UN/CEFACT United Nations Centre for Trade Facilitation and Electronic Business

TBG International Trade & Business Processes Group

Team 5 Finance Domain

Maintenance Task Force

Service Segments

for the use in all UN/EDIFACT messages of the Finance Domain

Recommendation of UN/CEFACT TBG Team 5 Finance Domain

Version 2.1.0 from July 21st, 2005

Foreword

This document describes the use of service segments used in conjunction with all UN/EDIFACT messages of the Finance Domain. Only syntax levels 3 and 4 are observed here. The syntactical definition of the service segments is made in ISO 9735 both of the year 1992 (syntax level 3) and the year 1998 (syntax level 4).

Service segments are not part of the directories – published by the EWG (EDIFACT Working Group) and from now on by ATG (Applied Technology Group) – but need to be used in every message and interchange. The separation of their documentation should

- ease editorial tasks
- modularise the documentation
- show that the change of syntax level does not influence the messages[1]

Service segments are part of the transport layer. On one hand they are therefore very important. On the other hand they have no meaning in an application dealing with financial transactions. This is the main idea behind the separation from the messages even when they are part of the message from the syntactical viewpoint.

The network or channel used between sender and receiver of an interchange is ruled by agreements which also define the syntax level to use. This should have no influence to the message content itself, e.g. a specific message will transport its content unaffected by the envelope built by the service segments. This is not possible in general but is true for all observed and documented financial message types so far.

Principles

Both partners of a data exchange, e.g. sender and receiver in their respective role and this context, always need an agreement to send data to each other. This agreement may contain additional rules and even regulations that overrule any of the subsequent described recommendations.

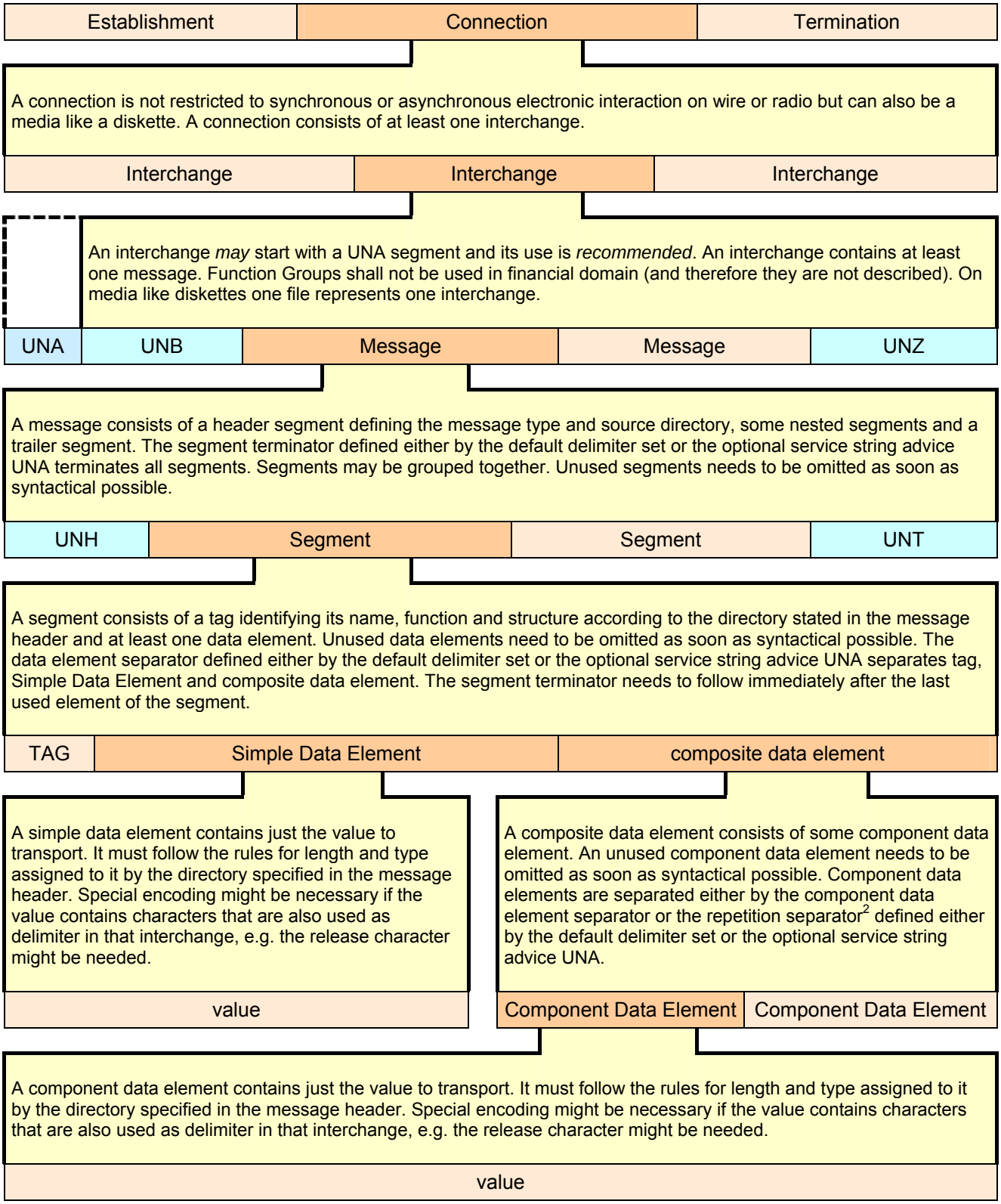
Syntactically wrong interchanges or incorrect (e.g. mismatching, wrong in context, unlisted code etc.) data especially in critical fields (passwords, Ids etc.) will cause rejection of the interchange. This must not apply to a wrong authentication message, in which case the recipient should contact the sender by any means other than the original channel. A rejected authentication message may result from a fraudulent attack, and responding by the same channel may lead to further and deeper attacks.

[1] regarding content and context; the small physical representation influences can be found in the annex.

Content

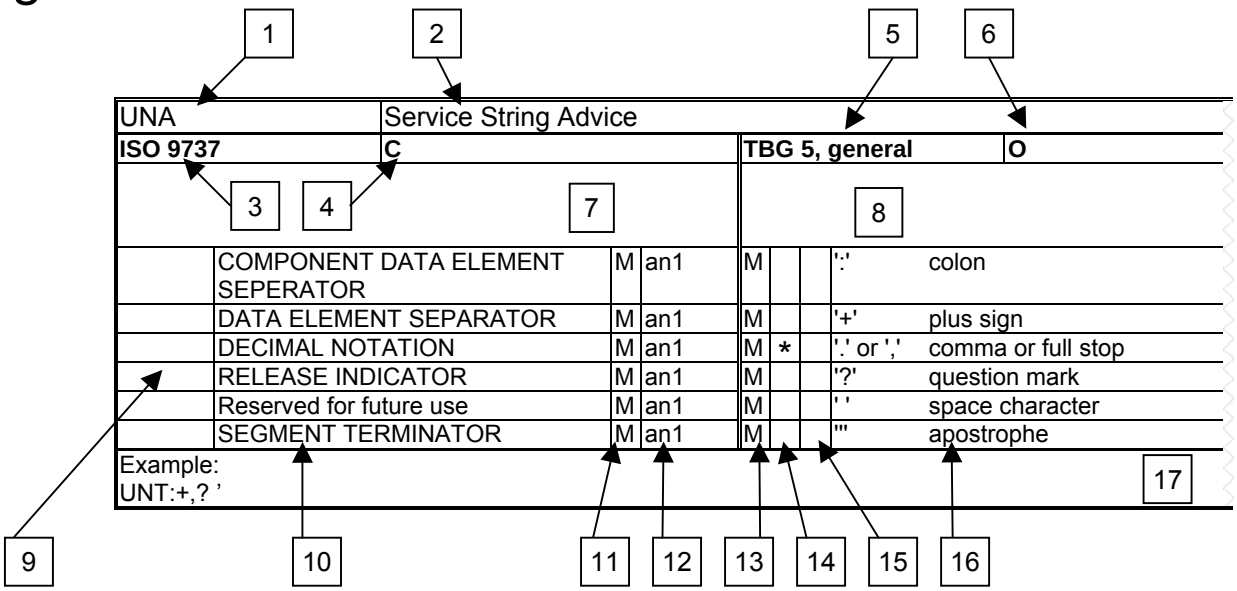
General structure

Following the descriptions from ISO 9735 subsequent assumptions are taken as base for documentation:



[2] see annex for more details

Legend



1) TAG of the segment.
2) Name of the segment.
3) Source of the segment specification.
4) Status[3] of the segment specified by 3. This is either M (mandatory) or C (Conditional) and reflects the syntactical necessity of the segment.
5) Source and focus of recommendation.
6) Status of the segment specified by 5. This is either M copied from 4 (as it can not be overruled) or one out of the set of R (required), O (optional), N (not used), D (dependent), A (advised) and X (must not be used) that consequently replaces the C from 4 and reflects the applicatory necessity of the segment. *Note: 'not used' is like 'ignored' !*
7) Segment description specified by 3.
8) Additional segment description specified by 5.
9) Simple, composite or component data element code specified by 3. Left justified and bold for simple and composite data element, right justified for component data element.
10) Data element name specified by 3.
11) Status of the data element specified by 3. *Note: mandatory or required elements only appears if also the higher level container appears, e.g. a component data element in a composite data element in a segment.*
12) Data format specified by 3. Used expressions are: 'a' (alpha), 'n' (numeric), 'an' (alphanumeric), '..'n (up to n character), n (fixed length n character).
    Examples: n3 (fixed length 3 character), an..6 (alphanumeric up to 6 character)
13) Status of the data element specified by 5. Mandatory from 11 is always left untouched, conditional is always changed as in 6.
14) Restriction of code value for that element specified by 5. Empty (unrestricted) or asterisk (restricted code list).
15) Status of the code value out of a restricted code list specified by 5. Defaults to optional.
16) Code value, code name and code description and/or data element description specified by 5.
17) Example specified by 5.

[3] Status and repetition factor qualify the cardinality of the object, e.g. status 'M' or 'R' stands for minimal occurrence '1', 'O' (and similar) stands for minimal occurrence '0', the repetition factor stands for the maximum occurrence and defaults to '1'.
Cardinality: The number of elements in a set. A cardinality is thus an isomorphism class in the category of sets (The Free On-line Dictionary of Computing).

Associated documents

ISO 9735 - Amendment 1992	Electronic data interchange for administration, commerce and transport (EDIFACT) – Application level syntax rules	http://www.iso.ch/cate/cat.html
ISO 9735 -1 : 1998	Electronic data interchange for administration, commerce and transport (EDIFACT) – Application level syntax rules	http://www.iso.ch/cate/cat.html
UNTDID	UNITED NATIONS TRADE DATA INTERCHANGE DIRECTORY	http://www.unece.org/trade/untdid
UN/EDIFACT Directories	See UNTDID	http://www.unece.org/trade/untdid
TBG 5 Cardinalities	Methods and techniques for message enhancement	http://www.unece.org/trade/untdid http://www.tbg5-finance.org

Syntax level 3

Service String Advice

UNA	Service String Advice								
ISO 9737 : 1992	**C**			**TBG 5, general**			**O**		
To define the characters selected for use as delimiters and indicators in the rest of the interchange that follows. The specification in the Service String Advice takes precedence over the specifications for delimiters etc. in segment UNB. When transmitted, the Service String Advice must appear immediately before the Interchange Header (UNB) segment and begin with the upper case characters UNA immediately followed by six characters selected by the sender to indicate, in sequence, the following functions:				If not overruled by an Interchange Agreement (IA) following defaults apply: Coding scheme for the Service String Advice is ISO 646. All values given are the default values for the respective function assuming that UNOA is going to be defined in UNB segment. It is recommended to use this default delimiter set for any char set subsequently used. Therefore the use of the Service String Advice is recommended, especially when other character sets as UNOA are going to be used in the subsequent interchange. *Note that as long no Service String Advice is given the decimal sign is either comma or full stop. The receiving software therefore has to cope both possibilities even within one interchange !* The default delimiter set for character set other than UNOA is originally defined by ISO 9735:1992 with ‘IS4’ (0x1C) as segment terminator ‘IS3’ (0x1D) as data element separator ‘IS1’ (0x1F) as component data element separator *Because this was almost not taken into account on most available implementations – default delimiter set from UNOA were used instead – it is strongly recommended to use a preceding UNA segment for save recognition.*				
	COMPONENT DATA ELEMENT SEPARATOR	M	an1	M			':'	colon
	DATA ELEMENT SEPARATOR	M	an1	M			'+'	plus sign
	DECIMAL NOTATION	M	an1	M	*		'.' or ','	comma or full stop
	RELEASE INDICATOR	M	an1	M			'?'	question mark
	Reserved for future use	M	an1	M			' '	'blank', 'simple white space', 'space character' or whatever you name it.
	SEGMENT TERMINATOR	M	an1	M			'''	apostrophe
Example: UNA:+,? ’								

Interchange Header

UNB	Interchange Header							
ISO 9737 : 1992	**M**			**TBG 5, general**			**M**	
To start, identify and specify an interchange				This is the interchange header				
S001	SYNTAX IDENTIFIER	M		M			This composite is populated with information about used character set and syntax level
0001	Syntax identifier	M	a4	M	*		'UNOA' = A to Z, 0 to 9, Space, full stop, hyphen, parenthesis, slash and equals sign. If not in a telex transmission additional characters (exclamation and quotation mark, percentage and greater-than and less-than sign, asterisk, ampersand and semi-colon) are available. Delimiters and coding scheme as described in UNA segment. 'UNOB' = same as UNOA plus additional a to z. Delimiters and coding scheme as described in UNA segment. 'UNOC' = character set and coding according ISO 8859-1 Latin alphabet No. 1. In IBM's EBCDIC world this set is known as code page 819 (also as several language code pages like 273, 277,...). Delimiters and coding scheme as described in UNA segment. 'UNOQ' = TEMPORARY CODE. Character set and coding according ISO 8859-15 Latin alphabet No. 9. In IBM's EBCDIC world this set is known as code page 923. This character set was not mentioned in ISO 9735:1992 and therefore no default delimiter set is defined. Nevertheless this shall be treated like UNOC. See description in UNA segment.
0002	Syntax version number	M	n1	M	*	R	'3' as the only valid value to qualify all used service segment to be build on syntax level 3 (ISO 9735 : 1992)
S002	INTERCHANGE SENDER	M		M			This composite is populated with sender's identification according to the Interchange Agreement (IA).
0004	Sender identification	M	an..35	M			As defined in Interchange Agreement (IA).
0007	Identification code qualifier	C	an..4	O			As defined in Interchange Agreement (IA).
0008	Address for reverse routing	C	an..14	N			
S003	INTERCHANGE RECIPIENT	M		M			This composite is populated with recipient's identification according to the Interchange Agreement (IA).
0010	Recipient identification	M	an..35	M			As defined in Interchange Agreement (IA).
0007	Identification code qualifier	C	an..4	O			As defined in Interchange Agreement (IA).
0014	Routing address	C	an..14	N			

continued...

...continuing

S004	DATE/TIME OF PREPARATION	M		M			This should be very close to the time the preparing process opens the stream or file containing this interchange.
0017	Date	M	n6	M			Format needs to be 'YYMMDD' e.g. '021008' for the 8th October 2002.
0019	Time	M	n4	M			Format needs to be 'HHMM' e.g. '1402' for 2 minutes past 14 o'clock (or 2 minutes past 2 pm).
0020	INTERCHANGE CONTROL REFERENCE	M	an..14	M			This sender-generated reference needs to be unique between sender and recipient for longest time frame defined for interchange exchange and handling protocol. For example, this reference is reflected by the authentication message that relates to the interchange. *Although it is possible to use any character from character set defined in S001:0001, it is recommended to use only capital letters and digits for this reference.*
S005	RECIPIENTS REFERENCE, PASSWORD	C		N			
0022	Recipient's reference/password	M	an..14				
0025	Recipient's reference/password qualifier	C	an2				
0026	APPLICATION REFERENCE	C	an..14	N			
0029	PROCESSING PRIORITY CODE	C	a1	N			
0031	ACKNOLEDGEMENT REQUEST	C	n1	N			
0032	COMMUNICATIONS AGREEMENT ID	C	an..35	N			
0035	TEST INDICATOR	C	n1	N			

Example:
UNB+UNOC:3+ATEPA+ATBAA+021008:1402+MC08N4'

Message Header

UNH	Message Header							
ISO 9737 : 1992	**M**			**TBG 5, general**			**M**	
To head, identify and specify a Message								
0062	MESSAGE REFERENCE NUMBER	M	an..14	M			This sender-generated reference must be unique within an interchange. UNT:0062 must have the same value. Often this is a serial number starting with 1 within the interchange. For example, this reference is reflected by the authentication message that relates to the message / interchange. *Although it is possible to use any character from character set defined in UNB:S001:0001, it is recommended to use only digits for this reference. If letters are used too, capital letters are recommended.*
S009	MESSAGE IDENTIFIER	M		M			
0065	Message type identifier	M	an..6	M	*		'BANSTA' = Banking status message 'CREMUL' = Multiple credit advice message 'DEBMUL' = Multiple debit advice message 'DIRDEB' = Direct debit message 'FINCAN' = Financial cancellation message 'FINSTA' = Financial statement of an account message 'PAYMUL' = Multiple payment order message 'FINPAY' = Multiple interbank funds transfer message
0052	Message type version number	M	an..3	M	*	R	'D' = Draft version/UN/EDIFACT Directory
0054	Message type release number	M	an..3	M	*		'96A' = Release 96A; valid with 'BANSTA', 'CREMUL'; 'DEBMUL', 'DIRDEB'; 'FINCAN', 'FINSTA', 'PAYMUL' in 0065 '98A' = Release 98A; valid with 'FINPAY' in 0065 Although FINPAY message is based on the D98.A directory, data content specifications are based on the D96.A directory for interoperability purposes.
0051	Controlling agency	M	an..2	M	*	R	'UN' = UN/ECE/TRADE/WP.4
0057	Association assigned code	C	an..6	R	*		'FUN01G' = Finance/ United Nations/ Version 01/ General 'FUN02G' = Finance/ United Nations/ Version 02/ General Template: Industry/ Country Code/ Version number/ Function
0068	COMMON ACCESS REFERENCE	C	an..35	N			
S010	STATUS OF THE TRANSFER	C		N			
0070	Sequence message transfer number	M	n..2				
0073	First/last sequence message transfer indication	C	a1				

Examples:
UNH+1+FINPAY:D:98A:UN:FUN02G'

UNH+1+PAYMUL:D:96A:UN:FUN02G'
UNH+2+DIRDEB:D:96A:UN:FUN02G'

Message Trailer

UNT		Message Trailer						
ISO 9737 : 1992		**M**			**TBG 5, general**		**M**	
To end and check the completeness of a Message								
0074	NUMBER OF SEGMENTS IN A MESSAGE	M	n..6	M			Count of segments within the message (this includes the header segment (UNH), the trailer segment (UNT) and all segments in between those both). Count starts with UNH (segment number 1) and ends with UNT (segment number n). The size of this data element may be influenced when using enhancement technique described in document TBG5 Cardinalities.
0062	MESSAGE REFERENCE NUMBER	M	an..14	M			This data element must repeat the value of UNH:0062.
Example: UNT+63721+1’								

Interchange Trailer

UNZ		Interchange Trailer							
ISO 9737 : 1992		**M**			**TBG 5, general**			**M**	
To end and check the completeness of an interchange									
0036	INTERCHANGE CONTROL COUNT	M	n..6	M				Number of messages in the interchange	
0020	INTERCHANGE CONTROL REFERENCE	M	an..14	M				This data element must repeat the value of UNB:0020.	
Example: UNZ+3+MC08N4’									

Syntax level 4

Service String Advice

UNA	Service String Advice							
ISO 9737 : 1998	**C**			**TBG 5, general**			**O**	
The conditional service string advice provides the capability to specify the service characters used in the interchange The UNA service string advice shall be used if the service characters differ from the defaults its use is optional if the default characters are used. When used, the service string advice shall appear immediately before the interchange header segment. The service string advice shall begin with the upper case characters UNA immediately followed by six characters in the order showed below. The space character shall not be used in positions 1,2,4,5 or 6. The same character shall not be used in more than one position.				If not overruled by an Interchange Agreement (IA) following defaults apply: Coding scheme for the Service String Advice is ISO 646. All values given are the default values for the respective function regardless of the subsequently used character set. *Note that even with transmitted Service String Advice the decimal sign is either comma or full stop. The receiving software therefore has to cope both possibilities even within one interchange !*				
	COMPONENT DATA ELEMENT SEPARATOR	M	an1	M			':'	colon
	DATA ELEMENT SEPARATOR	M	an1	M			'+'	plus sign
	DECIMAL MARK	M	an1	M	*		The ISO quotes: "The character transferred in this position shall be ignored by the recipient. Retained to maintain upwards compatibility with earlier versions of syntax.". Nevertheless it is recommended to treat this character as in earlier syntax. '.' or ','	comma or full stop
	RELEASE CHARACTER	M	an1	M			'?'	question mark
	REPETITION SEPARATOR	M	an1	M			'*'	asterisk
	SEGMENT TERMINATOR	M	an1	M			'''	apostrophe
Example: UNA:+,?*'								

Interchange Header

UNB	Interchange Header							
ISO 9737 : 1998	**M**			**D6**			**M**	
To identify an interchange								
S001	SYNTAX IDENTIFIER	M		M			This composite is populated with information about used character set and syntax level
0001	Syntax identifier	M	a4	M	*		'UNOA' = UN/ECE level A 'UNOB' = UN/ECE level B 'UNOC' = UN/ECE level C 'UNOQ' = TEMPORARY CODE For more information refer to same data element in interchange header of syntax level 3 in this document.
0002	Syntax version number	M	an1	M	*	R	'4' as the only valid value to qualify all used service segment to be build on syntax level 4 (ISO 9735 - 1998)
0080	Service code list directory version number	C	an..6	N			
0133	Character encoding, coded	C	an..3	N			
S002	INTERCHANGE SENDER	M		M			This composite is populated with sender's identification according to the Interchange Agreement (IA).
0004	Sender identification	M	an..35	M			As defined in Interchange Agreement (IA).
0007	Identification code qualifier	C	an..4	O			As defined in Interchange Agreement (IA).
0008	Interchange sender internal identification	C	an..35	N			
0042	Interchange sender internal sub-identification	C	an..35	N			
S003	INTERCHANGE RECIPIENT	M		M			This composite is populated with recipient's identification according to the Interchange Agreement (IA).
0010	Recipient identification	M	an..35	M			As defined in Interchange Agreement (IA).
0007	Identification code qualifier	C	an..4	O			As defined in Interchange Agreement (IA).
0014	Interchange recipient internal identification	C	an..35	N			
0046	Interchange recipient internal sub-identification		an..35	N			

continued...

...continuing

S004	DATE/TIME OF PREPARATION	M		M			This should be very close to the time the preparing process opens the stream or file containing this interchange.
0017	Date	M	n8	M			Format needs to be 'CCYYMMDD' e.g. '20021008' for the 8th October 2002.
0019	Time	M	n4	M			Format needs to be 'HHMM' e.g. '1402' for 2 minutes past 14 o'clock (or 2 minutes past 2 pm).
0020	INTERCHANGE CONTROL REFERENCE	M	an..14	N			This sender-generated reference needs to be unique between sender and recipient for longest time frame defined for interchange exchange and handling protocol. For example, this reference is reflected by the authentication message that relates to the interchange. *Although it is possible to use any character from character set defined in S001:0001, it is recommended to use only capital letters and digits for this reference.*
S005	RECIPIENTS REFERENCE, PASSWORD	C		N			
0022	Recipient's reference/password	M	an..14				
0025	Recipient's reference/password qualifier	C	an2				
0026	APPLICATION REFERENCE	C	an..14	N			
0029	PROCESSING PRIORITY CODE	C	a1	N			
0031	ACKNOLEDGEMENT REQUEST	C	n1	N			
0032	COMMUNICATIONS AGREEMENT ID	C	an..35	N			
0035	TEST INDICATOR	C	n1	N			

Example:
UNB+UNOC:4+ATEPA+ATBAA+20021008:1402+MC08N4'

Message Header

UNH	Message header							
ISO 9737 : 1998	**M**			**TBG 5, general**			**M**	
To head, identify and specify a message								
0062	MESSAGE REFERENCE NUMBER	M	an..14	M			This sender-generated reference must be unique within an interchange. UNT:0062 must have the same value. Often this is a serial number starting with 1 within the interchange. For example, this reference is reflected by the authentication message that relates to the message / interchange. *Although it is possible to use any character from character set defined in UNB:S001:0001, it is recommended to use only digits for this reference. If letters are used too, capital letters are recommended.*
S009	MESSAGE IDENTIFIER	M		M			
0065	Message type identifier	M	an..6	M	*		'BANSTA' = Banking status message 'CREMUL' = Multiple credit advice message 'DEBMUL' = Multiple debit advice message 'DIRDEB' = Direct debit message 'FINCAN' = Financial cancellation message 'FINSTA' = Financial statement of an account message 'PAYMUL' = Multiple payment order message 'FINPAY' = Multiple interbank funds transfer message
0052	Message type version number	M	an..3	M	*	R	'D' = Draft version/UN/EDIFACT Directory
0054	Message type release number	M	an..3	M	*		'96A' = Release 96A; valid with 'BANSTA', 'CREMUL'; 'DEBMUL', 'DIRDEB'; 'FINCAN', 'FINSTA', 'PAYMUL' in 0065 '98A' = Release 98A; valid with 'FINPAY' in 0065 Although FINPAY message is based on the D98.A directory, data content specifications are based on the D96.A directory for interoperability purposes.
0051	Controlling agency, coded	M	an..3	M	*	R	'UN' = UN/ECE/TRADE/WP.4
0057	Association assigned code	C	an..6	R	*		'FUN01G' = Finance/ United Nations/ Version 01/ General 'FUN02G' = Finance/ United Nations/ Version 02/ General Template: Industry/ Country Code/ Version number/ Function
0110	Code list directory version number	C	an..6	N			
0113	Message type sub-function identification	C	an..6	N			
0068	COMMON ACCESS REFERENCE	C	an..35	N			
S010	STATUS OF THE TRANSFER	C		N			
0070	Sequence message transfer number	M	n..2				
0073	First/last sequence message transfer indication	C	a1				

continued...

...continuing

S016	MESSAGE SUBSET IDENTIFICATION	C		N			
0115	Message subset identification	M	an..14				
0116	Message subset version number	C	an..3				
0118	Message subset release number	C	an..3				
0051	Controlling agency, coded	C	an..3				
S017	MESSAGE IMPLEMENTATION GUIDELINE IDENTIFICATION	C		N			
0121	Message implementation guideline identification	M	an..14				
0122	Message implementation guideline version number	C	an..3				
0124	Message implementation guideline release number	C	an..3				
0051	Controlling agency, coded	C	an..3				
S018	SCENARIO IDENTIFICATION	C		N			
0127	Scenario identification	M	an..14				
0128	Scenario version number	C	an..3				
0130	Scenario release number	C	an..3				
0051	Controlling agency, coded	C	an..3				

Examples:
UNH+1+FINPAY:D:98A:UN:FUN02G'

UNH+1+PAYMUL:D:96A:UN:FUN02G'
UNH+2+DIRDEB:D:96A:UN:FUN02G'

Message Trailer

UNT	MESSAGE TRAILER						
ISO 9737 : 1998	**M**			**TBG 5, general**			**M**
To end and check the completeness of a message							
0074	NUMBER OF SEGMENTS IN A MESSAGE	M	n..10	M			Count of segments within the message (this includes the header segment (UNH), the trailer segment (UNT) and all segments in between those both). Count starts with UNH (segment number 1) and ends with UNT (segment number n).
0062	MESSAGE REFERENCE NUMBER	M	an..14	M			This data element must repeat the value of UNH:0062.
Example: UNT+63721+1’							

Interchange Trailer

UNZ		INTERCHANGE TRAILER							
ISO 9737 : 1998		**M**			**D6 Payment orders**			**M**	
To end and check the completeness of an interchange									
0036	INTERCHANGE CONTROL COUNT	M	n..6	M				Number of messages in the interchange	
0020	INTERCHANGE CONTROL REFERENCE	M	an..14	M				This data element must repeat the value of UNB:0020.	
Example: UNZ+3+MC08N4’									

Annex

Segment comparison

Syntax level 3			
UNA			Service String advice
	an1	M	Component Data Element Separator
	an1	M	Data Element Separator
	an1	M	Decimal Notation Comma or full stop
	an1	M	Release Indicator If not used, insert space character
	an1	M	Reserved for future use Insert space character
	an1	M	Segment Terminator

Syntax level 4			
UNA			Service String advice (No space character allowed except in Decimal Mark. Same character is not allowed in more than one position.)
	an1	M	Component Data Element Separator
	an1	M	Data Element Separator
	an1	M	Decimal Mark The character transferred in this position shall be ignored by the recipient. Retained to maintain upward compatibility with earlier versions of the syntax.
	an1	M	Release Character
	an1	M	Repetition Separator
	an1	M	Segment Terminator

Remark: with this change the numerical representation within the interchange is no longer changeable by the UNA segment and will appear as comma or full stop.

Syntax level 3			
UNZ			Interchange Trailer To end and check the completeness of an interchange
0036	n..6	M	Interchange Control Count The count of the number of messages or, if used, the number of functional groups in the interchange. One of these counts shall appear.
0020	an..14	M	Interchange Control Reference Identical to 0020 in UNB

Syntax level 4			
UNZ			Interchange Trailer To end and check the completeness of an interchange
0036	n..6	M	Interchange Control Count
0020	an..14	M	Interchange Control Reference

Syntax level 3			
UNT			Message Trailer To end and check the completeness of a Message
0074	n..6	M	Number of Segments in the Message Control count including UNH and UNT
0062	an..14	M	Message Reference Number Identical to0062 in UNH

Syntax level 4			
UNT			Message Trailer
0074	n..10	M	Number of Segments in a Message
0062	an..14	M	Message Reference Number

Remark: with this change the problem with messages containing more than 999.999 segments is solved. The limit is now 9.999.999.999 (almost 10 billion)

Syntax level 3			
UNB			Interchange Header To start, identify and specify an interchange
S001		M	Syntax Identifier
0001	a4	M	Syntax identifier
0002	n1	M	Syntax version number
S002		M	Interchange Sender
0004	an..35	M	Sender identification
0007	an..4	C	Partner identification code qualifier
0008	an..14	C	Address for reverse routing
S003		M	Interchange Recipient
0010	an..35	M	Recipient Identification
0007	an..4	C	Partner identification code qualifier
0014	an..14	C	Routing address
S004		M	Date/Time of Preparation
0017	n6	M	Date YYMMDD
0019	n4	M	Time HHMM
0020	an..14	M	Interchange Control Reference Unique reference assigned by sender
S005		C	Recipients Reference, Password
0022	an..14	M	Recipient's reference/ password
0025	an2	C	Recipient's reference/ password qualifier
0026	an..14	C	Application Reference
0029	a1	C	Processing Priority Code
0031	n1	C	Acknowledgement Request Set = 1 if sender requests acknowledgement, i.e. UNB and UNZ segments received and identified
0032	an..35	C	Communications Agreement ID
0035	n1	C	Test Indicator Set = 1 if the interchange is a test. Otherwise not used

Syntax level 4			
UNB			Interchange Header To start, identify and specify an interchange
S001		M	Syntax Identifier
0001	a4	M	Syntax identifier
0002	an1	M	Syntax version number
0080	an..6	C	Service code list directory version number
0133	an..3	C	Character encoding, coded
S002		M	Interchange Sender
0004	an..35	M	Interchange sender identification
0007	an..4	C	Identification code qualifier
0008	an..35	C	Interchange sender internal identification
0042	an..35	C	Interchange sender internal sub-identification
S003		M	Interchange Recipient
0010	an..35	M	Interchange recipient identification
0007	an..4	C	Identification code qualifier
0014	an..35	C	Interchange recipient internal identification
0046	an..35	C	Interchange recipient internal sub-identification
S004		M	Date/Time of Preparation
0017	n8	M	Date CCYYMMDD
0019	n4	M	Time HHMM
0020	an..14	M	Interchange Control Reference
S005		C	Recipients Reference, Password Details
0022	an..14	M	Recipient's reference/ password
0025	an2	C	Recipient's reference/ password qualifier
0026	an..14	C	Application Reference
0029	a1	C	Processing Priority Code
0031	n1	C	Acknowledgement Request
0032	an..35	C	Interchange Agreement Identifier
0035	n1	C	Test Indicator

Syntax level 3			
UNH			Message Header To head, identify and specify a Message
0062	an..14	M	Message Reference Number A sender's unique message reference
S009		M	Message Identifier
0065	an..6	M	Message type Type of message being transmitted
0052	an..3	M	Message version number Version number of the message type. If UNG used, 0052 shall identical
0054	an..3	M	Message release number Release number within current version number
0051	an..2	M	Controlling agency Code to identify the agency controlling the specification, maintenance and publication of the message type
0057	an..6	C	Association assigned code A code assigned by the responsible for design and maintenance of the message type
0068	an..35	C	Common Access Reference Key to relate all subsequent transfers of data to the same business case of file. Within the35 characters the IA may specify component elements
S010		C	Status of the Transfer
0070	n..2	M	Sequence of transfers Starts at 1 and is incremented by 1 for each transfer
0073	a1	C	First and last transfer C = Creation, must be present for first transfer if more than one foreseen F = Final, must be present for last transfer

Syntax level 4			
UNH			Message Header
0062	an..14	M	Message Reference Number
S009		M	Message Identifier
0065	an..6	M	Message type
0052	an..3	M	Message version number
0054	an..3	M	Message release number
0051	an..3	M	Controlling agency, coded
0057	an..6	C	Association assigned code
0110	an..6	C	Code list directory version number
0113	an..6	C	Message type sub-function identification
0068	an..35	C	Common Access Reference
S010		C	Status of the Transfer
0070	n..2	M	Sequence of transfers
0073	a1	C	First and last transfer
S016	an..14	C	Message Subset Identification
0115	an..3	M	Message subset identification
0116	an..3	C	Message subset version number
0118	an..3	C	Message subset release number
0051	an..3	C	Controlling agency, coded
S017	an..14	C	Message Implementation Guideline Identification
0121	an..3	M	Message implementation guideline identification
0122	an..3	C	Message implementation guideline version number
0124	an..3	C	Message implementation guideline release number
0051	an..3	C	Controlling agency, coded
S018	an..14	C	Scenario Identification
0127	an..3	M	Scenario Identification
0128	an..3	C	Scenario version number
0130	an..3	C	Scenario release number
0051	an..3	C	Controlling agency, coded

Coding of alphanumeric values

As colon (:), plus sign (+), apostrophe (') and – since syntax level 4 – asterisk (*) are relevant characters for delimiting and terminating data elements special care has to be taken, if they occur in the value to transport. Therefore the question mark (?) is used as release indicator or release character.

To protect a character in a value that could be interpreted as service character, a release character immediately precedes it.

Note that trailing space characters needs to be omitted !

Note that the release character itself is not counted to the data element length !

Example:

Assuming that an interchange agreement requires to populate the interchange header with a specific password and this password is 'CraHo*45?Drt:', this will look like:

```
            ↓ indicates syntax level 3 !
UNB+UNOC:3+ATEPA+ATBAA+021008:1402+MC08N4+CraHo*45??Drt?:'
or
            ↓ indicates syntax level 4 !
UNB+UNOC:4+ATEPA+ATBAA+20021008:1402+MC08N4+CraHo?*45??Drt?:'
```

Note that for syntax level 3 the asterisk (*) is not a service character and therefore must not be preceded with a release character. On the other hand the release character itself must also be preceded with a release character because the character following a release character must always be a service character !

Note that the length of the value to transport is 13 and the data element length is 14. Although the physical representation is 15 for syntax level 3 and 16 for syntax level 4 the payload is still 13 characters !

Coding of numeric values

In numeric data elements digits, the minus sign and the decimal sign is allowed. Triad separators must not be used.

Numeric values must be shortened to their shortest possible representation, e.g. no leading zeros and no trailing zeros of decimal fractions are permitted and need to be suppressed. On the other hand a decimal sign always needs a preceding and following digit.

Although minus signs are available for numeric values its use needs to be explicitly allowed by data element description in all documents of the financial domain. Whether an amount is to be added or deducted to or from another amount is usually determined by the context.

Comma (,) and full stop (.) are alternatively allowed as decimal character unless a service string advice (UNA segment) fixes one of them as to be used.

Note that decimal sign and minus sign do not count to the data element length !

Examples:

Allowed	Not allowed	Reason
0,5	,5	No digit in front of decimal sign
2	2.	No digit after decimal sign
34.02	54,0	Not shortest possible representation
340037,0005	7.467,983	Triad separator used