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EASY E-SERVICES

- EASY Business Connector -

Documentation

Version 4.0

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1 The EASY Business Connector (EBC)

1.1 What is the EBC?

The EBC is a connector between your Enterprise Resource Planning (ERP) system and the supplier's (FST) ERP system for exchanging standard transaction data electronically. The EBC can speed up your order process by placing orders directly out of your ERP System without the need to use an external platform. With the EBC your ERP system has access to further important business data like order response, stock quantity, availability information and pricing.

1.2 Which advantages has the EBC over classic EDI?

Unlike classic EDI, the EBC …

- **… is very simple to implement – data enrichment**
  When placing an order through the EBC we need at least the article number and the quantity you want to order. All additional order information you need for EDI can be enriched by the EBC according to your settings, like the delivery address.

- **… helps you to get started – online tools**
  We offer you online tools for testing and implementing your connection to the EBC without additional coordination with us. The EBC is ready to connect with standard EDI formats, like openTRANS or a simple CSV.

- **… is safe and process oriented – order validator**
  The EBC includes an order validator which will check your files for syntactic and semantic inconsistencies. The validator differentiates between warnings and errors. On warnings the validator will correct the order, inform you by e-mail and pass the order to our ERP system. On errors the validator will stop the order process and informs you immediately by e-mail about the problem. You will lose no time on tracking the issue in your order file.

- **… is free of charge – self-service**
  The EBC connection is free of charge. No traffic based fees are required for exchanging data.

1.3 What EDI formats and message types are covered by the EBC?

We support the well-known openTRANS format (based on XML) and a simplified CSV format to give you the flexibility in development. It's up to you to use the optional fields; we only need an article number and the corresponding quantity. Currently, we support Order, Order Response, Delivery Instructions, Advanced Shipping Notice, and Invoice message types.

1.4 What are the steps to establish the connection to the EBC?

The EBC is ready for you. We need no further configuration on our systems.

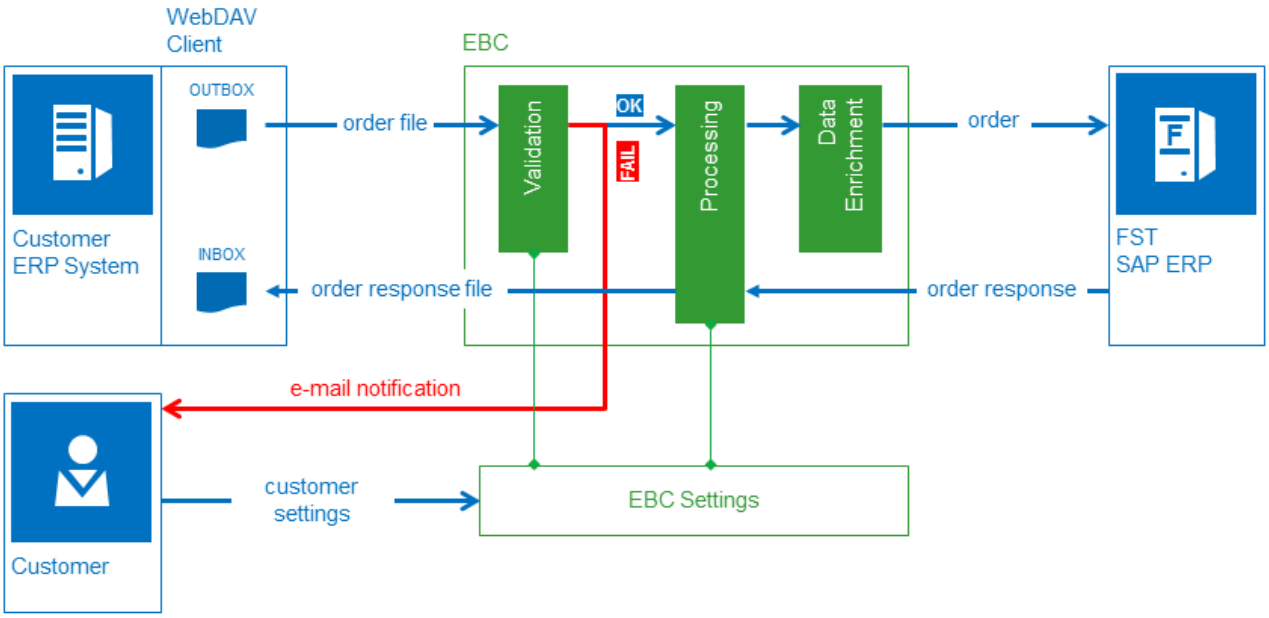
1. Login to EASY and use the header navigation to "#USERNAME#" → "Company acc. management" → "EBC Settings".
2. Install a WebDAV client on your system and connect to our server.
3. Configure the EBC settings according to your expectations (file format, exception handling …).
4. Generate out of your ERP system an appropriate file.
5. Use the EBC Validator in test mode (see 3.9) to validate if the file generated out of your ERP system is fitting.
6. After the successful validation in test mode, you can set-up your own ERP system and the EBC in productive mode for ordering and order response (*) processing.

(*) optional

To help you with testing we developed the online validator you can find in the administration area of EASY. Just upload your order file and the validator will give you feedback instantly. The order validator provides you sample order responses according to your uploaded order. With these files, you are able to test the processing of order responses - also for certain exceptions like canceled order lines.

If you are ready with testing you can switch from test mode to productive mode, and your orders will be placed at FST.

1.5 EBC schematic overview



2 Master data

2.1 Article number mapping

The Easy Business Connector can process orders with vendor article numbers. The key prerequisite is that references have been maintained. In order to upload article number references, there is the “Products” tab in the Administration area.

You can upload a CSV file containing your own article numbers and the reference to our corresponding article number. The CSV should meet the following specifications:

- Record separator: line break (line feed, carriage return or both)
- Column separator: semicolon
- No string delimiter
- Mandatory columns: ArticleNo and OwnArticleNo
    - Column headers are mandatory
    - Other columns will be ignored
- Code page can be detected heuristically by the system
    - However, UTF-8 is strongly recommended

The easiest way to generate and update such CSV files is the following:

1. Download current product catalog
2. Enter your own article numbers
3. Save and upload the CSV file

After the file has been parsed, you can push “Apply uploaded file”, and the previous mapping will be discarded and the new one will become active.

Please note that if the uploaded file contains duplicates, these records cannot be stored, as they would result in ambiguous references.

Example:

```
ArticleNo;OwnArticleNo
210;FST-IP-33
40411000;FST-SP-33
```

2.2 FST supplier ID

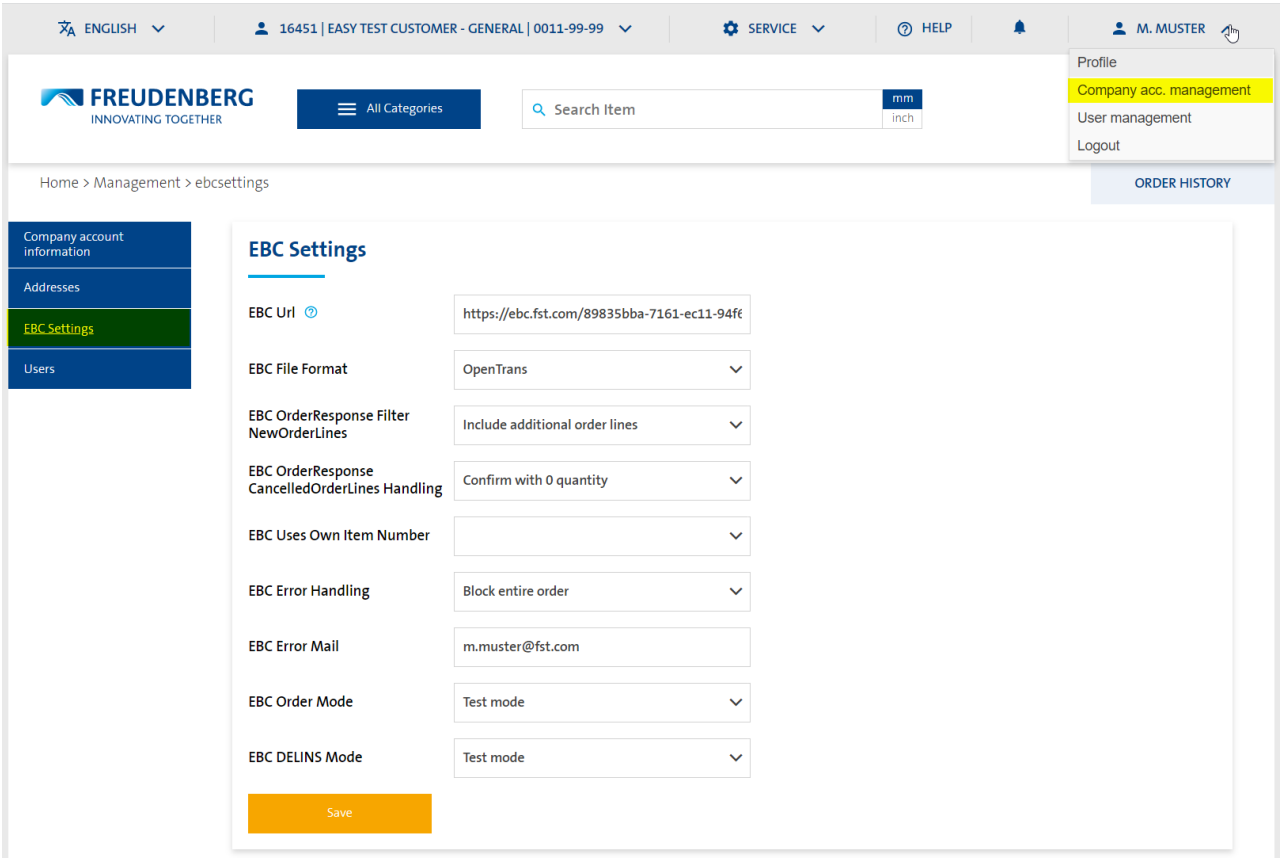
Please make sure, that we have the right supplier ID in your system. If orders contain a supplier ID, which does not match the corresponding entry in our system, the orders cannot be processed.

2.3 Delivery address ID

If you would like to provide the delivery address in your order, please make sure that this ship-to party is maintained in our ERP system. If so, you can just provide our ID. You can find this ID in the drop-down menu “delivery address” on the “Order Entry” tab.

3 Documentation of EBC settings

The EBC settings can be reached via the “Company account Management” menu. There are several settings which you can use to adjust the Easy Business Connector to your needs. With these parameters you can e.g., customize the processing of orders and order responses.



3.1 EBC Url

This read-only field contains the URL you can use to connect to your WebDAV directory for placing your orders and delivery instructions as well as receiving the corresponding order responses, shipping notices, and invoices.

3.2 EBC File Format

You can specify the interchange format of order and order response files. The Easy Business Connector will only process order files, if their format matches the setting. Order response files will be generated according to the settings.

Options: OpenTrans, CSV, XML

Default: OpenTrans

3.3 EBC OrderResponse Filter NewOrderLines

This setting concerns additional order lines in the order response. You can define how the Easy Business Connector should handle order lines that have been added by the FST Customer Service in the ERP system.

Options: Include additional order lines, Remove additional order lines, Order with supplier item number, Order with own item number

Default: Include additional order lines

3.4 EBC OrderResponse CancelledOrderLines Handling

Here you can define how the Easy Business Connector should handle order lines that have been removed by the FST Customer Service in the ERP system.

Options: Confirm with 0 quantity, Confirm with negative quantity, Filter order line, Confirm with 0 price

Default: Confirm with 0 quantity

3.5 EBC Uses Own Item Number

You can define, whether FST article numbers or your own article numbers should be used for ordering. If the setting “order with own article number” is active, the article number mapping is necessary. Supplier article numbers in orders will be ignored.

Default: order with supplier article number

3.6 EBC Error Handling

You can specify the consequences of an error, which occurs for a certain order line. Shall the entire order be blocked or can the order be processed for the other order lines?

Options: Block entire order, Filter unknown items

Default: Block entire order

3.7 EBC Error Mail

If errors occur during order file processing, a notification will be sent to the specified e-mail address(es). You can enter multiple e-mail addresses by separating them with semicolons.

Example: somebody@example.com;someone@example.org

3.8 EBC Order Mode

productive mode: orders will be placed at FST

test mode: order files will be checked, but they will not be placed at FST

Default: test mode

3.9 EBC DELINS Mode

productive mode: delivery schedules will be placed at FST

test mode: delivery schedule files will be checked, but they will not be placed at FST

Default: test mode

4 Orders and Order Responses

4.1 OpenTRANS

OpenTRANS is an open EDI standard, which is supported by FST Easy. Easy supports the latest version 2.1 with some adjustments. The main reason for modifications to the standard is lowering the minimum requirements to order, as there are only a few mandatory fields.

4.1.1 Order

The order file should have the extension .xml and should be coded in UTF-8 for proper representation of special characters. The following table contains the elements and attributes, which will be processed by Easy.

Name	Required	Allowed values	Default value
ORDER	mandatory		
type [attribute]	optional	“standard” or “express”	“standard”
ORDER_HEADER	optional		
ORDER_INFO	optional		
ORDER_ID	optional	String[35]	-
ORDER_DATE	optional	see ISO 8601	current date
PARTIES	optional		
PARTY	mandatory		
PARTY_ID	mandatory	String[10]	FST ERP settings
PARTY_ROLE	mandatory	“buyer”,”delivery”,”supplier”, “deliverer” or “invoice_recipient”	
CURRENCY	optional	see ISO 4217	EUR

REMARKS	optional		
type [attribute]	optional	“finalcustomerreference”	
HEADER_UDX	optional		
UDX.DELIVERY_PRIORITY	optional		
ORDER_ITEM_LIST	optional		
ORDER_ITEM	optional		
LINE_ITEM_ID	optional	String[6]	1, 2, 3, ...
PRODUCT_ID	mandatory		
SUPPLIER_PID	optional	String[18]	
BUYER_PID	optional	String[35]	
QUANTITY	mandatory	decimal	
PRODUCT_PRICE_FIX	optional		
PRICE_AMOUNT	optional	decimal	price of the article
PRICE_QUANTITY	optional	decimal	100
DELIVERY_DATE	optional		
DELIVERY_START_DATE	mandatory	see ISO 8601	current date + 3d
DELIVERY_END_DATE	optional	see ISO 8601	current date + 3d
SOURCING_INFO	optional		
QUOATATION_ID	optional	String[35]	
REMARKS	optional	text	
ITEM_UDX	optional		

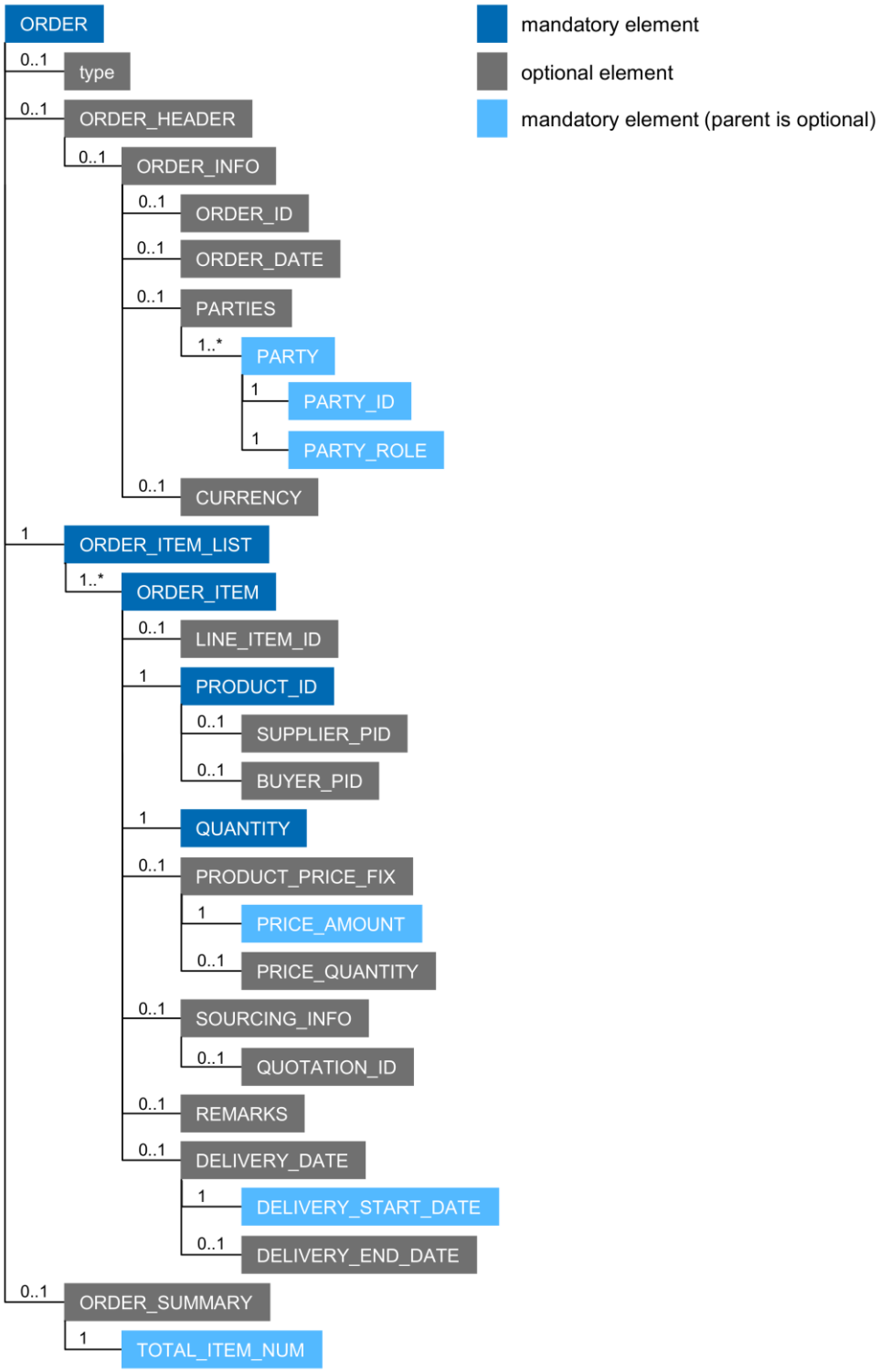
UDX.PROFORMA_PRICE	optional		
UDX.PROFORMA_PRICE_AMOUNT	optional	decimal	
UDX.PROFORMA_PRICE_QUANTITY	optional	decimal	100
UDX.PROFORMA_PRICE_CURRENCY	optional	see ISO 4217	EUR
ORDER_SUMMARY	optional		
TOTAL_ITEM_NUM	mandatory	int	

Additional remarks:

REMARKS (Header)	Only applicable, if end customer reference is maintainable
UDX.DELIVERY_PRIORITY	Only applicable for Orders with E* or F* Incoterms
SUPPLIER_PID	In case you source products from more than one FST supplier, you can provide a different supplier than your default one here.
DELIVERY_DATE	In case of Express Orders, current date + 1d
UDX.PROFORMA_PRICE	Only applicable for Orders with proforma invoicing process

If you are not sure, if the mentioned processes apply to your kind of business, you can check in the Order Entry of Easy. If these fields are displayed and maintainable, the information will also be processed in EBC Orders.

The following image shows the hierarchical structure of the XML document.

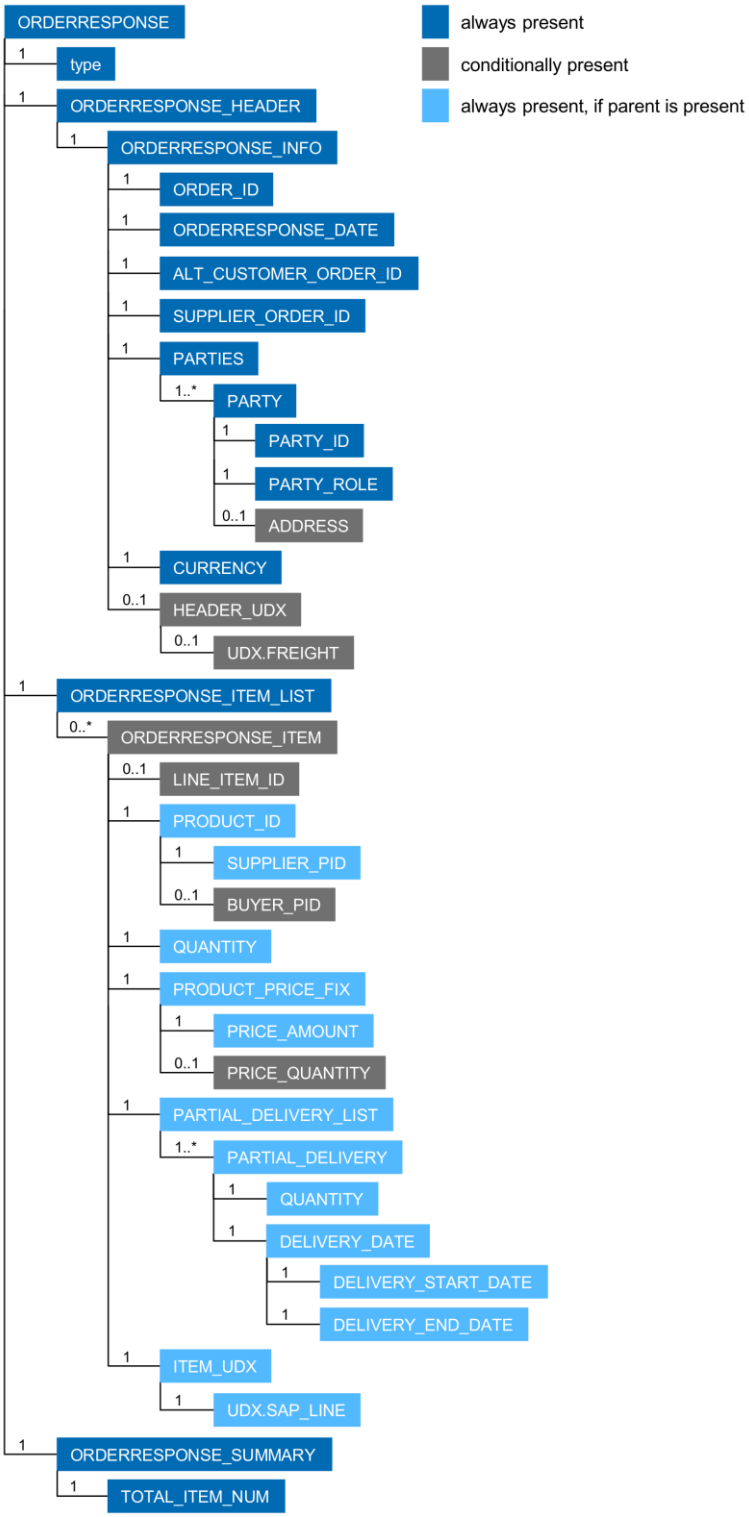

ORDER
0..1
type
0..1
ORDER_HEADER
0..1
ORDER_INFO
0..1
ORDER_ID
0..1
ORDER_DATE
0..1
PARTIES
1..*
PARTY
1
PARTY_ID
1
PARTY_ROLE
0..1
CURRENCY
1
ORDER_ITEM_LIST
1..*
ORDER_ITEM
0..1
LINE_ITEM_ID
1
PRODUCT_ID
0..1
SUPPLIER_PID
0..1
BUYER_PID
1
QUANTITY
0..1
PRODUCT_PRICE_FIX
1
PRICE_AMOUNT
0..1
PRICE_QUANTITY
0..1
SOURCING_INFO
0..1
QUOTATION_ID
0..1
REMARKS
0..1
DELIVERY_DATE
1
DELIVERY_START_DATE
0..1
DELIVERY_END_DATE
0..1
ORDER_SUMMARY
1
TOTAL_ITEM_NUM
mandatory element
optional element
mandatory element (parent is optional)

4.1.2 Order Response

With the parameters on the “Business Connector” tab you can customize the order response message which will be sent to you. These parameters can be set up according to the needs of your ERP system, so that the messages can be processed smoothly.

Please note that if you request products from different FST suppliers in one order message, it will be split and result in multiple order responses.

In general, the structure of the order response message is similar to the order message. The following image illustrates the structure.


always present
conditionally present
always present, if parent is present
ORDERRESPONSE
1 type
1 ORDERRESPONSE_HEADER
1 ORDERRESPONSE_INFO
1 ORDER_ID
1 ORDERRESPONSE_DATE
1 ALT_CUSTOMER_ORDER_ID
1 SUPPLIER_ORDER_ID
1 PARTIES
1..* PARTY
1 PARTY_ID
1 PARTY_ROLE
0..1 ADDRESS
1 CURRENCY
0..1 HEADER_UDX
0..1 UDX.FREIGHT
1 ORDERRESPONSE_ITEM_LIST
0..* ORDERRESPONSE_ITEM
0..1 LINE_ITEM_ID
1 PRODUCT_ID
1 SUPPLIER_PID
0..1 BUYER_PID
1 QUANTITY
1 PRODUCT_PRICE_FIX
1 PRICE_AMOUNT
0..1 PRICE_QUANTITY
1 PARTIAL_DELIVERY_LIST
1..* PARTIAL_DELIVERY
1 QUANTITY
1 DELIVERY_DATE
1 DELIVERY_START_DATE
1 DELIVERY_END_DATE
1 ITEM_UDX
1 UDX.SAP_LINE
1 ORDERRESPONSE_SUMMARY
1 TOTAL_ITEM_NUM

4.2 CSV

The order file should have the extension .csv and should be coded in UTF-8 for proper representation of special characters. Columns should be separated by semicolons and records by line breaks. There are neither column headings nor text delimiters.

As CSV files cannot represent hierarchical structures like the XML-based openTRANS format, there are different record types, which can be identified with a qualifier in the first column.

4.2.1 Order

Orders consist of the record types *Header*, *Order Line* and *Order Line Text*. The record types *Header* and *Order Line Text* are optional. The first column of each row needs to contain the appropriate qualifier. The following tables contain the requirement level. Optional columns can be left empty.

Further, there are some columns that are not used anymore for reasons of compatibility. These should be left empty.

4.2.1.1 Header [30]

The *Header* record is optional. If the order does not contain a *Header* record, the default values apply to the order.

	Field	Required	Allowed values	Default value
1	Qualifier = 30	mandatory		
2	Order ID	optional		"-"
3	Supplier ID	optional		FST ERP setting
4	Ship-To Party	optional		FST ERP setting
5	Bill-To Party	optional		FST ERP setting
6	Forwarder	optional		FST ERP setting
7	Order type	optional	"standard" or "express"	"standard"

8	Order date	optional	DD.MM.YYYY	current date
9	Currency	optional	see ISO 4217	“EUR”
10	Express Service Level	optional	e.g. “SL12”, “SLND”	FST ERP setting

4.2.1.2 Header Texts [31]

The *Header Texts* record is optional. It can be used for end customer reference texts.

	Field	Required	Allowed values	Default value
1	Qualifier = 31	mandatory		
2	Order ID	optional		“-“
3	Supplier ID	optional		FST ERP setting
4	Type of Text	optional	“finalcustomerreference”	
5	Text	optional		

4.2.1.3 Header Extensions [33]

Header Extensions are optional. They provide additional information for the order.

	Field	Required	Allowed values	Default value
1	Qualifier = 33	mandatory		
2	Order ID	optional		"-"
3	Supplier ID	optional		FST ERP setting
4	Delivery Priority	optional	same values as in Order Entry	Standard

4.2.1.4 Order Line [35]

At least one *Order Line* is necessary to place an order.

	Field	Required	Allowed values	Default value
1	Qualifier = 35	mandatory		
2	Order ID	optional		"-"
3	Supplier ID	optional		FST ERP setting
4	Order Line ID	optional		
5	Product ID	mandatory		
6	Order date	optional	DD.MM.YYYY	current date
7	Wished delivery date	optional	DD.MM.YYYY	current date + 3d
8	Quantity	mandatory		
9	Price	optional		
10	Price quantity	optional		100
11	Quote Reference	optional		

For Express Orders, one workday is added to the current date as the default value.

4.2.1.5 Order Line Text [36]

Order Line Texts are optional. They are assigned to *Order Lines* according to the Order Line ID.

	Field	Required	Allowed values	Default value
1	Qualifier = 36	mandatory		
2	Order ID	optional		"-"
3	Supplier ID	optional		FST ERP setting
4	Order Line ID	mandatory		
5	Position text	mandatory	text	

4.2.1.6 Proforma Price [37]

The record type *Proforma Price* is optional. They are assigned to *Order Lines* according to the Order Line ID. This information will only be considered with a running Proforma invoice process.

	Field	Required	Allowed values	Default value
1	Qualifier = 37	mandatory		
2	Order ID	optional		"-"
3	Supplier ID	optional		FST ERP setting
4	Order Line ID	mandatory		
5	Proforma Price	mandatory		
6	Proforma Price Quantity	optional		100
7	Proforma Price Currency	optional	ISO 4217	"EUR"

4.2.1.7 Order Line Extensions [38]

Order Line Extensions are optional. They are assigned to *Order Lines* according to the Order Line ID. They provide additional information for the referenced order line.

	Field	Required	Allowed values	Default value
1	Qualifier = 38	mandatory		
2	Order ID	optional		"-"
3	Supplier ID	optional		FST ERP setting
4	Order Line ID	mandatory		
5	Order Unit	optional		Article's UoM

4.2.2 Order Response

The Order Response's structure is similar to the structure of the Order. However, there are small differences: the Order Response contains no *Order Line Text* records.

4.2.2.1 Header [30]

In the Order Response, the *Header* record contains an additional field: *Easy Order ID*.

	Field
1	Qualifier = 30
2	Order ID
3	Supplier ID
4	Easy Order ID*
5	
6	

7	Order type
8	Order date
9	Currency

4.2.2.2 Delivery Address [32]

Information regarding the ship-to party of the order.

	Field
1	Qualifier = 32
2	Order ID
3	Supplier ID
4	Name 1
5	Name 2
6	Street
7	ZIP code
8	City

4.2.2.3 Scheduling Line [35]

In the Order Response, there are *Scheduling Lines* with the same structure as *Order Lines*. If partial deliveries are scheduled for an *Order Line*, several *Scheduling Line* records with the same Order Line ID will be generated.

	Field
1	Qualifier = 35
2	Order ID

3	Supplier ID
4	Order Line ID
5	Product ID
6	Order date
7	Wished delivery date
8	Quantity
9	Price
10	Price quantity

4.2.2.4 Order Line Extensions [38]

Order Line Extensions are optional. They are assigned to *Order Lines* according to the Order Line ID. They provide additional information for the referenced order line.

	Field
1	Qualifier = 38
2	Order ID
3	Supplier ID
4	Order Line ID
5	Order Unit

4.3 Express Orders via the EBC

The EBC supports Express Orders in OpenTRANS as well as in CSV format. To place an Express Order, the corresponding field has to have the value “express”. These orders will be processed with high priority, and the goods will be shipped by the express parcel service, which is configured for your account. According to the shipment service level, the rates of the forwarder will apply.

In OpenTRANS Express Orders, the value of the attribute *type* of the root element *ORDER* needs to be set to “express”.

For CSV Express Orders, the value of the field *Order type* (column 7 in Header record [30]) needs to be set to “express”.

Please note, that for Express Orders there aren’t any Order Response messages sent back to you.

5 Validation

5.1 Syntax validation

Every order you submit to EASY will be checked in terms of syntactic validity, i.e. if the document is well-formed and contains all the required fields. As described in the previous chapter, we have only a few requirements, so that ordering is as easy as possible.

However, if the submitted document does not meet the requirements, an e-mail will be sent immediately to the e-mail recipient you defined (0). The e-mail contains detailed information concerning the error to help solving the problem. This way, we avoid time-consuming troubleshooting.

5.2 Semantic validation

If the syntax of an order document is valid, the content will be checked in terms of semantic validity. Some examples for semantic checks are:

- Does the order contain a valid delivery address?
- Do all the articles exist?
- Are quantities multiples of packaging units?

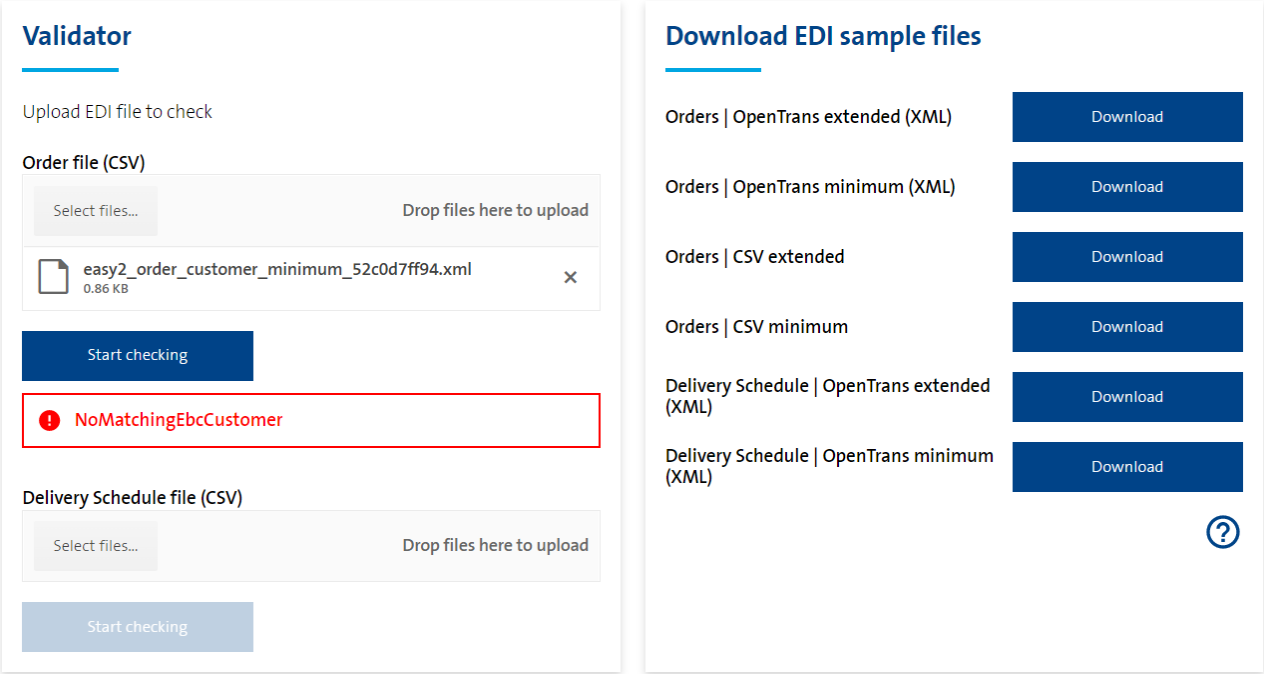
Just like in case of syntax errors, you will get a notification via e-mail with detailed information. The Easy Business Connector also informs you about warnings, e.g., quantity is not a multiple of the packaging unit, but the order can still be processed.

5.3 Order validator

For initially setting up the message format, we provide you a tool for online validation. The order validator can be found in the “EBC Settings” tab in the web frontend (“Company account Management” menu). When you upload an order file in the specified format, it will be validated immediately, and the result will be displayed on the web page.

If an order file has been validated successfully, the order validator will generate sample order responses, which can be used for testing the processing in your system. There will be four order response files to test the following cases:

- all items have been confirmed
- an order line has not been confirmed
- an order line has been changed
- an order line has been added



5.4 Data enrichment

We only have a few requirements concerning the data you need to provide for ordering via the Easy Business Connector. If you do not provide data, we will use your default settings, i.e. if the order file does not contain a delivery address, the goods will be shipped to the default ship-to party, which is maintained in our ERP system.

If you do not want Easy to use default settings, the order files need to contain the deviating information.

6 WebDAV connection

WebDAV is an extension of the HTTP protocol and is supported natively by many operating systems. To establish the connection to the Easy Business Connector, a WebDAV folder needs to be configured. This can be done with the out of the box functionalities of most operating systems or with third-party tools.

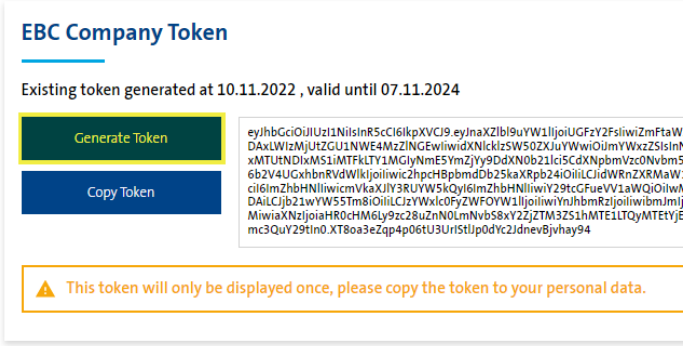
6.1 Advantages of WebDAV

- The WebDAV connection to the EBC will not require additional firewall settings, because port 443 for encrypted outbound connections (HTTPS) is used. This port is usually not blocked by firewalls.
- All data including user data, password and payload are transferred using an encrypted connection (2048 bit RSA).
- WebDAV users can be administered in Easy.
- The standards are supported natively by many operating systems.
- As WebDAV supports multiple transfers over one TCP connection, a large amount of files can be transferred efficiently.

6.2 Connection parameters

There are only two parameters, which are necessary to configure the connection:

1. URL
   - Can be found via “Company acc. management” → “EBC Settings”
2. Security Credentials (Username & Password)
   - Please use the email-address of an Easy User with the role “EBC User” as Username
   - Please Do NOT use your normal EASY-Login-Password.
   - As Password generate an “EBC Company Token” via “Company acc. management” → “EBC Settings” → “Generate Token”. Please be aware that this token has a limited runtime and will be displayed only once for security reasons.



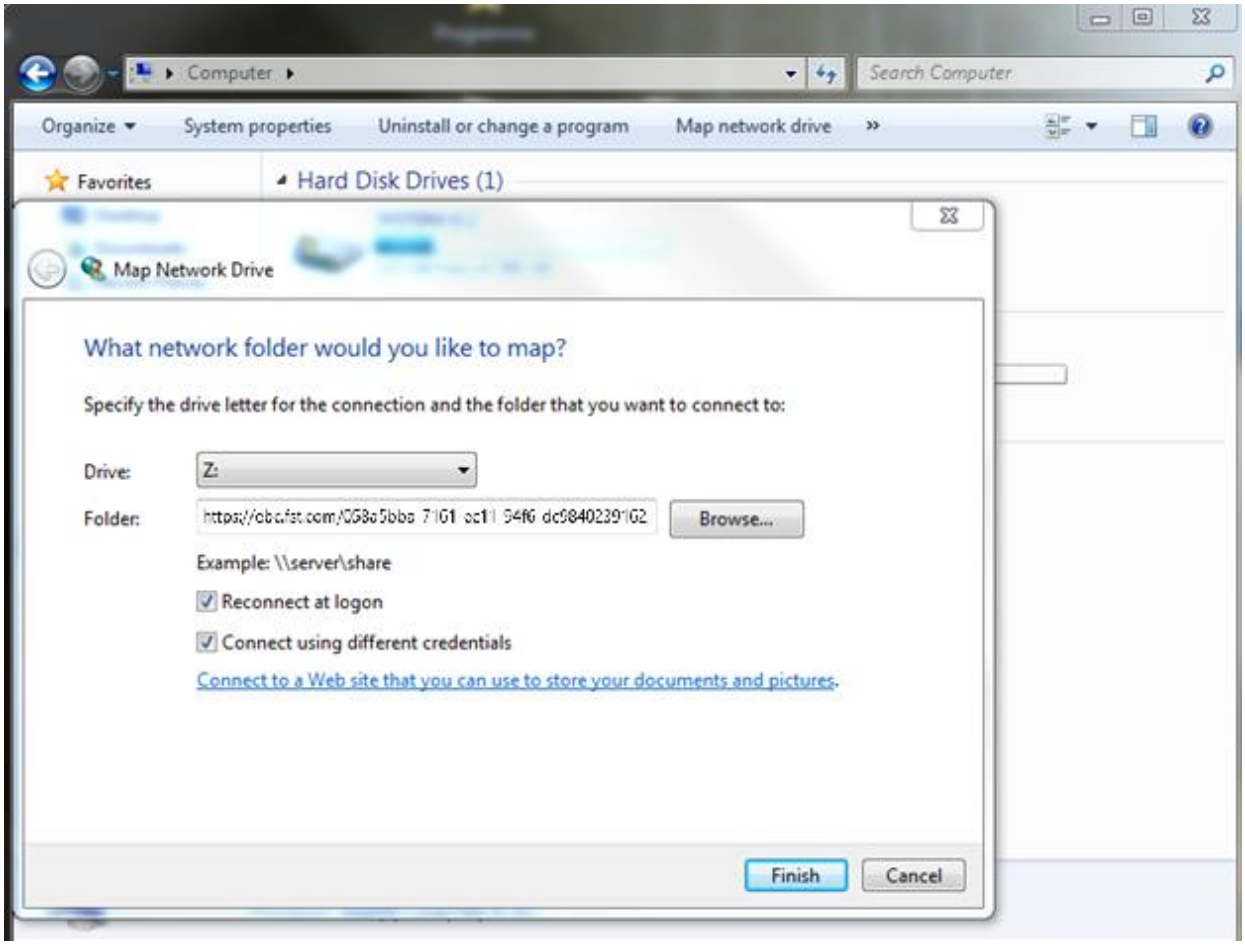
6.3 Folder structure

Your WebDAV folder contains the following subfolders:

Folder name	Description
outbox	Order files need to be placed in this folder
inbox	Order response files will be placed by Easy in this folder
delins	Delivery schedules for existing agreements need to be placed in this folder
transmitted	Files which have been processed are moved into this folder
failed	Files which couldn’t be processed properly are moved into this folder
log	Logs for errors and warnings will be stored in this folder

Configuration in Windows Vista and later

In Windows Vista and later, you can define a drive letter for the WebDAV folder, and the data transfer will be proceeded in the background. You can do this by entering the WebDAV URL in the Network Drive dialog of the Windows Explorer.



6.4 FTPS (FTP over SSL) as an alternative

We also support secure file transfer via FTPS in explicit mode. There is only a difference between the protocols – but the data remains the same. For easier integration, we just give you the chance to use different protocols. All of them are cryptographically secured.

The connection parameters for FTPS are:

Host	ebc.fst.com
Port	21
Authentication	Explicit SSL/TLS
Credentials	E-Mail & Password (EBC Company Token) of an Easy User with the role “EBC User”.
Platform	Windows + IIS 8 (some FTPS components need to be parameterized accordingly)

Please be aware that the secured authentication is initialized on port 990, so that you might need to set up your firewall accordingly. If you do not already use FTPS for other processes, we recommend to use the WebDAV protocol due to its simplicity.

7 API Connection

Another option to transmit or retrieve the data quickly and easily are REST interfaces that we provide. This way you can send orders directly from the program, without intermediate file storage and receive error messages or warnings immediately.

Furthermore, these interfaces offer the option to query Order Responses, Invoices or Shipment documents directly.

There is the option to send the files as csv/xml file to the api in the same format as it is done for placing in WebDav or you can just use a JSON format.

7.1 Authorization

For the authorization the EBC token should be used. The generation of the token is explained in 6.2. Connection Parameters. This token should be added to the HTTP Header “Authorization”.

7.2 Endpoints

7.2.1 Create Order with XML / CSV file

7.2.2 Create Order with JSON

7.2.3 Get response files as XML

7.2.4 Get response files JSON

8 Going live

Since the test mode of the Easy Business Connector allows to test in the productive environment, you only need to flip the switch to start ordering. As soon as proper order files can be generated and transmitted via WebDAV, you are all set for the productive mode. Just change the setting on the “Business Connector” tab, and your orders will be transferred into the ERP system of FST.

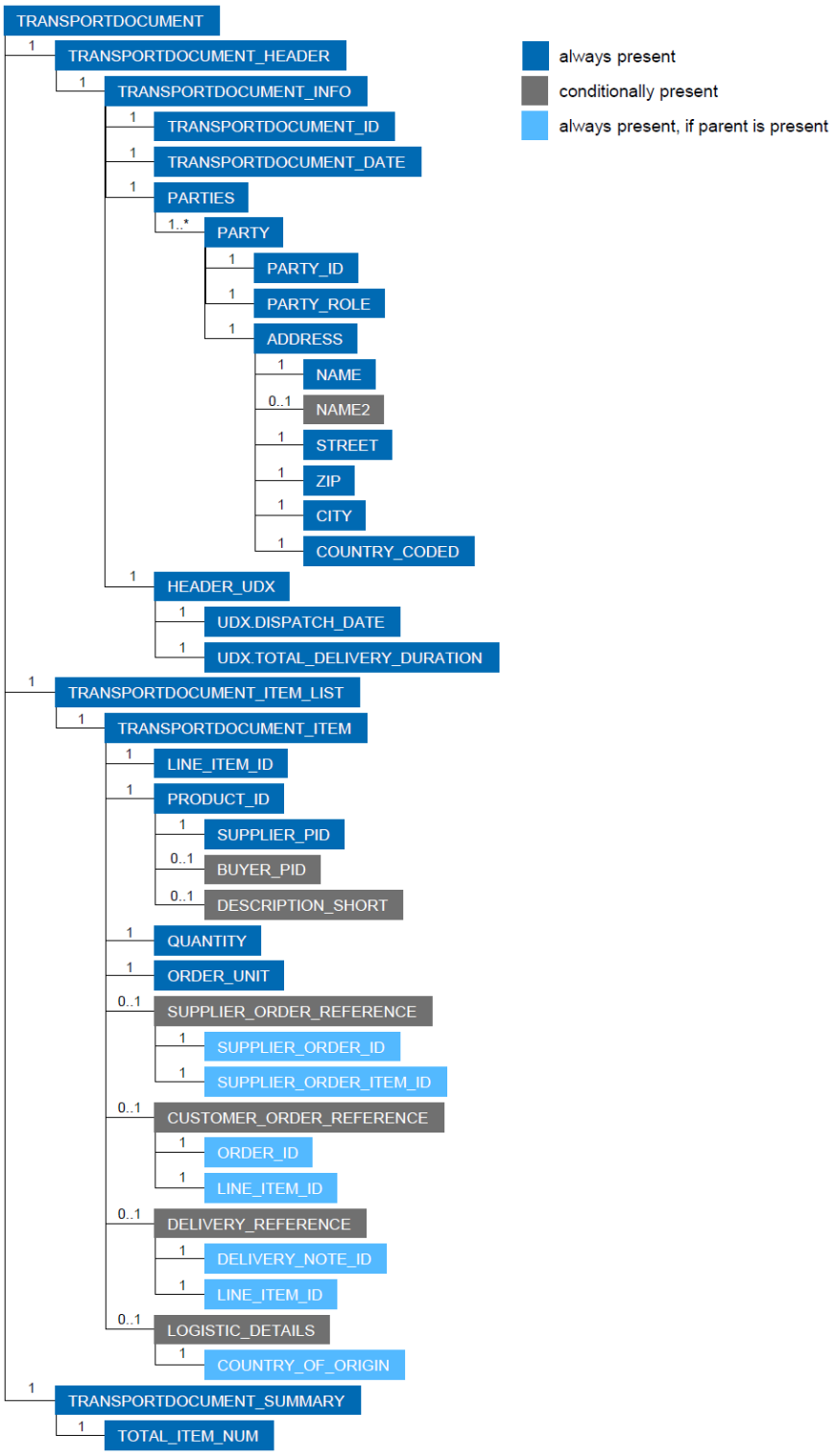
9 Advanced Shipping Notice / Dispatch Advice

Additional to Order and Order Response messages the EBC also places Advanced Shipping Notices (ASN) in a subfolder called transport in the inbox directory. When the goods are dispatched from our warehouse, the message containing the delivery note(s) will be generated. It contains information concerning the delivery lines and transport.

9.1 Message format OpenTRANS TRANSPORTDOCUMENT

ASNs are only available in OpenTRANS format. Their filenames contain a timestamp and the corresponding document ID with the extension .xml.

The following image shows the hierarchical structure of the XML document.


TRANSPORTDOCUMENT
1 TRANSPORTDOCUMENT_HEADER
1 TRANSPORTDOCUMENT_INFO
1 TRANSPORTDOCUMENT_ID
1 TRANSPORTDOCUMENT_DATE
1 PARTIES
1..* PARTY
1 PARTY_ID
1 PARTY_ROLE
1 ADDRESS
1 NAME
0..1 NAME2
1 STREET
1 ZIP
1 CITY
1 COUNTRY_CODED
1 HEADER_UDX
1 UDX.DISPATCH_DATE
1 UDX.TOTAL_DELIVERY_DURATION
1 TRANSPORTDOCUMENT_ITEM_LIST
1 TRANSPORTDOCUMENT_ITEM
1 LINE_ITEM_ID
1 PRODUCT_ID
1 SUPPLIER_PID
0..1 BUYER_PID
0..1 DESCRIPTION_SHORT
1 QUANTITY
1 ORDER_UNIT
0..1 SUPPLIER_ORDER_REFERENCE
1 SUPPLIER_ORDER_ID
1 SUPPLIER_ORDER_ITEM_ID
0..1 CUSTOMER_ORDER_REFERENCE
1 ORDER_ID
1 LINE_ITEM_ID
0..1 DELIVERY_REFERENCE
1 DELIVERY_NOTE_ID
1 LINE_ITEM_ID
0..1 LOGISTIC_DETAILS
1 COUNTRY_OF_ORIGIN
1 TRANSPORTDOCUMENT_SUMMARY
1 TOTAL_ITEM_NUM
always present
conditionally present
always present, if parent is present

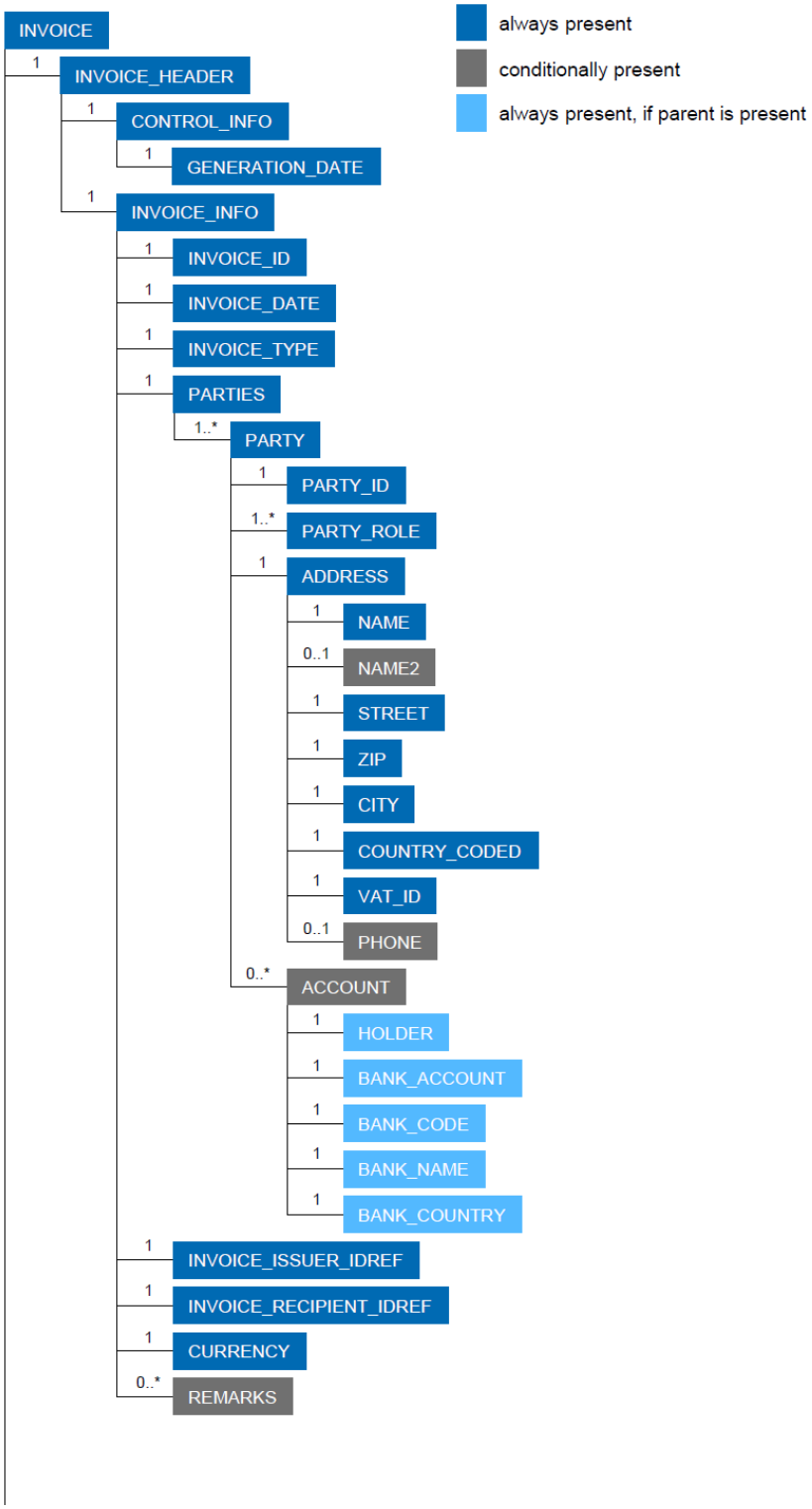
10 Invoice

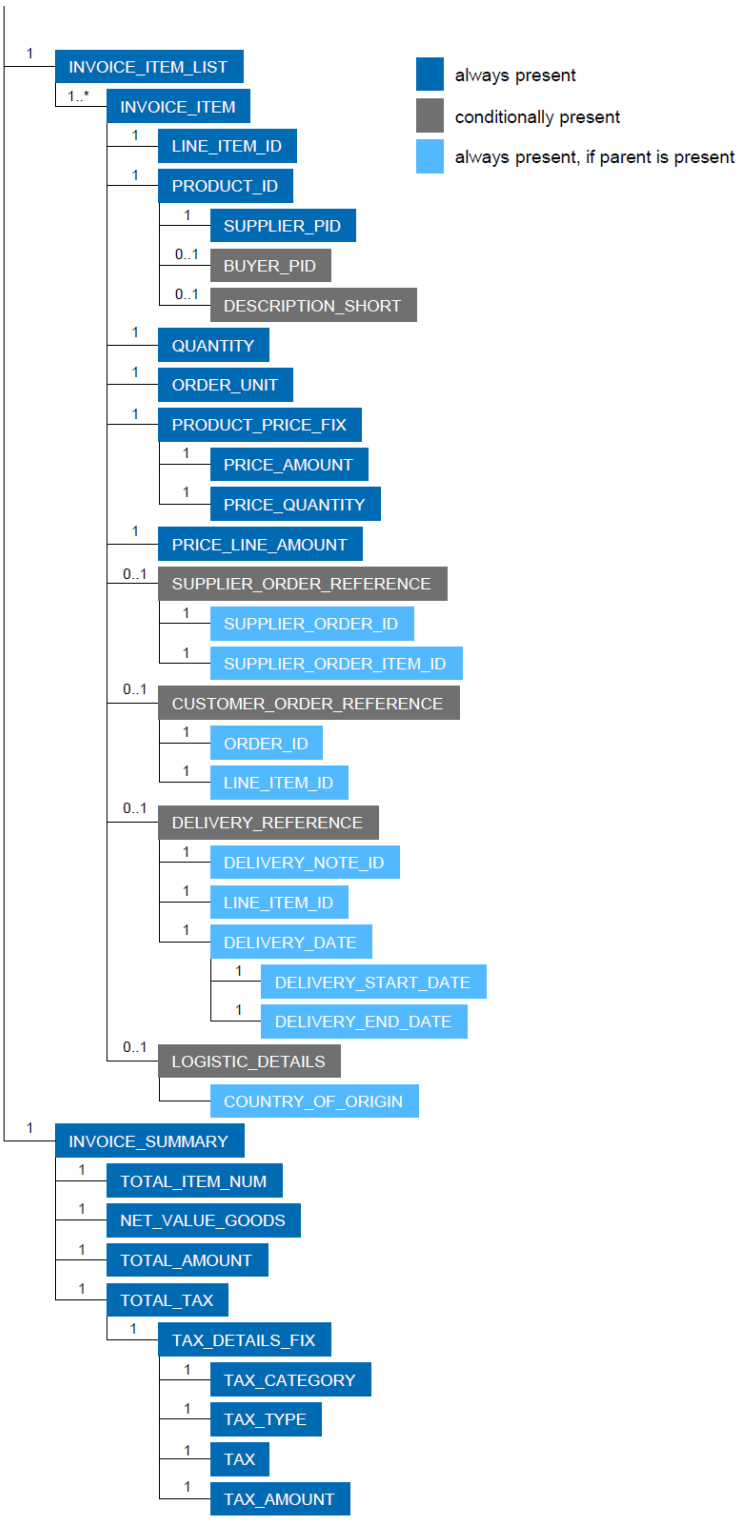
Additional to Order, Order Response and Transport messages the EBC also places Invoice messages in a subfolder called invoice in the inbox directory. When the invoice is created in our ERP system, the message containing the billed lines will be generated. It contains information concerning the corresponding orders and deliveries as well as tax information.

10.1 Message format OpenTRANS INVOICE

Invoice messages are only available in OpenTRANS format. Their filenames contain a timestamp and the corresponding document ID with the extension .xml.

The following image shows the hierarchical structure of the XML document.


always present
conditionally present
always present, if parent is present
INVOICE
1
INVOICE_HEADER
1
CONTROL_INFO
1
GENERATION_DATE
1
INVOICE_INFO
1
INVOICE_ID
1
INVOICE_DATE
1
INVOICE_TYPE
1
PARTIES
1..*
PARTY
1
PARTY_ID
1..*
PARTY_ROLE
1
ADDRESS
1
NAME
0..1
NAME2
1
STREET
1
ZIP
1
CITY
1
COUNTRY_CODED
1
VAT_ID
0..1
PHONE
0..*
ACCOUNT
1
HOLDER
1
BANK_ACCOUNT
1
BANK_CODE
1
BANK_NAME
1
BANK_COUNTRY
1
INVOICE_ISSUER_IDREF
1
INVOICE_RECIPIENT_IDREF
1
CURRENCY
0..*
REMARKS


always present
conditionally present
always present, if parent is present
1 INVOICE_ITEM_LIST
1..* INVOICE_ITEM
1 LINE_ITEM_ID
1 PRODUCT_ID
1 SUPPLIER_PID
0..1 BUYER_PID
0..1 DESCRIPTION_SHORT
1 QUANTITY
1 ORDER_UNIT
1 PRODUCT_PRICE_FIX
1 PRICE_AMOUNT
1 PRICE_QUANTITY
1 PRICE_LINE_AMOUNT
0..1 SUPPLIER_ORDER_REFERENCE
1 SUPPLIER_ORDER_ID
1 SUPPLIER_ORDER_ITEM_ID
0..1 CUSTOMER_ORDER_REFERENCE
1 ORDER_ID
1 LINE_ITEM_ID
0..1 DELIVERY_REFERENCE
1 DELIVERY_NOTE_ID
1 LINE_ITEM_ID
1 DELIVERY_DATE
1 DELIVERY_START_DATE
1 DELIVERY_END_DATE
0..1 LOGISTIC_DETAILS
COUNTRY_OF_ORIGIN
1 INVOICE_SUMMARY
1 TOTAL_ITEM_NUM
1 NET_VALUE_GOODS
1 TOTAL_AMOUNT
1 TOTAL_TAX
1 TAX_DETAILS_FIX
1 TAX_CATEGORY
1 TAX_TYPE
1 TAX
1 TAX_AMOUNT

11 Delivery Schedules (DELINS)

11.1 Overview

The Easy Business Connector also supports placing call-offs for scheduling agreements. The EBC allows to transmit current delivery schedules for existing agreements with a minimum of mandatory information. Data which is not present in the DELINS message itself can be enriched by the EBC. For proper processing, the message just needs to contain enough information to determine the corresponding master agreement unambiguously.

Both forecasts and JIT call-offs are supported depending on the setup of the agreement.

11.2 Communication

The communication via the WebDAV or FTPS protocols is similar to the order process. The same connection can be used, the DELINS messages just need to be placed in another folder. The destination folder is called delins.

In order to test the process under real conditions, there is an explicit EBC setting for DELINS test mode (see **Fehler! Verweisquelle konnte nicht gefunden werden.**).

If errors occur during syntactic or semantic validation, a notification will be sent to the EBC error to e-mail immediately.

11.3 Syntax

DELINS messages can only be transmitted in the OpenTRANS XML format, there is no CSV alternative for delivery schedules. The syntax is similar to the order format, however there are certain adaptations due to the distinctions in the processes.

The DELINS file should have the extension .xml and should be coded in UTF-8 for proper representation of special characters. The following table contains the elements and attributes, which will be processed by Easy.

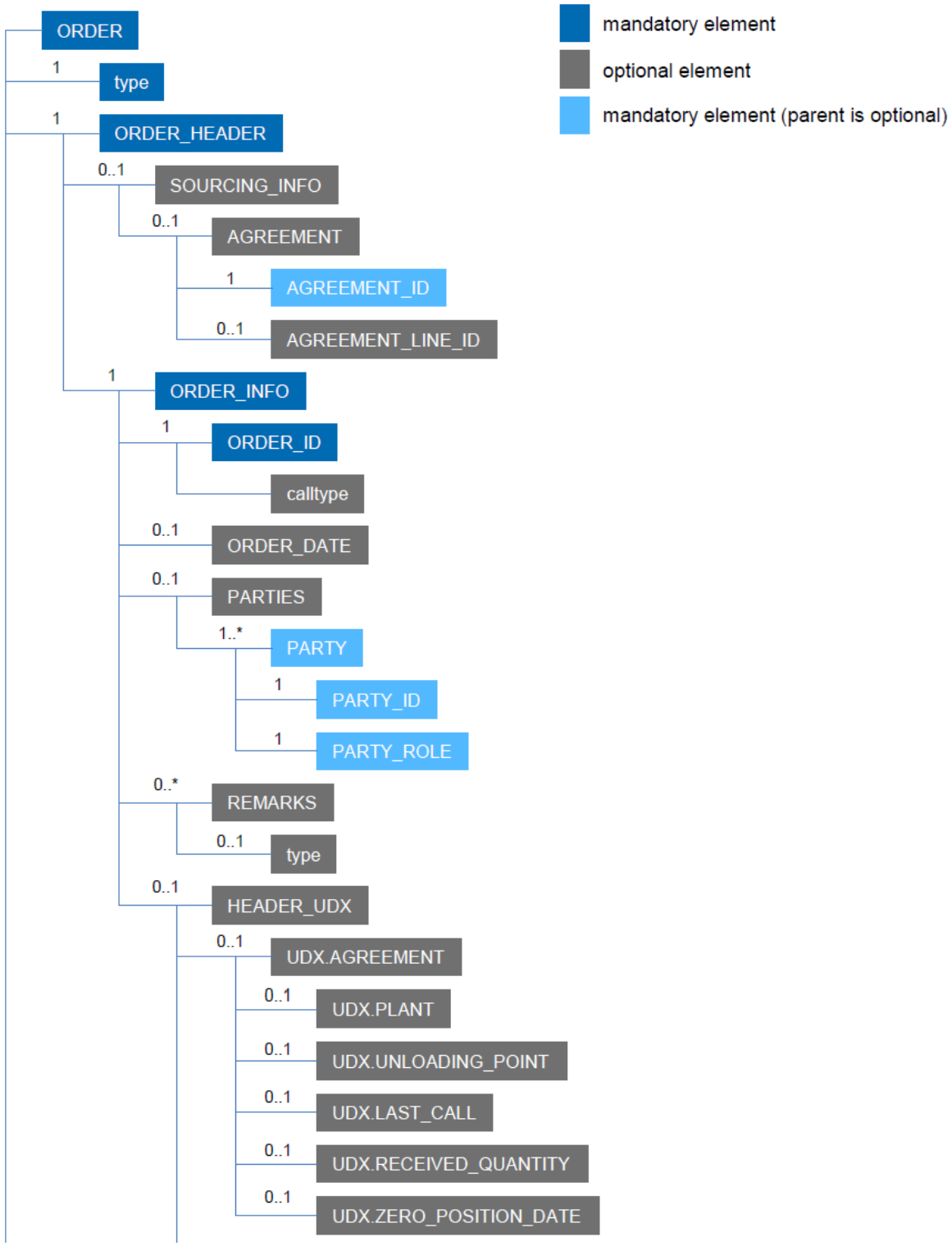
Field Name	Required	Allowed values	Default value
ORDER	mandatory		
type [attribute]	mandatory	“release”	
ORDER_HEADER	mandatory		
SOURCING_INFO	optional		
AGREEMENT	optional		
type [attribute]	mandatory	“buyer”, ”supplier”	
AGREEMENT_ID	mandatory	String[35]	
AGREEMENT_LINE_ID	optional	String[6]	
ORDER_INFO	mandatory		
ORDER_ID	mandatory	String[15]	
calltype [attribute]	optional	“forecast”, “jit”	“forecast”
ORDER_DATE	optional	see ISO 8601	
PARTIES	optional		
PARTY	mandatory		
PARTY_ID	mandatory	String[10]	
PARTY_ROLE	mandatory	“buyer”, “supplier”	
REMARKS	optional	text	
type [attribute]	optional	“edi”	
HEADER_UDX	optional		
UDX.AGREEMENT	optional		

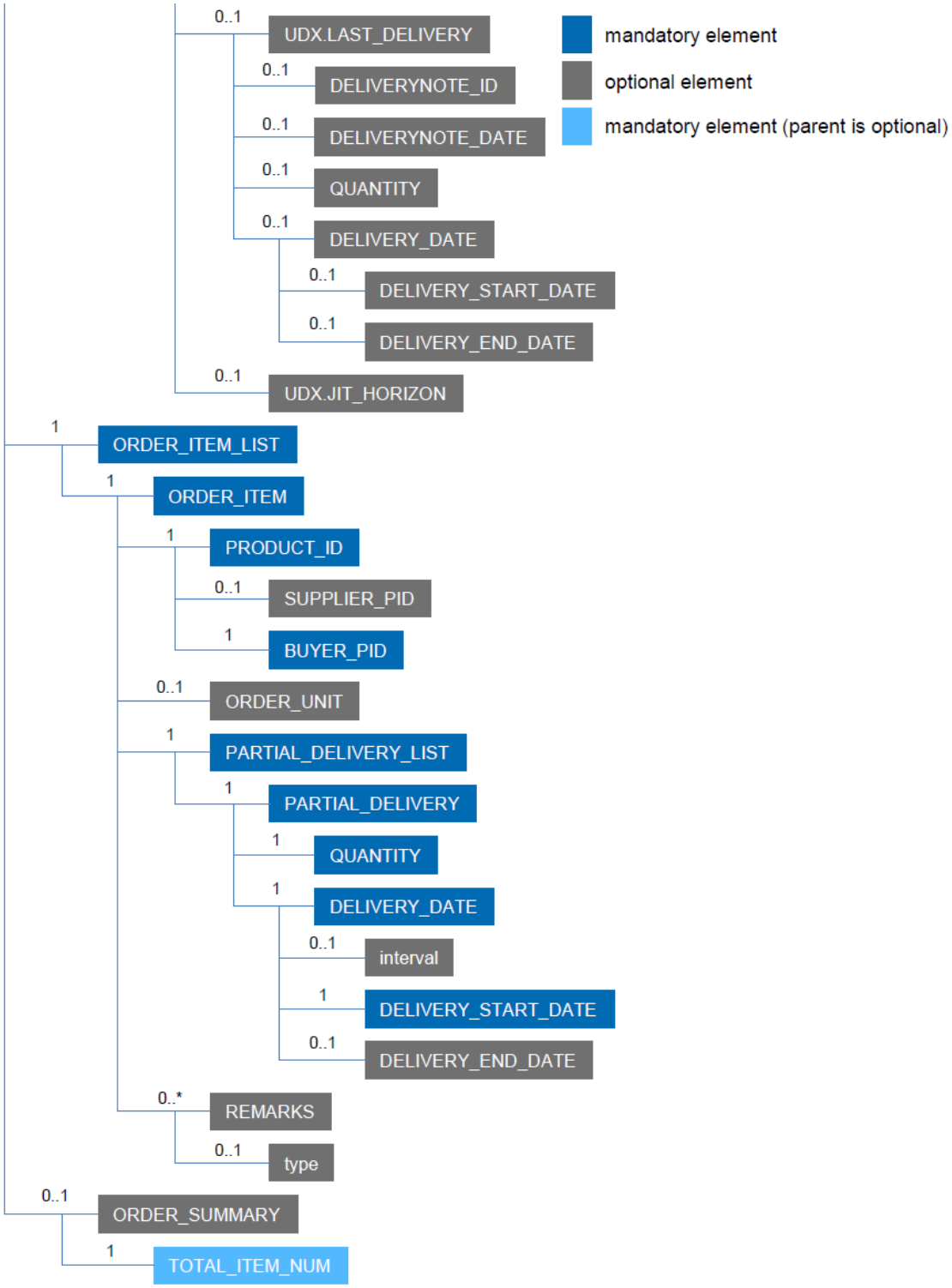
UDX.PLANT	optional	String[35]
UDX.UNLOADING_POINT	optional	String[35]
UDX.LAST_CALL	optional	String[35]
UDX.RECEIVED_QUANTITY	optional	decimal
UDX.ZERO_POSITION_DATE	optional	see ISO 8601
UDX.LAST_DELIVERY	optional	
DELIVERYNOTE_ID	optional	String[10]
DELIVERYNOTE_DATE	optional	see ISO 8601
QUANTITY	optional	decimal
DELIVERY_DATE	optional	
DELIVERY_START_DATE	optional	see ISO 8601
DELIVERY_END_DATE	optional	see ISO 8601
UDX.JIT_HORIZON	optional	see ISO 8601
ORDER_ITEM_LIST	mandatory	
ORDER_ITEM	mandatory	
PRODUCT_ID	mandatory	
SUPPLIER_PID	optional	String[18]
BUYER_PID	mandatory	String[35]
ORDER_UNIT	optional	ISO Unit (C62…)
PARTIAL_DELIVERY_LIST	mandatory	
PARTIAL_DELIVERY	mandatory	

QUANTITY	mandatory	decimal	
DELIVERY_DATE	mandatory		
interval [attribute]	optional	“day”, ”week”, ”month”, ”other”	“day”
DELIVERY_START_DATE	mandatory	see ISO 8601	
DELIVERY_END_DATE	optional	see ISO 8601	
REMARKS	optional	text	
type [attribute]	optional	“general”, “finalcustomerreference”	
ORDER_SUMMARY	optional		
TOTAL_ITEM_NUM	mandatory	int	

In case you are not sure, if the mentioned processes apply to your kind of business, you can check in the Order Entry of Easy. If the fields are displayed and maintainable, the information will also be processed in EBC Orders.

The following image shows the hierarchical structure of the XML document.


mandatory element
optional element
mandatory element (parent is optional)
ORDER
1
type
1
ORDER_HEADER
0..1
SOURCING_INFO
0..1
AGREEMENT
1
AGREEMENT_ID
0..1
AGREEMENT_LINE_ID
1
ORDER_INFO
1
ORDER_ID
calltype
0..1
ORDER_DATE
0..1
PARTIES
1..*
PARTY
1
PARTY_ID
1
PARTY_ROLE
0..*
REMARKS
0..1
type
0..1
HEADER_UDX
0..1
UDX.AGREEMENT
0..1
UDX.PLANT
0..1
UDX.UNLOADING_POINT
0..1
UDX.LAST_CALL
0..1
UDX.RECEIVED_QUANTITY
0..1
UDX.ZERO_POSITION_DATE


mandatory element
optional element
mandatory element (parent is optional)
0..1 UDX.LAST_DELIVERY
0..1 DELIVERYNOTE_ID
0..1 DELIVERYNOTE_DATE
0..1 QUANTITY
0..1 DELIVERY_DATE
0..1 DELIVERY_START_DATE
0..1 DELIVERY_END_DATE
0..1 UDX.JIT_HORIZON
1 ORDER_ITEM_LIST
1 ORDER_ITEM
1 PRODUCT_ID
0..1 SUPPLIER_PID
1 BUYER_PID
0..1 ORDER_UNIT
1 PARTIAL_DELIVERY_LIST
1 PARTIAL_DELIVERY
1 QUANTITY
1 DELIVERY_DATE
0..1 interval
1 DELIVERY_START_DATE
0..1 DELIVERY_END_DATE
0..* REMARKS
0..1 type
0..1 ORDER_SUMMARY
1 TOTAL_ITEM_NUM

11.4 Semantic Validation

11.4.1 Scheduling Agreement Determination

In order to process a delivery schedule message, there must be enough information to determine the master scheduling agreement unambiguously. If there are multiple agreements with the same customer article no. but different unloading points, the unloading point (UDX.UNLOADING_POINT) must be given.

11.4.2 Forecast & JIT Calls

The EBC supports both ordinary delivery schedules and JIT calls. JIT calls need to have the attribute “calltype” set to “jit”. In case of JIT calls, the element UDX.JIT_HORIZON is mandatory.

If you are not sure, whether you should send forecasts, JIT calls or both, please contact FST Customer Service. The call type depends on how the process is set up generally between you and FST.

12 Overview of message types

In summary, the Easy Business Connector supports the following message types, which work with the specified file formats:

Message type	XML OpenTRANS	CSV
ORDERS	x	x
ORDRSP	x	x
DELINS	x	
ASN	x	
INVOIC	x	