



Common rules and recommendations for exchange of EDIFACT documents

Status: Approved by ETC

Version/release: 1.3

Revision:

Date: September, 2013

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A. Introduction

A.1. About the ebIX® Common rules and recommendations

The purpose of this document is to ensure that information can be sent between parties in the energy industry, in different countries, based on the same framework. The document contains common rules and recommendations to be followed when exchanging business documents specified by ebIX®. This includes use of codes and code lists, special conditions between the countries (such as the use of time zones), terms and notation, use of header and trailer segments, such as UNB and UNZ for EDIFACT documents, etc.

The document covers rules and recommendations for EDIFACT syntax.

A.2. The energy market

Presently the energy market is going through a change process in most of the European countries. These changes include new legislation and a deregulation of the market. Earlier the participants in the market were in a monopoly situation. Today the participant companies are being split into different companies fulfilling different roles, such as Metering point administrator, Balance supplier, Balance responsible party, etc. Furthermore these new companies are being merged into larger companies, often as international companies with subsidiaries in different countries.

The reasons for the deregulation process are, among others, to make the energy companies more efficient by having a free market competition where the market will decide prices, products etc.

The change in the structure of the market and the new legislation described above has increased the need for electronic business tremendously (e.g. today the exchange of electronic documents in the upstream energy market in Sweden is about 40 million documents a year). This includes both transaction data, such as time series with production and consumption figures between the different parties, and master data. The exchange of information will concern a large amount of participants in many to many relationships. The number of parties which exchange information in the upstream energy market is today from a few hundred companies in the smaller countries up to more than thousands companies in the larger countries (Germany has for instance about 900 Grid operators).

A.3. Interchange agreement

As data interchange has financial and/or contractual consequences it is recommended that there is some form of an interchange agreement between the involved parties. This can be on the basis of national legislation or market regulation. A model interchange agreement that can be used as a basis for a national agreement is found in Appendix C.

A.4. Objectives

The objective of this document is to ensure that users' exchanging electronic business documents in the European energy market uses the same technical rules when exchanging information. The rules and recommendations shall provide a basis for facilitation and harmonisation in the European energy market.

A.5. Scope

- The rules and recommendation focuses on the automated exchange of business documents.
- It should be possible to use the same infrastructure towards all collaboration partners, nationally and internationally.
- The rules and recommendations shall as far as possible be based on international accepted standards, so that the result can be understood and used by as many as possible.

A.6. Participants in the project

The ebIX® Common rules and recommendations (Functional description) is made by ebIX® Technical Committee (ETC), for members, see www.ebix.org.

A.7. Comments to the model

If there are comments or suggestions to the document please contact any member of the project group or the secretary Ove Nesvik (ove.nesvik@edisys.no) directly.

A.8. References

- [1] ebIX® rules for the use of UMM2, see www.ebix.org
- [2] RFC 822, The standard for the format of ARPA Internet text messages, see <ftp://ftp.rfc-editor.org/in-notes/>
- [3] RFC 1521, Mime, part one, see <ftp://ftp.rfc-editor.org/in-notes/>
- [4] RFC 1522, Mime, part two, see <ftp://ftp.rfc-editor.org/in-notes/>
- [5] RFC 1767, Mime, part two, see <ftp://ftp.rfc-editor.org/in-notes/>
- [6] UN/EDIFACT directories, see <http://www.unece.org/trade/untdid/welcome.htm>

A.9. Change log

Ver.	Rel.	Rev.	Date	Changes
1	3		20130821	Update of Appendix D
1	2	B	20130110	Update of Appendix D
1	2	A	20121023	Removal of outdated rules and recommendations
1	1	D	20071017	Chapter 2.4 is updated with rules for dates.
1	1	C	20060929	Chapter 5.1 is changed, stating that there only should be one attachment in an SMTP exchange.
1	1	B	20060524	Textual corrections.
1	1	-	20051124	A new chapter “4, Basic rules for Business document and Business process Identification” is added.
1	0	B	20050321	Appendix D is added, describing the usage of the <i>BusinessDocumentSet</i> . In addition, some minor textual corrections have been done.
1	0	-	20050216	First approved version

1 ebIX® business documents

The business processes within the European energy market that includes exchange of electronic business documents shall be described in separate business information models. How to make such a business information model is described in the ebIX® rules for the use of UMM2 [1]. As a part of the business information models the business documents to be exchanged are described as class diagrams. These class diagrams are the basis for making Implementation Guides, which describes how the technical implementation shall be done within in the relevant syntax (EDIFACT).

Rules and recommendations that are common for the ebIX® EDIFACT business documents are described in this document.

2 Basic rules for dates, times and periods for EDIFACT

2.1 Terms and Notation

CET	Central European Time = UTC + 1
CEST	Central European daylight Saving Time = UTC + 2
GMT	Greenwich Mean Time, in practice the same as UTC
UTC	Universal Time Coordinated, in practice the same as GMT
Local time	UTC + time zone. In central Europe the local time is CET during winter and CEST during summer.
Normal time	UTC + time zone. In central Europe the normal time is CET all year around.

2.2 Date/time formats

There are three basic ways of specifying date/time related to metered data:

1. Using exact periods with a start and end point in time using a precision of at least hours, e.g. 200407010000-200407020000. The start and end point in time is always related to an offset to UTC.
2. Using "Blocks", where the blocks are numbered periods relative to a start point in time. For instance can a day be split into 96 blocks of 15 minutes. Only the start point in time is related to an offset to UTC.
3. Using only points in time related to meter stands using a precision of at least hours. The point in time is related to an offset to UTC.

In the electricity sector the day starts at 00:00 local time and in the gas sector the day starts at 06:00 local time.

2.3 Offset to UTC

The time zone (offset to UTC) used within ebIX® business documents shall be specified in the header part of the business document. All other date and time elements within a business document shall be given using the specified time zone.

Note: *The time zone apply only to the date and time elements within the business document and does not apply for the envelopes used for communication and routing purposes.*

It is always the sender of a message that decides the offset to UTC to be used, unless another rule is agreed bilaterally or nationally.

All systems must be able to handle the reception of different offsets to UTC.

2.4 Date/time rules

As a general rule, the time part (only using the date part) should be avoided when not needed.

2.4.1 Points in time defining period (inclusive/exclusive)

In ebIX® business documents all time intervals are expressed using an inclusive start date/time or date and an exclusive end date/time or date.

Example:

Specifying a hole day and night:	200409080000200409090000
Specifying the last hour of a day:	200409082300200409090000
Specifying 1 week as a period of days:	2007101620071023

For the electricity sector the day normally starts at 00.00 o'clock and for the gas sector the day normally starts at 06.00 o'clock.

2.4.2 Point in time

The rule for start and end dates follows the same principles as for periods, i.e. start date is inclusive and end date is exclusive.

Example: This means that when a switch is done 13th of July (end date = start date) the old supplier will supply until the end of July 12th and the new supplier will start supplying from the beginning of July 13th. This also means that when receiving a single end date for the 13th of July the supplier will supply until the end of July 12th.

2.5 Summertime and wintertime

The usage of summer/winter time must be defined nationally.

2.6 Use of processing start/end date

In several business documents the beginning and ending of the processing date/period is required. The period shall be used for control purposes. A message with a period in the detailed section not within the period in the header section shall be discarded.

2.7 Date/time/period formats for EDIFACT

The time zone shall be specified in a separate DTM segment using the following qualifiers:

Data element:	Code:	Description:
DTM/C507 2005:	735	Offset from Coordinated Universal Time (UTC)
DTM/C507 2379:	406	ZHHMM, Offset from Coordinated Universal Time (UTC) where Z is plus (+) or minus (-). (Note that + is an Edifact syntax character and therefore shall be preceded by a "?" (question mark) when used as normal data)

Date time and periods shall be sent in separate DTM segments using one the following format qualifiers:

Data element:	Code:	Description:
DTM/C507 2379:	102	CCYYMMDD
	106	MMDD
	109	MM
	203	CCYYMMDDHHmm
	501	HHMMHHMM
	610	CCYYMM
	710	CCYYMM-CCYYMM, to be used without hyphen
	719	CCYYMMDDHHmm-CCYYMMDDHHmm, to be used without hyphen
	801	Year (a quantity of years)
	802	Month (a quantity of months)
	804	Day (a quantity of days)
	806	Minute (a quantity of minutes)

3 Common rules for ebIX® EDIFACT business documents

3.1 Control totals

Control totals may be added to business documents for checking by the receiver. The ebIX® work groups must determine the need and make the detailed specification. One example may be to add a net sum for the quantities in the time series.

If used, the recommended principle is to use a net sum for the quantities in the business document. Positive quantities are added while negative quantities are subtracted.

The values, which shall be consistent with the number of decimals, used in the message shall be the basis for the calculation of the control total.

3.2 Extra data elements in messages

It is recommended that the receiver treats information not agreed in the model as “Model errors”. There may be national rules allowing extra information in EDIFACT messages as long as the information is according to the EDIFACT structure.

3.3 Rounding rules

The ebIX® work groups shall define rounding rules for each model (context). There are two preferred principles for rounding:

- Using normal arithmetic rounding rules, rest values less than 5 are rounded downwards and, 5 and above are rounded upwards. Rest values are ignored.
- Using normal arithmetic rounding rules, rest values less than 5 are rounded downwards and, 5 and above are rounded upwards. Rest values are added to the next period value within the same time series.

3.4 Measurement unit qualifier for power and energy

The following rules shall be used for measurement unit when sending power and energy values in time series:

- The measure unit qualifiers MWh/h, kWh/h, MVarh/h and kVarh/h shall not to be used.
- MW, kW, MVar or kVar connected to a period of time are used if sending average power over a period in time.

- MW, kW, MVAR or kVAR connected to a point in time are used if sending an instantaneous value or a peak value.
- MWh, kWh, MVARh or kVARh connected to a period of time are used if sending the total energy over a period.

3.5 Number of digits (meter/register characteristic)

When sending the meter or register characteristic “Number of digits” as additional information in a business document the number of digits shall be the integer part (the digits before the decimal point) of the digits in the register.

3.6 Codes and qualifiers

Codes and qualifiers used in ebIX® business documents are case sensitive. Uppercase is normally used.

4 Basic rules for Business document and Business process Identification

4.1 Definitions

Business document Identifier: The identification of a Business document given by the sender of the Business document. The Identifier must be unique for the issuer of the Business document Identifier.

4.2 Basic rules

- All Business documents shall have a Business Document Identifier.
- Rules for the creation of Identifiers are nationally defined, such as Business Process identifiers, are additional to the above stated basic ebIX® rules.

5 Communication

5.1 SMTP

When SMTP is used, the message must be in the MIME format, see [2], [3], [4] and [5]. The actual message must be sent as an attached file, not as a part of the body text. There should not be any meaning (e.g. routing information) in the attached file name or file extension. There shall only be one attachment in one SMTP-exchange.

5.2 Time synchronisation

Each party shall undertake that the time in their mail and ebIX® systems are within 10 seconds of the national local time. For countries using Central European daylight Saving Time, this means that server time shall be set to UTC+1 during wintertime and to UTC+2 during summertime.

5.3 Interchange size

There are no ebIX® constraints on the size of interchange. If there are limitations to communication systems used, this must be specified on a national basis.

Appendix A EDIFACT SYNTAX AND SERVICE MESSAGES

A.1 EDIFACT Classification (in Implementation Guides)

Note: This paragraph only applies to already existing ebIX® and national MIG's. For new developments the Class Diagram will be mapped directly to complete EDIFACT messages without making use of intermediate ebIX® or national subsets of the EDIFACT message.

Below there is a list with the classifications used:

M	Mandatory, the object must be used to satisfy the demands from EDIFACT.
R	Required, the object must be used to satisfy the demands from ebIX®.
D	Dependent, the object must be used in certain conditions.
A	Advised, the object is advised used, but not required
C	Conditional, the object may be used.
N	Not recommended, the object is not recommended for use.
X	Not used, the object should not be used.

Connected to the classification there may be a number indicating the maximum number of repeats of the relevant object.

A.2 Interchange Structure

The Service String Advice, UNA, and the service segments UNB to UNZ shall appear in an interchange in the order stated below. Functional groups are not to be used. There may be several messages within an interchange, but only one message type and version of a message type. A message consists of segments. The structures of segments and data elements therein can be found in the EDIFACT directories, see [6].

An interchange consists of:

Service String Advice	UNA	Required
Interchange Header	UNB	Mandatory
Message Header	UNH	Mandatory
User Data Segments		As specified in an Implementation Guide
Message Trailer	UNT	Mandatory
Interchange Trailer	UNZ	Mandatory

In addition to the above service segments, the service segment UNS can, when required, be used to divide a message into sections. See each Implementation Guide.

A.3 EDIFACT - character set

ebIX® recommend that UNOC is used if there are no historical reasons for using UNOB.

UNOC

The UNOC character set shall be used with separation characters from UNOA (see B.1 - UNA). The UNA segment shall be used. The character set to be used within UNOC is defined in ISO 8859-1. EDIFACT syntax version shall be 3.

The use of CR/LF is not recommended, but if received the messages should not be rejected.

UNOB

The UNOB character set shall be used with separation characters from UNOA. The UNA segment shall be used.

For the characters in the set below, the 7-bit codes in the basic ISO 646 standard shall be used, unless the corresponding 8-bit codes in ISO 6947 and 8859 or other bit codes are specifically agreed between the interchanging partners. The following characters can be used:

Letters, upper case	A to Z
Letters, lower case	a to z
Numerals	0 to 9
Space character	
Full stop	.
Comma	,
Hyphen/minus sign	-
Opening parenthesis	(
Closing parenthesis)
Oblique stroke (slash)	/
Equals sign	=
Exclamation mark	!
Quotation mark	"
Percentage sign	%
Ampersand	&
Asterisk	*
Semicolon	;
Less-than sign	<
Greater-than sign	>

Separation characters:

Apostrophe	'	segment terminator
Plus sign	+	segment tag and data element separator

Colon : component data element separator

Question mark ? release character

? immediately preceding one of the characters ' + : ? restores their normal meaning. E. g. 10?+10=20 means 10+10=20. Question mark is represented by ??.

Other character sets can be agreed in an Interchange Agreement.

A.4 Numeric values

Decimal Mark

Within the ebIX® business documents a point on the line (.) shall be used as Decimal Mark.

The decimal mark shall not be counted as a character of the value when computing the maximum field length of a data element. However, allowance has to be made for the character in transmission and reception.

When a decimal mark is transmitted, there shall be at least one digit before and after the decimal mark. For values represented by integers only, neither decimal mark nor decimal zeroes are used unless there is a need to indicate the degree of precision.

Allowed: 0.5 and 2 and 2.0

Not allowed: .5 or 2. or 02.

Triad Separator

Triad separators shall not be used in electronic data exchange.

Allowed: 2500000

Not allowed: 2,500,000 or 2.500.000 or 2 500 000

Sign

Numeric data element values shall be regarded as positive. Although conceptually a deduction is negative, it shall be represented by a positive value and such cases shall be indicated in the data element directory.

If a value is to be indicated to be negative, it shall in transmission be immediately preceded by a minus sign e.g. -112

The minus sign shall not be counted as a character of the value when computing the maximum field length of a data element. However, allowance has to be made for the character in transmission and reception.

A.5 Compressing of data elements

In data elements for which the Data Elements Directory specifies variable length and there are no other restrictions, insignificant character positions shall be suppressed. In the case of insignificant characters, leading zeroes and trailing spaces shall be suppressed.

Note, however, that a single zero before a decimal mark is significant and that a zero may be significant (e. g. to indicate a temperature) if so stated in the data elements specification.

Appendix B EDIFACT SERVICE SEGMENTS

B.1 UNA

UNA Service String advice

Function: To define the characters selected for use as delimiters and indicators in the rest of the interchange that follows.

Classification: Required (R1).

Comments: The specifications in the Service string advice take precedence over the specifications for delimiters etc. in segment UNB.

Example: UNA:+.? '

Ref.	Name	Cl.	Form.	Description
	COMPONENT DATA ELEMENT SEPARATOR	M	an1	«:» (Colon)
	DATA ELEMENT SEPARATOR	M	an1	«+» (Plus sign)
	DECIMAL NOTATION	M	an1	«.» (full stop)
	RELEASE INDICATOR	M	an1	«?» (Question mark)
	Reserved for future use	M	an1	Insert space character
	SEGMENT TERMINATOR	M	an1	«'» (Apostrophe)

B.2 UNB

UNB Interchange Header

Function: To start, identify and specify an interchange.

Classification: Mandatory (M1).

Comments: The use of the UNB segment shall be agreed in an Interchange Agreement.

Example: UNB+UNOB:2+012123456789123:14+121234567891234:14+
961204:1434+2345'

Ref.	Name	Cl.	Form.	Description
S001	SYNTAX IDENTIFIER	M		
0001	Syntax identifier	M	a4	Code: UNOB UNOC
0002	Syntax version number	M	n1	Code: 2 Version 2 of ISO 9735 (EDIFACT-syntax) 3 Version 3 of EDIFACT-syntax shall be used if Syntax identifier is "UNOC"
S002	INTERCHANGE SENDER	M		
0004	Sender identification	M	an..35	EAN Global Location no. (GLN) or EIC

	0007	Partner identification code qualifier	R	an..4	Code: 14 EAN (European Article Numbering Association) ZZZ ETSO Identification Code (EIC)
	0008	Address for reverse routing	O	an..14	Only used if nationally or bilaterally agreed.
	S003	INTERCHANGE RECIPIENT	M		
	0010	Recipient Identification	M	an..35	EAN Global Location no. (GLN)
	0007	Partner identification	R	an..4	Code: 14 EAN (European Article Numbering Association) ZZZ ETSO Identification Code (EIC)
	0014	Routing address	O	an..14	Only used if nationally or bilaterally agreed.
	S004	DATE/TIME OF PREPARATION	M		
	0017	Date	M	n6	Date for creation of interchange (YYMMDD)
	0019	Time	M	n4	Time for creation of interchange (HHmm)
	0020	INTERCHANGE CONTROL REFERENCE	M	an..14	Reference assigned by sender. Shall be unique over time for the sender defined in S002. If not unique the latest shall automatically be rejected.

	S005	RECIPIENTS REFERENCE, PASSWORD	X		
	0022	Recipient's reference/ password	X	an..14	
	0025	Recipient's reference/ password qualifier	X	an2	
	0026	APPLICATION REFERENCE	O	an..14	A Business Process Identifier may be used according to national rules
	0029	PROCESSING PRIORITY CODE	X	a1	
	0031	ACKNOWLEDGEMENT REQUEST	O	n1	Code: 1 if sender requests an EDIFACT CONTRL message, i. e. UNB and UNZ segments received and identified, otherwise not used.
	0032	COMMUNICATIONS AGREEMENT	O	an..35	Code: DK Danish communication agreement.
	0035	TEST INDICATOR	D	n1	Code: 1 if the interchange is a test, otherwise not used.

B.3 UNZ

UNZ Interchange Trailer

Function: To end and check the completeness of an interchange.

Classification: Mandatory (M1).

Comments:

Example: UNZ+1+358765298'

Ref.	Name	Cl.	Form.	Description
0036	INTERCHANGE CONTROL COUNT	M	n..6	The count of the number of messages in the interchange
0020	INTERCHANGE CONTROL REFERENCE	M	an..14	Shall be identical to 0020 in UNB.

Appendix C EBIX® MODEL INTERCHANGE AGREEMENT

This chapter describes the recommended rules that apply to electronic data interchange based on the ebIX® standards or framework.

C.1 Introduction to the ebIX® model EDI agreement

It is the intention that the agreement shall function as a standard agreement for the use of electronic data interchange (EDI) based on the ebIX® framework.

ARTICLE 1: OBJECT AND SCOPE

- 1.1. The 'ebIX® Model EDI Agreement', hereinafter referred to as 'the Agreement', specifies the legal terms and conditions under which the parties, conducting transactions by the use of electronic data interchange (EDI), operate.
- 1.2. The Agreement consists of the legal provisions set out in the following and shall be completed by a Technical Annex.
- 1.3. The provisions of the Agreement are not intended to govern the contractual obligations arising from the underlying transactions effected by the use of EDI.
- 1.4. This Agreement is based on the European Model EDI Agreement published by the Commission of the European Communities (94/820/EC) with alterations/additions in the following articles: Introduction, 1.1, 1.3, 1.4, 2.3, 2.6, 5.3, 6.3, 6.4, 9.5, 11.4, 12, 13, 14.1, 14.2, 14.3.

ARTICLE 2: DEFINITIONS

- 2.1 For the purpose of the Agreement, the following terms are defined as follows;
- 2.2. EDI:

Electronic data interchange is the electronic transfer, from computer to computer, of commercial and administrative data using an agreed standard to structure an EDI Message.
- 2.3. EDI message:

An EDI message consists of data, structured using an agreed standard, prepared in a computer readable format and capable of being automatically and unambiguously processed.
- 2.4. UN/EDIFACT:

As defined by the UN/ECE, the United Nations rules for electronic data interchange for administration, commerce and transport, comprise a set of internationally agreed

standards, directories and guidelines for the electronic interchange of structured data, and in particular, interchange related to trade in goods and services, between independent computerized information systems.

2.5. Acknowledgement of receipt:

The acknowledgement of receipt of an EDI message is the procedure by which, on receipt of the EDI message, the syntax and semantics are checked, and a corresponding acknowledgement is sent by the receiver.

2.6 ebIX®:

As defined by the ebIX® the rules for electronic interchange of non-on-line data between parties in the energy market.

ARTICLE 3: VALIDITY AND FORMATION OF CONTRACT

- 3.1. The parties, intending to be legally bound by the Agreement, expressly waive any rights to contest the validity of a contract effected by the use of EDI in accordance with the terms and conditions of the Agreement on the sole ground that it was effected by EDI.
- 3.2. Each party shall ensure that the content of an EDI message sent or received is not inconsistent with the law of its own respective country, the application of which could restrict the content of an EDI message, and shall take all necessary measures to inform without delay the other party of such an inconsistency.
- 3.3. A contract effected by the use of EDI shall be concluded at the time and place where the EDI message constituting acceptance of an offer reaches the computer system of the offeror.

ARTICLE 4: ADMISSIBILITY IN EVIDENCE OF EDI MESSAGES

- 4.1. To the extent permitted by any national law which may apply, the parties hereby agree that in the event of dispute, the records of EDI messages, which they have maintained in accordance with the terms and conditions of this Agreement, shall be admissible before the Courts and shall constitute evidence of the facts contained therein unless evidence to the contrary is adduced.

ARTICLE 5: PROCESSING AND ACKNOWLEDGEMENT OF RECEIPT OF EDI MESSAGES

- 5.1. EDI messages shall be processed as soon as possible after receipt, but in any event, within the time limits specified in the Technical Annex.

- 5.2. An acknowledgement of receipt is not required unless requested.
An acknowledgement of receipt can be requested by specific provision included in the Technical Annex or by express request of the sender in an EDI message.

- 5.3. Where an acknowledgement is required, the receiver of the EDI message to be acknowledged shall ensure that the acknowledgement is sent within one working day of the time of receipt of the EDI message to be acknowledged, unless an alternative time limit has been specified in the Technical Annex.

The receiver of an EDI message requiring an acknowledgement shall not act upon the content of the EDI message until such acknowledgement is sent.

- 5.4. If the sender does not receive the acknowledgement of receipt within the time limit, he may, upon giving notification to the receiver to that effect, treat the EDI message as null and void as from the expiration of that time limit or initiate an alternative recovery procedure as specified in the Technical Annex, to ensure effective receipt of the acknowledgement.

In case of failure of the recovery procedure, within the time limit, the EDI message will definitely be treated as null and void, as from the expiration of that time limit, upon notification to the receiver.

ARTICLE 6: SECURITY OF EDI MESSAGES

- 6.1. The parties undertake to implement and maintain security procedures and measures in order to ensure the protection of EDI messages against the risks of unauthorized access, alteration, delay, destruction or loss.
- 6.2. Security procedures and measures include the verification of origin, the verification of integrity, the non-repudiation of origin and receipt and the confidentiality of EDI messages.

Security procedures and measures for the verification of origin and the verification of integrity, in order, to identify the sender of any EDI message and to ascertain that any EDI message received is complete and has not been corrupted, are mandatory for any EDI message. Where required, additional security procedures and measures may be expressly specified in the Technical Annex.

- 6.3. If the use of security procedures and measures results in the rejection of, or in the detection of an error in an EDI message, the receiver shall inform the sender thereof, within the specified time limit.

The receiver of an EDI message which has been rejected, or which contains an error shall not act upon the EDI message before receiving instructions from the sender.

- 6.4. In case a message is distorted due to communication disturbances for which neither of the parties are to blame, the sender is bound by the message provided the receiver did not know or should have known that it was a case of distortion.

ARTICLE 7: CONFIDENTIALITY AND PROTECTION OF PERSONAL DATA

- 7.1. The parties shall ensure that EDI messages containing information specified to be confidential by the sender or agreed mutually to be confidential between the parties, are maintained in confidence and are not disclosed or transmitted to any unauthorized persons nor used for any purposes other than those intended by the parties.

When authorized, further transmission of such confidential information shall be subject to the same degree of confidentiality.

- 7.2. EDI messages shall not be regarded as containing confidential information to the extent that such information is in the public domain.
- 7.3. The parties may agree to use a specific form of protection for certain messages such as a method of encryption to the extent permitted by law in either of their respective countries.
- 7.4. Where EDI messages which include personal data are sent or received in countries where no data protection law is in force, and until a relevant Community legislation is implemented, each party agrees as a minimum standard, to respect the provisions of the automatic processing of personal data.

ARTICLE 8: RECORDING AND STORAGE OF EDI MESSAGES

- 8.1. A complete and chronological record of all EDI messages exchanged by the parties in the course of a trade transaction shall be stored by each party, unaltered and securely, in accordance with the time limits and specifications prescribed by the legislative requirements of its own national law, and, in any event, for a minimum of three years following the completion of the transaction.
- 8.2. Unless otherwise provided by national laws, EDI messages shall be stored by the sender

in the transmitted format and by the receiver in the format in which they are received.

- 8.3. Parties shall ensure that electronic or computer records of the EDI messages shall be readily accessible, are capable of being reproduced in a human readable form and of being printed, if required. Any operational equipment required in this connection shall be retained.

ARTICLE 9: OPERATIONAL REQUIREMENTS FOR EDI

- 9.1. The parties undertake to implement and maintain the operational environment to operate EDI according to the terms and conditions of this Agreement, which includes but is not limited to the following:
- 9.2. Operational equipment
The parties shall provide and maintain the equipment, software and services necessary to transmit, receive, translate, record and store EDI messages.
- 9.3. Means of communication
The parties shall determine the means of communication to be used, including the telecommunication protocols and if required, the choice of third party service providers.
- 9.5. Codes
Data element code lists referred to in EDI messages shall include UN/EDIFACT maintained code lists, international code lists issued as ISO international standards and UN/ECE, ebIX® code lists or other officially published code lists.
- Where such code lists are not available, preference shall be given to the use of code lists published, maintained and ensuring correspondences with other coding systems.

ARTICLE 10: TECHNICAL SPECIFICATIONS AND REQUIREMENTS

- 10.1. The Technical Annex shall include the technical, organizational and procedural specifications and requirements to operate EDI according to the terms of this Agreement, which includes but is not limited to the following:
- operational requirements for EDI, as referred to in Article 9, including, operational equipment, means of communication, EDI message standards and codes,
 - processing and acknowledgement of EDI messages,
 - security of EDI messages,
 - recording and storage of EDI messages,
 - time limits,

- procedures for tests and trials to establish and monitor the adequacy of the technical specifications and requirements.

ARTICLE 11: LIABILITY

- 11.1. No party to this Agreement shall be liable for any special, indirect or consequential damages caused by a failure to perform its obligations of this Agreement.
- 11.2. No party to this Agreement shall be liable for any loss or damage suffered by the other party caused by any delay or failure to perform in accordance with the provisions of this Agreement, where such delay or failure is caused by an impediment beyond that party's control and which could not reasonably be expected to be taken into account at the time of conclusion of the Agreement or the consequences of which could not be avoided or overcome.
- 11.3. If a party engages any intermediary to perform such services as the transmission, logging or processing of an EDI message, that party shall be liable for damage arising directly from that intermediary's acts, failures or omissions in the provision of said services.

ARTICLE 12: DISPUTE RESOLUTION

- 12.1 Any dispute arising out of or in connection with this Agreement, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by the arbitration of a (or three) person(s) to be agreed by the parties, or failing agreement, to be nominated by The International Court of Arbitration in accordance with and subject to the rules of procedure of the Rules of Arbitration of the International Chamber of Commerce.

The Place of arbitration shall be Stockholm and the language shall be English.

Without prejudice to any mandatory national law which may apply to the parties regarding recording and storage of EDI messages or confidentiality and protection of personal data, the agreement is covered by the law of Sweden.

- 12.2 If the parties are from the same nation and the use of EDI has taken place within this nation, the disputes between the two parties shall be settled under the Rules of Arbitration of the nation. The applicable Law and the language shall be that of the nation

ARTICLE 13: APPLICABLE LAW

- 13.1. This part of the European Model EDI Agreement has been incorporated in Article 12 of this agreement.

ARTICLE 14: EFFECT, MODIFICATIONS, TERM AND SEVERABILITY**14.1 Effect**

The Agreement shall be effective from the date on which the parties starts to exchange messages.

14.2 Modifications

This Agreement cannot be changed by the parties.

The parties accept that the Agreement can be modified by ebIX® if all the national system operators agree. A modified ebIX® Model EDI Agreement will come into force three month after it has been published. The independent transmission system operator is responsible for the distribution of the modified versions of the Agreement.

14.3 Term

This Agreement cannot be terminated by the parties as long as electronic messages are exchanged and no other bilateral agreements are in effect.

Termination of the Agreement shall only affect transactions after that date.

Notwithstanding termination for any reason, the rights and obligations of the parties referred to in Articles 4, 6, 7 and 8 shall survive termination.

14.4 Severability

Should any Article or part of an Article of the Agreement be deemed invalid, all other Articles shall remain in full force and effect.

C.2 Technical Annex

The Technical Annex includes but is not limited to the following:

Registration

All parties shall be registered with name, postal address, contact person, EDI communication address and other parameters required by the national ebIX® coordinator, e.g. the System operator.

Approved messages

The EDI communication is governed by the standards documents issued by ebIX®, such as the business information models and this document.

The messages shall comply with the rules in national descriptions.

Communication protocol

The communication protocol used shall comply with the rules in national descriptions.

Use of acknowledgements and time limits

If no national rules or bilateral agreements apply for the time before return of acknowledgments, such as CONTRL and APERAK, the following time limits shall apply:

- Acknowledgement of receipt, i.e. message received and syntax correct, such as the EDIFACT CONTRL message, shall be sent within one hour of the time of receipt of the EDI message to be acknowledged.
- Acknowledgement of acceptance, i.e. the content of the data, such as the EDIFACT APERAK message, shall be sent within one working day of the time of receipt of the EDI message to be acknowledged.

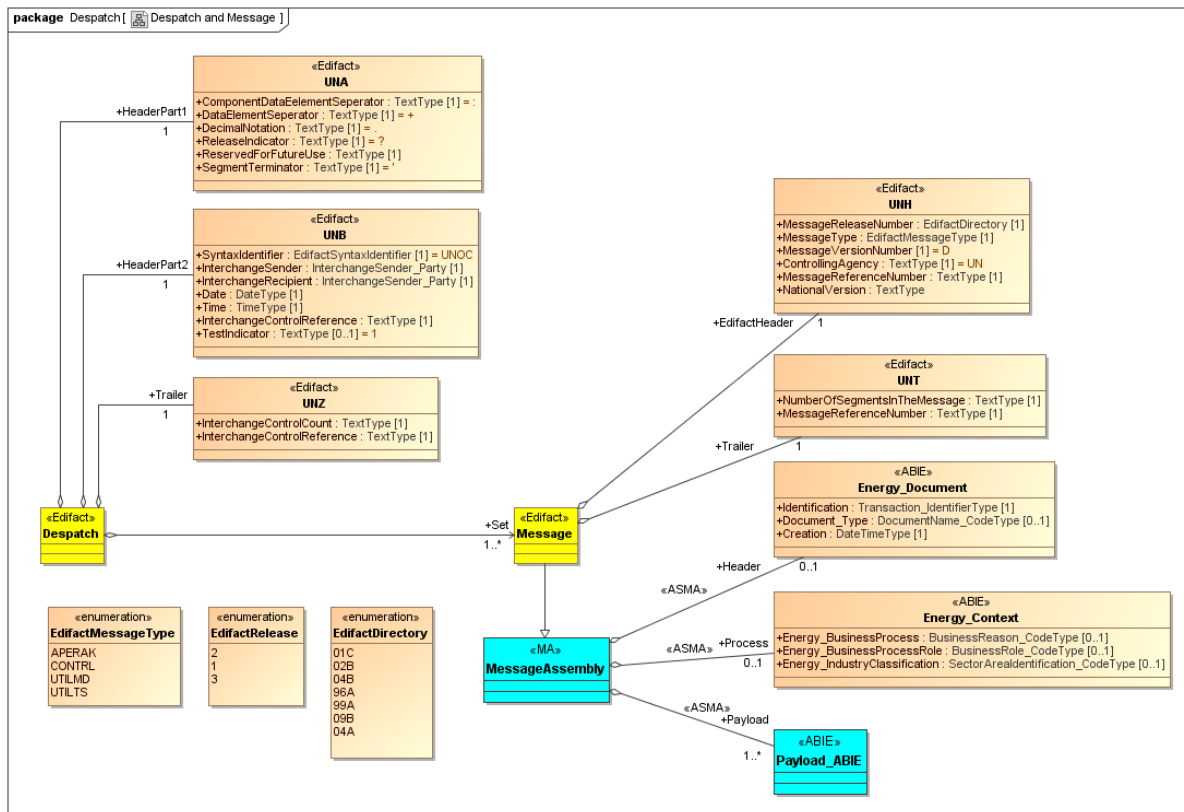
Appendix D HOW TO ASSEMBLE AN EDIFACT MESSAGE AND DESPATCH

For mapping to EDIFACT the root class stereotyped <<MA>> in the Business Information Model (as part of the UMM-2 model) is assumed to be the basis for the *Message*. In the ebIX® Business Information Models a *Payload* is combined with header- and process information into a *Message Assembly* necessary for exchange as a self-contained *Message*. When using EDIFACT as a syntax, additional syntax dependent *EDIFACT* header information has to be added to the self-contained *Message Assembly* in order to make it represent an *EDIFACT-message*. For transmission, such *EDIFACT Message* has to be packed in a *Despatch* (interchange). For the *EDIFACT Despatch* also additional syntax dependent EDIFACT header (and trailer) information has to be added (*UNA*, *UNB* and *UNZ*).

The default cardinality for a *Payload* within a *Message Assembly* in the ebIX® Business Information Models is 1¹. In the EDIFACT *Message* the cardinality of the class *Payload* is default 1..*.

The class diagram below represents an EDIFACT *Message*, which first inherits all characteristics of a *Message Assembly* as defined in the Business Information Models and is then enlarged with the EDIFACT Header- and Trailer-segment (*UNH* and *UNT*). One or more of these EDIFACT *Messages* can be included within an EDIFACT *Despatch*.

¹ For national customization it is possible to change this cardinality to 1..*. Therefore the cardinality of the ABIE has to provide for this possibility and is therefore also 1..*.



Remarks:

Identification

The property Identification in the Payload_ABIE (in the ebIX® models this could be for example the ABIE MP_Event or Energy_TimeSeries) contains the functional transaction identifier.

The property Identification in the ABIE Energy_Document contains the functional identifier in the BGM segment.

The Message Reference Number in the UNH-segment is advised to be a sequence number for the *Message* within the *Despatch*. It is not to be regarded as a document or transaction identifier.

D.1 Despatch elements (Interchange)

The way the properties of the classes for UNA, UNB and UNZ are to be mapped to the respective EDIFACT segments/data elements is specified in the class diagram below².

The mapping is specified as a tagged value³ for a property using the tag definition “Data”.⁴

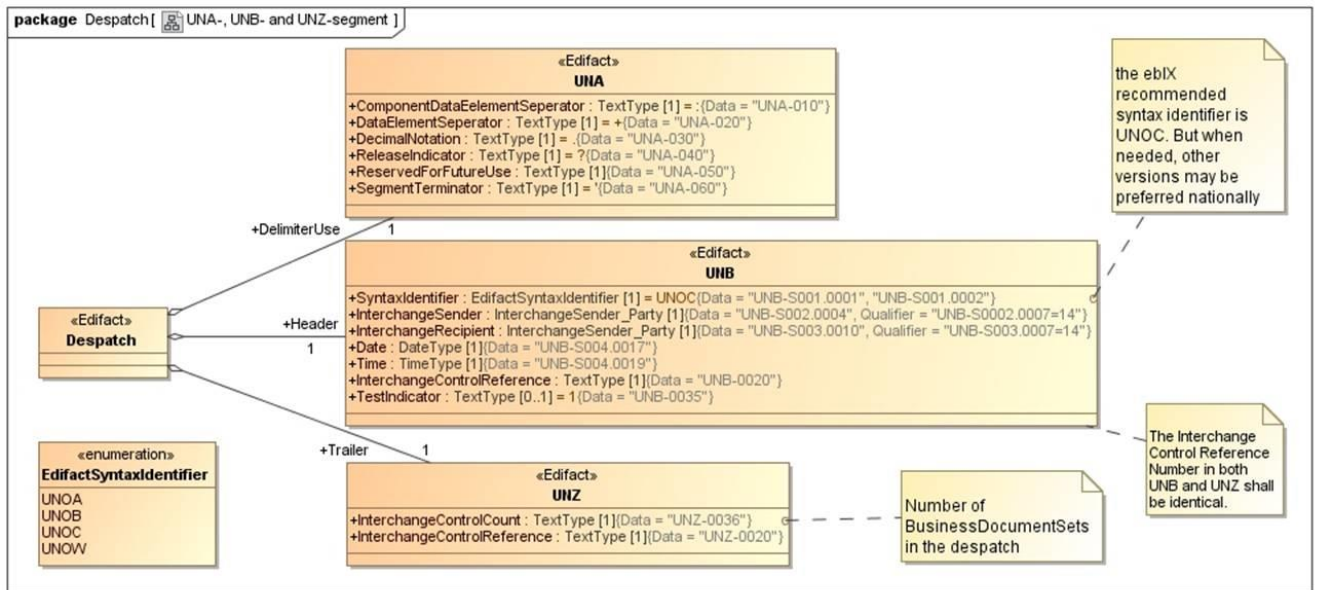
² At the moment ebIX® uses tagged values for including information about mapping to EDIFACT in the UMM-2 model. However for future mapping to EDIFACT ebIX® considers alternative ways to specify the mapping in order to be able to derive text-based Message Implementation Guides for EDIFACT UNSM’s from the UMM-2 model.

³ The ebIX® format convention for the tagged value used as mapping information is:

[segment name]-[composite data element].[data element]=[value]

where the composite data element is optional (since not all data elements are part of a composite data element) and where the (coded) value is optional as well.

⁴ For mapping to EDIFACT two tag definitions are available: Qualifier and Data. The tag definition “Data” is used to specify the place where the property value shall be included in an EDIFACT data element. The tag definition “Qualifier” is used to specify the place for the semantic meaning of the data, since in EDIFACT this is normally done by using a coded value. (Where in for example in XML this is done by using the name of the XML-element to specify the semantic meaning.) However, neither in the Despatch header and tailor segments, nor in the Message Header segments, qualifier codes are used.



Remarks:

Syntax Identifier (UNB-segment)

The ebIX[®] recommended syntax identifier is UNOC and is therefore included as the default value. But when needed, other versions may be preferred nationally and therefore then replace the default value.

InterchangeControlReference (UNB- and UNZ-segment)

The InterchangeControlReference in both UNB and UNZ shall be identical.

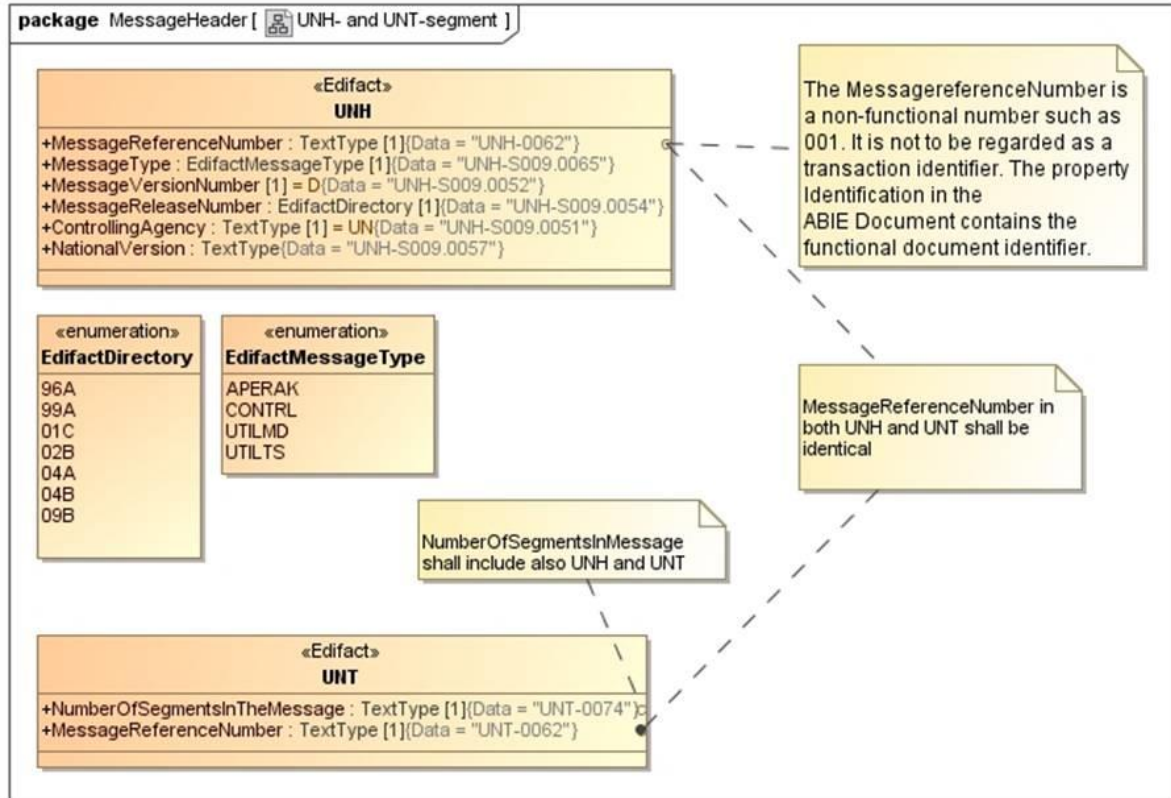
Test indicator (UNB-segment)

The test indicator is optional and only to be used when the sender wants to indicate that the message is to be regarded as a test message. Therefore the default value is 1 (for indicating test message) in combination with multiplicity 0..1. So this property is only to be used for test messages and to be omitted for messages in operational processes.

InterchangeControlCount (UNZ-segment)

This property specifies the number of Messages (UNSM-level) in the Despatch.

D.2 Message Header elements



Remarks:

MessageReferenceNumber (UNH- and UNT-segment)

The MessageReferenceNumber in both UNH and UNT shall be identical.

See also the remark on Identification (Energy_Document) added to the figure "Despatch and Message" above.

NumberOfSegmentsInTheMessage (UNT-segment)

The NumberOfSegmentsInTheMessage shall include also UNH and UNT.