM+231::6:(3) Packaging Order Confirmation+234882+11'	Begin of the first order confirmation message number 234882 Function code 11: response (not yet a confirmation)
DTM+137:20160916:102'	Message date 16.09.2016
DTM+2:20161001:102'	Requested delivery date: 01.10.2016
DTM+69:20161001:102'	Planned delivery date: 01.10.2016
RFF+ON:111001'	Order number (reference): 111001
DTM+171:20160915:102'	Order date: 15.09.2016
NAD+MR+776655::92++Supplier Inc.: Automotive Division+Windsor Road 51+ London++W5 3UP+GB'	Message receiver
NAD+MS+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Message sender
NAD+BY+776655::O91++Supplier Inc.:Automotive Division+Windsor Road 51+London++W5 3UP+GB'	Buyer of the packaging service
RFF+ANK:123456789'	DUNS number assigned to the party identified with NAD+BY
NAD+SE+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Seller of the packaging service

RFF+ANK:987654321'	DUNS number assigned to the party identified with NAD+SE
NAD+ST+77665501::O91++Supplier Inc.:Plant Oxford+Mars Business Park:Gate 25+Oxford++OX2 8AB+GB'	Ship-to
LOC+11+Dock 15::O91'	Unloading point (place of discharge)
RFF+ANK:123456799'	DUNS number assigned to the party identified with NAD+ST
CTA+IC+Empties Dept.:Steve Miller'	Contact at ship-to party
COM+00441234567890:TE'	Telephone number of the contact person
UNS+S'	Section control
UNT+19+1'	Message trailer of first message, 19 segments in the message, reference number in interchange is 1.
….	
Other response messages in the interchange	
….	
UNZ+5+12345'	Interchange trailer - 5 messages in the interchange

2.2.2 Complete order response

If the package manager changes or amends the figures of the order in the order response message, all the details must be sent.
Let's assume the order response data shall include the following changes:

Table 5: Order response data with changes

Order Response Interchange: 16. September					
Msg. Type					
ORDRSP (1)	Message date	16. Sep			DTM+137
	Message number	234882			BGM/DE1004
	Order No.	111001			RFF+ON
	Order date	15. Sep			DTM+171
	Req. delivery date	01. Okt			DTM+2
	Line item data as in the ORDERS				
ORDRSP (2)	Message date	16. Sep			DTM+137
	Message number	234883			BGM/DE1004
	Order No.	111002			RFF+ON
	Order Date	15. Sep			DTM+171
	Req. delivery date	02. Okt			DTM+2
	Line item data as in the ORDERS				
ORDRSP (3)	Message date	16. Sep			DTM+137
	Message number	234884			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111003			RFF+ON
	Req. delivery date	03. Okt			DTM+2
	Line item data as in the ORDERS				

ORDRSP (4)	Message date		16. Sep		DTM+137
	Message number		234885		BGM/DE1004
	Order date		15. Sep		DTM+171
	Order No.		111004		RFF+ON
	Req. delivery date		04. Okt		DTM+2
	POS	1	5 changed to 10	000PAL	
		2	60 changed to 120	KLT6428	
		3	5 changed to 10	LID123	
ORDRSP (5)	Message date		16. Sep		DTM+137
	Message number		234886		BGM/DE1004
	Order date		15. Sep		DTM171
	Order No.		111005		RFF+ON
	Req. delivery date		05. Okt		DTM+2
	POS	1	5 changed to 0	000PAL	
		2	60 changed to 0	KLT6428	
		3	5 changed to 0	LID123	

The EDI interchange is shown in Table 6.

Table 6: ORDRSP Interchange with changes

UNA:+.? '	Service string advice
UNB+UNOC:3+987654321:1:LEFAS+OD0177A001EDI:59:123+160916:1333+12345'	Interchange header
UNH+1+ORDRSP:D:16A:UN:GBOD10'	Message header of the first message, reference number in interchange = 1
BGM+231::6:Packaging Order Response+234882+11'	Begin of the first order confirmation message number 234882 Function code 11: response (not yet a confirmation) no changes -> short variant
DTM+137:20160916:102'	Message date 16.09.2016
DTM+2:20161001:102'	Requested delivery date: 01.10.2016
DTM+69:20161001:102'	Planned delivery date: 01.10.2016
RFF+ON:111001'	Order number (reference): 111001
DTM+171:20160915:102'	Order date: 15.09.2016
NAD+MR+776655::92++Supplier Inc.:Automotive Division+Windsor Road 51+London++W5 3UP+GB'	Message receiver
NAD+MS+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Message sender
NAD+BY+776655::091++Supplier Inc.:Automotive Division+Windsor Road 51+London++W5 3UP+GB'	Buyer of the packaging service
RFF+ANK:123456789'	DUNS number assigned to the party identified with NAD+BY
NAD+SE+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Seller of the packaging service
RFF+ANK:987654321'	DUNS number assigned to the party identified with NAD+SE

NAD+ST+77665501::091++Supplier Inc.:Plant Oxford+Mars Business Park:Gate 25+Oxford++OX2 8AB+GB'	Ship-to
LOC+11+Dock 15::091'	Unloading point (place of discharge)
RFF+ANK:123456799'	DUNS number assigned to the party identified with NAD+ST
CTA+IC+Empties Dept.:Steve Miller'	Contact at ship-to party
COM+00441234567890:TE'	Telephone number of the contact person
UNS+S'	Section control
UNT+19+1'	Message trailer of first message, 19 segments in the message, reference number in interchange is 1.
UNH+2+ORDRSP:D:16A:UN: GBOD10'	Message header of the second message, reference number in interchange = 2
BGM+231::6:Packaging Order Response+234883+11'	Begin of the second order confirmation message number 234883 Function code 11: response no changes -> short variant
DTM+137:20160916:102'	Message date 16.09.2016
DTM+2:20161002:102'	Requested delivery date: 02.10.2016
DTM+69:20161002:102'	Confirmed date: 02.10.2016
RFF+ON:111002'	Order number (reference): 111002
DTM+171:20160915:102'	Order date: 15.09.2016
NAD+MR+776655::92++Supplier Inc.:Automotive Division+Windsor Road 51+London++W5 3UP+GB'	Message receiver
NAD ...	all parties identified as in message #1
UNS+S'	Section control
UNT+19+2'	Message trailer of second message, 19 segments in the message, reference number in interchange is 2.
UNH+3+ORDRSP:D:16A:UN: GBOD10'	Message header of the third message, reference number in interchange = 3
BGM+231::6:Packaging Order Response+234884+11'	Begin of the third order confirmation message number 234884 Function code 11: response no changes -> short variant
DTM+137:20160916:102'	Message date 16.09.2016
DTM+2:20161003:102'	Requested delivery date: 03.10.2016
DTM+69:20161003:102'	Confirmed date: 03.10.2016
RFF+ON:111003'	Order number (reference): 111003
DTM+171:20160915:102'	Order date: 15.09.2016
NAD...	all parties identified as in message #1
UNS+S'	Section control
UNT+19+3'	Message trailer of third message, 19 segments in the message, reference number in interchange is 3.
UNH+4+ORDRSP:D:16A:UN: GBOD10'	Message header of the fourth message, reference number in interchange = 4
BGM+231::6:(3) Packaging Order Response+234885+11'	Begin of the fourth order confirmation message number 234885 Function code 11: response
DTM+137:20160916:102'	Message date 16.09.2016
DTM+2:20161004:102'	Requested delivery date: 04.10.2016
DTM+69:20161004:102'	Confirmed date: 04.10.2016
RFF+ON:111004'	Order number (reference): 111004

DTM+171:20160915:102'	Order date: 15.09.2016
NAD...	all parties identified as in message #1
LIN+1++000PAL:SA'	First line item, Packaging code assigned by the supplier of the service
QTY+21:5:PCE'	Ordered quantity - 5 pieces
QTY+66:10:PCE'	Confirmed quantity: 10 pieces
LIN+21++KLT6428:SA'	Second line item, Packaging code assigned by the supplier of the service
QTY+21:60:PCE'	Ordered quantity - 60 pieces
QTY+66:120:PCE'	Confirmed quantity: 120 pieces
LIN+3++LID123:SA'	First line item, Packaging code assigned by the supplier of the service
QTY+21:5:PCE'	Ordered quantity - 5 pieces
QTY+66:10:PCE'	Confirmed quantity: 10 pieces
UNS+S'	Section control
UNT+29+4'	Message trailer of fourth message, 29 segments in the message, reference number in interchange is 4.
UNH+5+ORDRSP:D:16A:UN:GBOD10'	Message header of the fourth message, reference number in interchange = 5
BGM+231::6:(3) Packaging Order Confirmation+234886+11'	Begin of the fifth order confirmation message number 234886 Function code 11: response (not yet a confirmation)
DTM+137:20160916:102'	Message date 16.09.2016
DTM+2:20161005:102'	Requested delivery date: 05.10.2016
DTM+69:20161005:102'	Confirmed date: 05.10.2016
RFF+ON:111005'	Order number (reference): 111005
DTM+171:20160915:102'	Order date: 15.09.2016
NAD...	all parties identified as in message #1
LIN+1++000PAL:SA'	First line item, Packaging code assigned by the supplier of the service
QTY+21:5:PCE'	Ordered quantity: 5 pieces
QTY+66:0:PCE'	Confirmed quantity: 0 pieces
LIN+21++KLT6428:SA'	Second line item, Packaging code assigned by the supplier of the service
QTY+21:60:PCE'	Ordered quantity: 60 pieces
QTY+66:0:PCE'	Confirmed quantity: 0 pieces
LIN+3++LID123:SA'	First line item, Packaging code assigned by the supplier of the service
QTY+21:5:PCE'	Ordered quantity: 5 pieces
QTY+66:0:PCE'	Confirmed quantity: 0 pieces
UNS+S'	Section control
UNT+29+12345'	Message trailer of fourth message, 29 segments in the message, reference number in interchange is 5.
UNZ+5+12345'	Interchange trailer - 5 messages in the interchange

If a packaging order must be rejected, code 27 in BGM/DE1225 indicates this.
A rejection terminates the life-cycle of the referenced order, if necessary the packaging ordering party has to generate a new order.

In the example, the ordering party has issued an order on 30.09.2016 for a delivery on 01.10.2016. This order cannot be fulfilled by the package manager.

Table 7: ORDRSP with rejection

UNA:+.? '	Service string advice
UNB+UNOC:3+987654321:1:LEFAS+OD0177A001EDI:59:123+160930:1333+12345'	Interchange header
UNH+1+ORDRSP:D:16A:UN: GBOD10'	Message header of the first message, reference number in interchange = 1
BGM+231::6:(3) Packaging Order Confirmation+234882+27'	Begin of the first order confirmation message number 234882 **Function code 27: order rejected**
DTM+137:20160930:102'	Message date 30.09.2016
DTM+2:20161001:102'	Requested delivery date: 01.10.2016
RFF+ON:111001'	Order number (reference): 111001
DTM+171:20160930:102'	Order date: 30.09.2016
NAD+MR+776655::92++Supplier Inc.: Automotive Division+Windsor Road 51+ London++W5 3UP+GB'	Message receiver
NAD+MS+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Message sender
NAD+BY+776655::O91++Supplier Inc.:Automotive Division+Windsor Road 51+London++W5 3UP+GB'	Buyer of the packaging service
RFF+ANK:123456789'	DUNS number assigned to the party identified with NAD+BY
NAD+SE+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Seller of the packaging service
RFF+ANK:987654321'	DUNS number assigned to the party identified with NAD+SE
NAD+ST+77665501::O91++Supplier Inc.:Plant Oxford+Mars Business Park:Gate 25+Oxford++OX2 8AB+GB'	Ship-to
LOC+11+Dock 15::O91'	Unloading point (place of discharge)
RFF+ANK:123456799'	DUNS number assigned to the party identified with NAD+ST
CTA+IC+Empties Dept.:Steve Miller'	Contact at ship-to party
COM+00441234567890:TE'	Telephone number of the contact person
UNS+S'	Section control
UNT+19+1'	Message trailer of first message, 19 segments in the message, reference number in interchange is 1.
UNZ+1+12345'	Interchange trailer - messages in the interchange

2.3 Packaging order confirmation

When the frozen horizonis is reached and the packaging mangager has planned the shipment(s), he sends the firm packaging order confirmation.

We assuming the following confirmantion data:

Table 8: Packaging order confirmation data

Order Response Interchange: 28. September - final confirmation					
Msg. Type					
ORDRSP (1)	Message date	28. Sep			DTM+137
	Message number	236123			BGM/DE1004
	Order No.	111001			RFF+ON
	Order date	15. Sep			DTM+171
	Req. delivery date	01. Okt			DTM+2
	POS	1	5	000PAL	
		2	60	KLT6428	
		3	5	LID123	
ORDRSP (2)	Message date	28. Sep			DTM+137
	Message number	236124			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111002			RFF+ON
	Req. delivery date	02. Okt			DTM+2
		1	10	000PAL	
		2	120	KLT6428	
		3	10	LID123	
ORDRSP (3)	Message date	28. Sep			DTM+137
	Message number	236125			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111003			RFF+ON
	Req. delivery date	03. Okt			DTM+2
	POS	1	10	000PAL	
		2	120	KLT6428	
		3	10	LID123	
ORDRSP (4)	Message date	28. Sep			DTM+137
	Message number	236126			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111004		RFF+ON	RFF+ON
	Req. delivery date	04. Okt			DTM+2
	POS	1	10	000PAL	
		2	120	KLT6428	
		3	10	LID123	
ORDRSP (5)	Message date	28. Sep			DTM+137

	Message number	236127			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111005			RFF+ON
	Req. delivery date	05. Okt			DTM+2
	POS	1	0	000PAL	
		2	0	KLT6428	
		3	0	LID123	

The EDIFACT message would look like in Table 9.
The status is indicated in BGM / DE 1225 = 6 : Order confirmation, ordered items are confirmed and cannot be changed anymore

Note:
If the Packaging manager does not change any quantity or date, only the header information and the status 6 in the BGM need to be sent.
If there are changes at line item level, then all line items must be sent.

Table 9: ORDRSP as confirmation (short)

UNA:+.? '	Service string advice
UNB+UNOC:3+987654321:1:LEFAS+ OD0177A001EDI:59:123+160916:1333+56789'	Interchange header
UNH+1+ORDRSP:D:16A:UN: GBOD10'	Message header of the first message, message type ORDRSP reference number in interchange = 1
BGM+231::6: Packaging Order Confirmation+236123+**6**'	Begin of the first order confirmation message number 236123 Function code 6: confirmation
All the other content is as described in the packaging order response example.	
....	
UNT+29+5'	End of laste message
UNZ+5+56789'	Interchange trailer

2.3.1 Split quantities

It may be necessary for the Packaging Manager to ship the ordered packaging items in split quantities from different locations. In such a situation, the packaging order response and the packaging order confirmation may contain sub-lines showing the different split quantities.
In addition, it may not be possible for split quantities to arrive at the destination at the same time. The sub-line can therefore specify a delivery date/time which overrides the delivery date/time given at header level in the packaging order response or packaging order confirmation.

2.3.2 Release Authorization Number (RAN)

Some Packaging Managers allocate a unique release authorization number (RAN) to each different lot that will be required to satisfy the order. Each different combination of package type, delivery date and ship-from location is considered to be a different lot.
In the case of split quantities, the RAN will appear as part of the information in the split quantity sub-line but even if there are no split quantities a sub-line will still be required in order to transmit the RAN.

Assuming, the packaging manager has to split a shipment and uses RAN as follows:

Table 10: Order confirmation data with split quantities an RAN

ORDRSP (4)	Message date	16. Sep			DTM+137	
	Message number	234885			BGM/DE1004	
	Order date	15. Sep			DTM+171	
	Order No.	111004			RFF+ON	
	Req. delivery date	04. Oct			DTM+2	
	Conf. delivery date	04. Oct			DTM+69	
		POS	Conf. QTY	Type Code	RAN	Confirmed delivery Date
		1	10	000PAL		
		1.1	5	000PAL	RAN1	03.10
		1.2	5	000PAL	RAN2	04.10
		2	120	KLT6428		
		2.1	60	KLT6428	RAN3	03.10
		2.2	60	KLT6428	RAN4	04.10
		3	10	LID123		
		3.1	5	LID123	RAN5	03.10
		3.2	5	LID123	RAN6	04.10

The corresponding ORDRSP - message would look like this:

Table 11: ORDRSP with split quantities and RAN

UNA:+.? '	Service string advice
UNB+UNOC:3+987654321:1:LEFAS+ OD0177A001EDI:59:123+160916:1333+56789'	Interchange header
UNH+4+ORDRSP:D:16A:UN:GBOD10'	Message header
BGM+X05::10:Packaging Order Confirmation+234885+6'	Begin of the order confirmation message number 236123 Function code 6: confirmation
DTM+137:20160916:102'	Message date
DTM+2:20161004:102'	Requested delivery date
DTM+69:20161004:102'	Confirmed delivery date
RFF+ON:111004'	Order number
DTM+171:20160915:102'	Order date
NAD+MR+776655::O91++Supplier Inc.:Automotive Division+Windsor Road 51+London++W5 3UP+GB'	Message receiver
NAD+MS+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Message sender
NAD+BY+776655::O91++Supplier Inc.:Automotive Division+Windsor Road 51+London++W5 3UP+GB'	Buyer of the packaging Service
RFF+ANK:123456789'	DUNS
NAD+SE+987654321::16++Car Manufacturing Inc.:Packaging Management Dept.+Breite Straße 23+Berlin++13156+DE'	Seller of the packaging service
RFF+ANK:987654321'	Seller's DUNS
NAD+ST+77665501::O91++Supplier Inc.:Plant Oxford+Mars Business Park:Gate 25+Oxford++OX2 8AB+GB'	Ship to
LOC+11+Dock 15::O91'	Unloading point
RFF+ANK:123456799'	Ship to's DUNS

CTA+IC+Empties Dept.:Steve Miller'	Ship to's contact information
COM+00441234567890:TE'	Telephone number
LIN+1++000PAL:O91'	Line item 1, packaging type code 000PAL
QTY+21:5:C62'	Ordered quantity 5
QTY+66:10:C62'	Confirmed Quantity 10
LIN+1++000PAL:O91+1:1'	Sub-line 1.1
QTY+11:5:C62'	Split quantity 5
DTM+69:20161003:102'	Confirmed delivery date 2016-10-03 overwrites the confirmed date in the header
RFF+AAP:RAN1'	Release authorisation number RAN1
LIN+1++000PAL:O91+1:2'	Sub-line 1.2
QTY+11:5:C62'	Split quantity 5
DTM+69:20161004:102'	Confirmed delivery date 2016-10-04 overwrites the confirmed date in the header
RFF+AAP:RAN2'	Release authorisation number RAN2
LIN+2++KLT6428:O91'	Line item 1, packaging type code KLT6428
QTY+21:60:C62'	Ordered quantity 60
QTY+66:120:C62'	Confirmed Quantity 120
LIN+2++KLT6428:O91+1:1'	Sub-line 2.1
QTY+11:60:C62'	Split quantity 60
DTM+69:20161003:102'	Confirmed delivery date 2016-10-03 overwrites the confirmed date in the header
RFF+AAP:RAN3'	Release authorisation number RAN3
LIN+2++KLT6428:O91+1:2'	Sub-line 2.2
QTY+11:60:C62'	Split quantity 60
DTM+69:20161004:102'	Confirmed delivery date 2016-10-04 overwrites the confirmed date in the header
RFF+AAP:RAN4'	Release authorisation number RAN4
LIN+3++LID123:O91'	Line item 3, packaging type code LID123
QTY+21:5:C62'	Ordered quantity 5
QTY+66:105:C62'	Confirmed Quantity 10
LIN+3++LID123:O91+1:1'	Sub-line 3.1
QTY+11:5:C62'	Split quantity 5
DTM+69:20161003:102'	Confirmed delivery date 2016-10-03 overwrites the confirmed date in the header
RFF+AAP:RAN5'	Release authorisation number RAN5
LIN+3++LID123:O91+1:2'	Sub-line 3.2
QTY+11:5:C62'	Split quantity 5
DTM+69:20161004:102'	Confirmed delivery date 2016-10-04 overwrites the confirmed date in the header
RFF+AAP:RAN6'	Release authorisation number RAN6
UNS+S'	Section control
UNT+53+4'	Message trailer
UNZ+1+56789'	Interchange trailer

2.4 Packaging Order Change

If the order has not yet been finally confirmed by the Packaging manager, the ordering party may change the Packaging order.
The ordering party can change the quantity of ordered items, add new order lines, delete (cancel) individual order lines, or cancel a complete order.
A change of the delivery date is not possible. For this situation, the existing order shall be cancelled and for the new delivery date either a new order shall be issued or - if an order already exists for that delivery date or time-slot - this existing order shall be amended.
In the example 1, the ordering party intends to change quantities in the ORDERS #111003 and #111005.

Table 12: Packaging order change data

Order Change Interchange: 23. September					
Msg. Type					
ORDCHG (1)	Message date	23. Sep			DTM+137
	Message number	111431			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111003			RFF+ON
	Req. delivery date	03. Okt			DTM+2
	POS	1	8	000PAL	
		2	96	KLT6428	
		3	8	LID123	
ORDCHG (2)	Message date	23. Sep			DTM+137
	Message number	111432			BGM/DE1004
	Order date	15. Sep			DTM+171
	Order No.	111005			RFF+ON
	Req. delivery date	05. Okt			DTM+2
	POS	1	10	000PAL	
		2	120	KLT6428	
		3	10	LID123	

Table 13 shows the EDI interchange.

Table 13: ORDCHG interchange

UNA:+.? '	Service string advice
UNB+UNOC:3+OD012345:59:123+ 987654321:1:LEFAS+071205:1446+14659'	Interchange header
UNH+1+ORDCHG:D:16A:UN:GBOC10'	Message header of the first message, message type order change (ORDCHG) reference number in interchange = 1
BGM+144::6:Packaging Order Change+111431+**4**'	Begin of the first order change message number 111431 Function code 4: change an existing order
DTM+137:20160923:102'	Message date 23.09.2016
DTM+2:20161003:102'	Requested delivery date: 03.10.2016
RFF+ON:111003'	Order number (reference): 111003
DTM+171:20160915:102'	Order date: 15.09.2016
NAD ...	All parties identified as in examples above
LIN+1++000PAL:SA'	First line item, Packaging code assigned by the supplier of the service **Note: the position number must match the number in the original order.**

QTY+21:8:PCE'	(changed) ordered quantity: 8 pieces
LIN+2++KLT6428:SA'	Second line item, Packaging code assigned by the supplier of the service
QTY+21:96:PCE'	(changed) ordered quantity: 96 pieces
LIN+3++LID123:SA'	Third line item, Packaging code assigned by the supplier of the service
QTY+21:8:PCE'	(changed) ordered quantity: 8 pieces
UNS+S'	Section control
UNT+25+1'	Message trailer first message
UNH+1+ORDCHG:D:16A:UN: GBOC10'	Message header of the first message, message type order change (ORDCHG) reference number in interchange = 1
BGM+144::6:(2a) Packaging Order Change+111432+**4**'	Begin of the first order change message number 111432 Function code 4: change an existing order
DTM+137:20160923:102'	Message date 23.09.2016
DTM+2:20161005:102'	Requested delivery date: 05.10.2016
RFF+ON:111005'	Order number (reference): 111005
DTM+171:20160915:102'	Order date: 15.09.2016
NAD...	All parties identified as in examples above
LIN+1++000PAL:SA'	First line item, Packaging code assigned by the supplier of the service
QTY+21:10:PCE'	(changed) ordered quantity: 10 pieces
LIN+2++KLT6428:SA'	Second line item, Packaging code assigned by the supplier of the service
QTY+21:120:PCE'	(changed) ordered quantity: 120 pieces
LIN+3++LID123:SA'	Third line item, Packaging code assigned by the supplier of the service
QTY+21:10:PCE'	(changed) ordered quantity: 10 pieces
UNS+S'	
UNT+25+1'	
UNZ+2+14659'	

If a complete line in the order has to be cancelled, the order quantity is put to zero:

LIN+1++KLT6428:SA'	First line item, Packaging code assigned by the supplier of the service
QTY+21:0:PCE'	(changed) ordered quantity: 0 pieces

Example: the order #111003 shall be cancelled.

Table 14: ORDCHG interchange with order cancellation

UNA:+.? '	Service string advice
UNB+UNOC:3+OD012345:59:123+ 987654321:1:LEFAS+071205:1446+14659'	Interchange header
UNH+1+ORDCHG:D:16A:UN: GBOC10'	Message header of the first message, message type order change (ORDCHG) reference number in interchange = 1
BGM+144::6:Packaging Order Change+111431+**1**'	Begin of the first order change message number 111431 Function code 1: cancel an existing order
DTM+137:20160923:102'	Message date 23.09.2016
DTM+2:20161003:102'	(Initially) requested delivery date: 03.10.2016
RFF+ON:111003'	Order number (reference): 111003

DTM+171:20160915:102'	Order date: 15.09.2016
NAD ...	All parties identified as in examples above
UNS+S'	Section control
UNT+16+1'	Message trailer first message
UNZ+1+14659'	Interchange trailer

The Packaging Manager answers to the order change messages in the same way as to order messages - see chapter 2.2

3 Annexes

1. VDA 4946 Part 1 - Packaging Order Proposal EDI Guideline based on UNSM ORDERS

2. VDA 4946 Part 2 - Packaging Order EDI Guideline based on UNSM ORDERS

3. VDA 4946 Part 3 - Packaging Order Change EDI Guideline based on UNSM ORDCHG

4. VDA 4946 Part 4 - Packaging Order Response / Confirmation EDI Guideline based on UNSM ORDRSP