

**ISO 20022
Business Application Header
Message Usage Guide
Version 1.4**

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This Message Usage Guide for the Business Application Header was drafted by the ISO 20022 Technical Support Group and approved by the Registration Management Group.

1 Table of Contents

1.1	Purpose and Use of this Guide	3
1.2	Intended Audience	3
1.3	Terminology.....	3
1.4	How this Guide was created.....	3
1.5	The ISO 20022 Standard	3
1.6	Separation of layers.....	4
1.7	Link between a Business Application Header and its Message.....	5
1.8	Related Documents and Guides	5
2	Scenarios.....	6
2.1	Introduction.....	6
2.2	Business Application A sends a Business Message to Business Application B.....	7
2.3	There may be several CreationDate elements but they may not have the same definition... ..	9
2.4	Business Application A informs Business Application B that Text based MessageElements (in the BAH or the BusinessMessage) may contain non-Basic-Latin characters.....	10
2.5	Business Application A informs Business Application B of the Business Service within which this BusinessMessage is exchanged.	11
2.6	Business Application A suspects Business Application B has not received the BusinessMessage	12
2.7	Business Application A sends a copy of a previously sent Business Message.....	13
2.8	Business Application A sends a duplicate of a previously sent Business Message.	14
2.9	Business Application A sends a duplicate of a previously sent copy of a Business Message.15	
2.10	Business Application A sends a Business Message B that relates to BusinessMessage A, but which is not a duplicate or a copy.	16
2.11	Business Application A sends a Business Message to BusinessApplication B with a pre-agreed priority.....	17
2.12	Business Application A sends a signed Business Message to BusinessApplication B	18
3	Mapping of the BAH to other headers	19
3.1	Introduction.....	19
3.2	BAH to SWIFTNet Application Header	19
3.3	BAH to ebXML/ebMS Header	21
3.4	BAH to FpML.....	22

INTRODUCTION

1.1 Purpose and Use of this Guide

This guide explains how to use the ISO 20022 Business Application Header (BAH) in the context of the business processes it addresses. It provides a comprehensive view of how the Business Application Header complements any ISO 20022 Message. This guide acts as a supplement to the Message Definition Report and the XML schema, which are published on the ISO 20022 website (www.iso20022.org).

The guide provides information regarding the implementation of the Business Application Header in any relevant general context. Additional documents, published by individual user communities, may be available that discuss the implementation of the BAH in a more specific context.

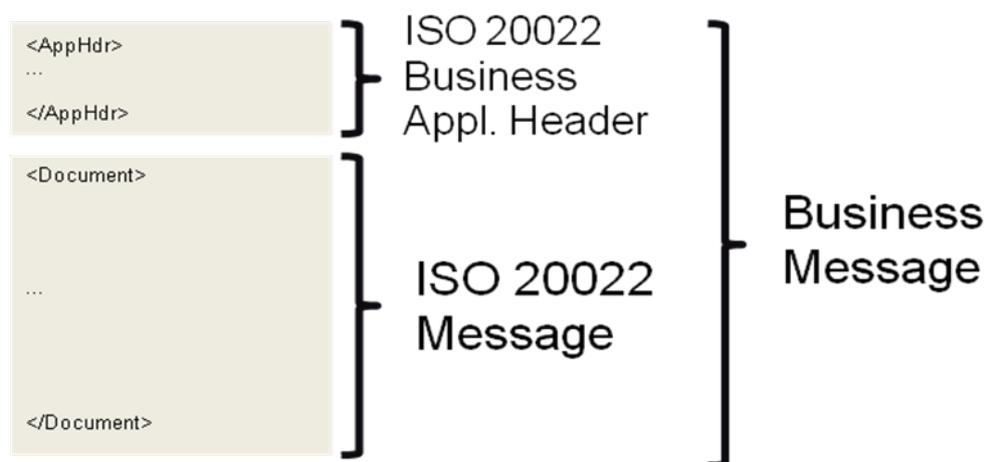
This guide should serve as the general basis for the more specific community implementation guides that are developed.

1.2 Intended Audience

Both business people and message developers can use this guide.

1.3 Terminology

An ISO 20022 Message together with its Business Application Header forms a Business Message.



1.4 How this Guide was created

This guide was created through the combined efforts of the ISO 20022 Standards Evaluation Groups (SEG) for the collection of the requirements, the ISO 20022 Technical Support Group (TSG) for drafting the solution and the ISO 20022 Registration Management Group (RMG) for approving this document.

Maintenance will be occurring through the TSG.

1.5 The ISO 20022 Standard

ISO 20022 is owned by the International Organization for Standardization (ISO) under Technical Committee 68 (TC68), which is the Financial Services Technical Committee of ISO.

Complete information on the ISO 20022 standard can be found on www.iso20022.org.

For more information on ISO itself, please see www.iso.org.

1.6 Separation of layers

ISO 20022 messages and the BAH are designed to be transport protocol independent. The ISO 20022 standard does not provide any message transport conventions of its own (including header or trailer).

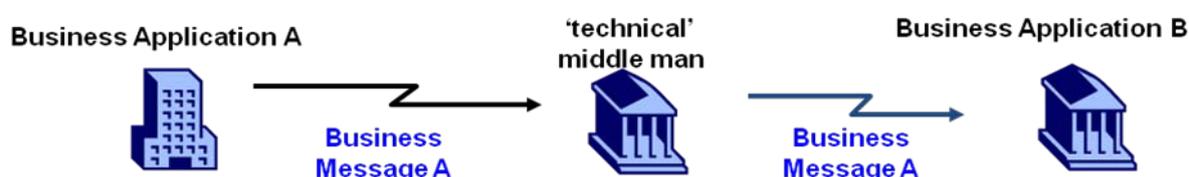
The Business Application Header is a business header and should not be confused with a file or transport header. It is created before the transport routing header is applied to the business message and is retained after the transport header is removed.

So any parties between the two business applications that don't perform a business function are not mentioned in the BAH. Such 'technical' middle men don't open or change the Business Message; they only forward it to the correct business application.

So, a transport scenario like below



is from a business point of view the same as a transport scenario like this:



However, as soon as a Business Application is in the middle (i.e. an Application that processes the Business Message), it is identified as the recipient in the BAH and therefore will send a different business message.



Although the BAH is not the transport header, data in the BAH can be used by transport applications to determine the routing header since it does contain the business sender, receiver and document details. It can also be used by the business applications to determine the appropriate process to perform on the business message.

1.7 Link between a Business Application Header and its Message

The name of envelope element that binds a Business Application Header to the ISO 20022 Message to which it applies is implementation/network specific. In any case, the BusinessApplicationHeader root element AppHdr and the ISO 20022 MessageDefinition root element Document must always be sibling elements in any XML document.

The AppHdr element must be located before the Document element.

Example:

Suppose the envelope element is named <RequestPayload>. Then each XML instance would be structured as follows:

```
<RequestPayload>
  <AppHdr>
  ...
  </AppHdr>
  <Document>
  ...
  </Document>
</RequestPayload>
```

1.8 Related Documents and Guides

The complete catalogue of ISO 20022 messages, including the Message Definition Reports and XML schemas, is available on the ISO 20022 website: www.iso20022.org. Current and historical versions of the schemas are available free of charge. Other useful documentation available from the ISO 20022 website includes:

- ISO 20022 Financial Repository - Data Dictionary.
- Introduction to ISO 20022 – Universal financial industry message scheme. An introductory PowerPoint on the ISO 20022 standard family.

Useful documents are available from the following sources:

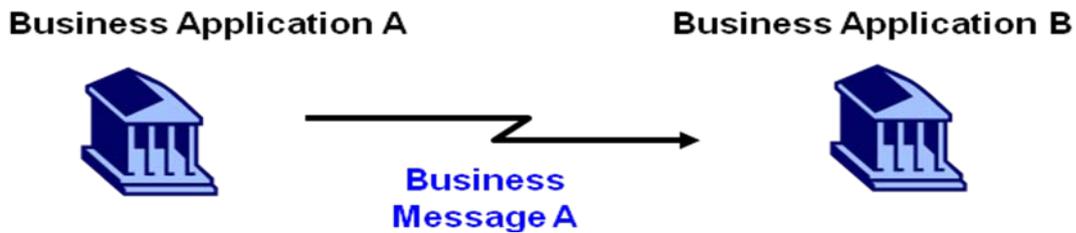
- An in-depth knowledge of XML can be found at:
<http://www.w3c.org/TR/2000/REC-xml-20001006>
- An in-depth knowledge of XML Schema can be found at:
<http://www.w3c.org/TR/xmlschema-0/>, <http://www.w3c.org/TR/xmlschema-1/>
and
<http://www.w3c.org/TR/xmlschema-2/>
- The UNICODE character set database can be found at:
<http://unicode.org/Public/UNIDATA/Blocks.txt>

2 Scenarios

2.1 Introduction

This section explains how to use the BAH in specified scenarios. The list of scenarios is not exhaustive and new scenarios may be added.

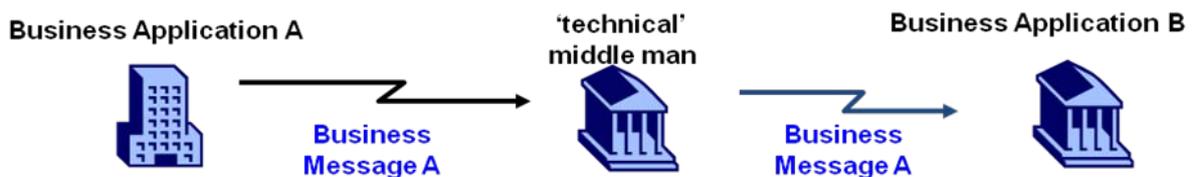
2.2 Business Application A sends a Business Message to Business Application B



Above is the most common, vanilla scenario, i.e. no special features of this BAH are used.

When there is a 'middle man' between the two Business Applications, it is the function/role of that middle man that will determine whether the Business Message from the middle man to Business Application B is a new Business Message.

If the middle man only forwards the Business Message, i.e. it does not process the Business Message, then only the transport header changes, but the Business Message (with its BAH) remains the same.



Following MessageElements must be used:

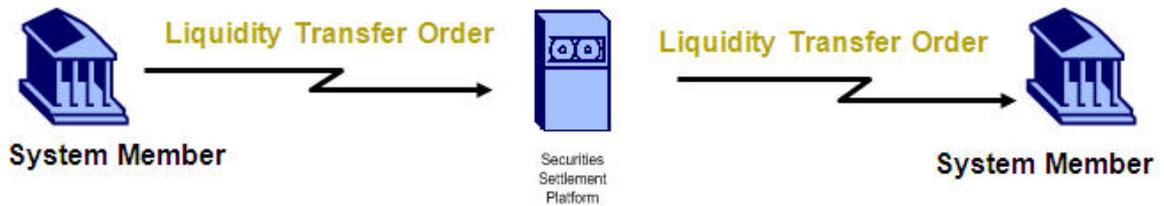
MessageElement Name	Usage
CharacterSet	
From	Id of BusinessApplication A
To	Id of BusinessApplication B
BusinessMessageIdentifier	Identification of the BusinessMessage A
MessageDefinitionIdentifier	Identification of the MessageDefinition
BusinessService	
CreationDate	Date (and time) of the creation of this BusinessApplicationHeader and BusinessMessage
CopyDuplicate	
PossibleDuplicate	
Priority	
Related	
Signature	

If the middle man processes the Business Message then the middle man is considered a Business Application and hence a new Business Message is created and sent to Business Application B. (see scenario 2.10)



EXAMPLE

A Securities Settlement platform serves as technical middle man



```

<AppHdr>
  <Fr>System Member A</Fr>
  <To>System Member B</Fr>
  ...
  <BizSvc>S&R</BizSvc>
  ...
</AppHdr>

<Document>
  <LqdtCdtTfr>.....</LqdtCdtTfr>
</Document>

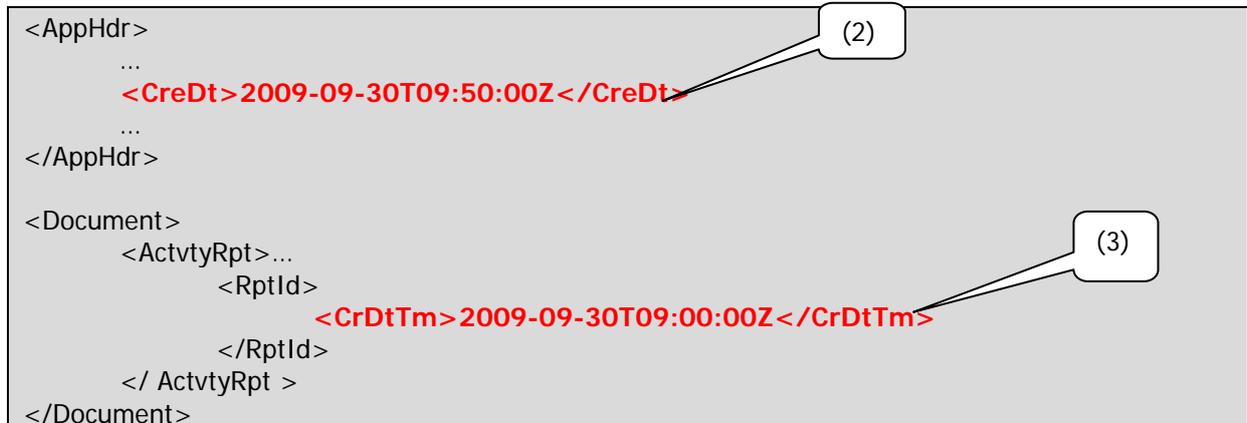
```

2.3 There may be several CreationDate elements but they may not have the same definition.

As a general rule, the CreationDate in the BusinessApplicationHeader contains the date and time at which the Business Message was produced by the BusinessApplication. The term BusinessApplication must be interpreted in a broad sense: it may be a payments factory application; it may also be an operator at a screen who is manually inputting the business information. Depending on the definition that is given to a CreationDate in the Document itself, the date and time could vary from the date and time in the Business Application Header. The creation date in the BAH applies to the entire Business Message whereas other creation dates apply to only parts of the Business Message.

EXAMPLE

1. John Doe at Bank A prepares the payments
2. the same person creates an activity report on August 28th at 09:00AM UTC.
3. the same person signs it at 9:50AM UTC with the signature in the BAH
4. The BAH contains the CreationDate of the BusinessMessage, the Document contains the CreationDate of the activity report.



2.4 Business Application A informs Business Application B that Text based MessageElements (in the BAH or the BusinessMessage) may contain non-Basic-Latin characters

In this case, each additional character set will be specified in the CharacterSet MessageElement, separated by a semicolon.

All relevant Text based Datatypes may then contain characters belong to the character sets specified in this MessageElement.

Some Text based DataTypes may be further constraint than what is specified here in which case the character set restrictions specified in the BAH do not apply.

Following MessageElements must be used:

MessageElement Name	Usage
CharacterSet	character set 1;character set 2
From	Id of BusinessApplication A
To	Id of BusinessApplication B
BusinessMessageIdentifier	Identification of the BusinessMessage
MessageDefinitionIdentifier	Identification of the MessageDefinition
BusinessService	
CreationDate	Date (and time) of the creation of this BusinessApplicationHeader (and BusinessMessage)
CopyDuplicate	
PossibleDuplicate	
Priority	
Related	
Signature	

2.5 Business Application A informs Business Application B of the Business Service within which this BusinessMessage is exchanged.

This enables to Receiver to unambiguously relate the BusinessMessage to the BusinessService in which it is used.

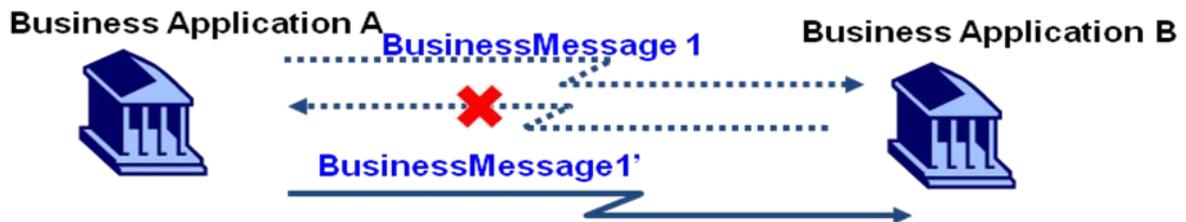
Normally this MessageElement is used when this BusinessMessage is used in multiple services.

It can be the service identified by the service provider (e.g. a SWIFT InterAct service) or a bilaterally / multilaterally agreed service.

Following MessageElements must be used:

MessageElement Name	Usage
CharacterSet	
From	Id of BusinessApplication A
To	Id of BusinessApplication B
BusinessMessageIdentifier	Identification of the BusinessMessage
MessageDefinitionIdentifier	Identification of the MessageDefinition
BusinessService	Identification of the Service within which this Message is exchanged.
CreationDate	Date (and time) of the creation of this BusinessApplicationHeader (and BusinessMessage)
CopyDuplicate	
PossibleDuplicate	
Priority	
Related	
Signature	

2.6 Business Application A suspects Business Application B has not received the BusinessMessage



PossibleDuplicate is used when the Business Application that sent the message hasn't received any reply (because of technical or other problems).

It will therefore resend THE SAME BusinessMessage, adding the relevant header elements from the original BusinessMessage in the 'Related' MessageElement.

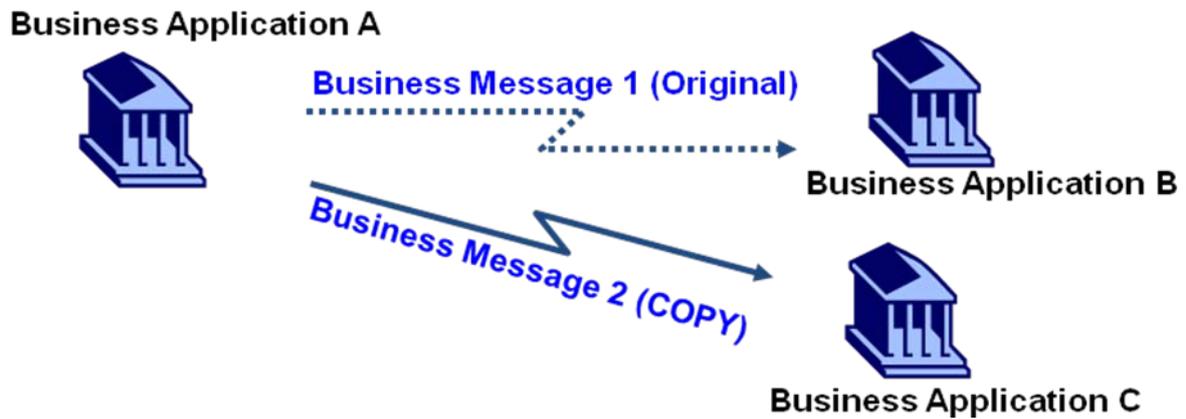
If the receiver did receive the original BusinessMessage identified in the 'Related', then this BusinessMessage MUST BE IGNORED.

If the receiver did NOT receive the original BusinessMessage, then it must treat this BusinessMessage as if it was the original BusinessMessage.

Following MessageElements must be used:

MessageElement Name	Usage
CharacterSet	
From	Id of BusinessApplication A
To	Id of BusinessApplication B
BusinessMessageIdentifier	Identification of the BusinessMessage
MessageDefinitionIdentifier	Identification of the MessageDefinition
BusinessService	
CreationDate	Date (and time) of the creation of this BusinessApplicationHeader
CopyDuplicate	
PossibleDuplicate	YES
Priority	
Related	Copy of the relevant MessageElements of the BusinessApplicationHeader of the original BusinessMessage that was sent to Business Application B.
Signature	

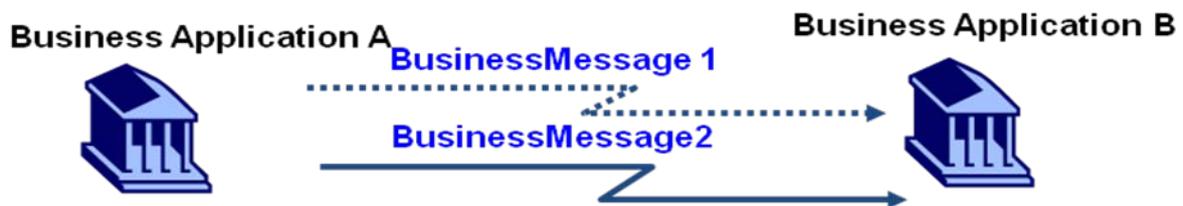
2.7 Business Application A sends a copy of a previously sent Business Message.



Following MessageElements must be used:

MessageElement Name	Usage
CharacterSet	
From	Id of BusinessApplication A
To	Id of BusinessApplication C
BusinessMessageIdentifier	Identification of the BusinessMessage
MessageDefinitionIdentifier	Identification of the MessageDefinition
BusinessService	
CreationDate	Date (and time) of the creation of this BusinessApplicationHeader
CopyDuplicate	COPY
PossibleDuplicate	
Priority	
Related	Copy of the relevant MessageElements of the BusinessApplicationHeader of the original BusinessMessage sent to Business Application B
Signature	

2.8 Business Application A sends a duplicate of a previously sent Business Message.

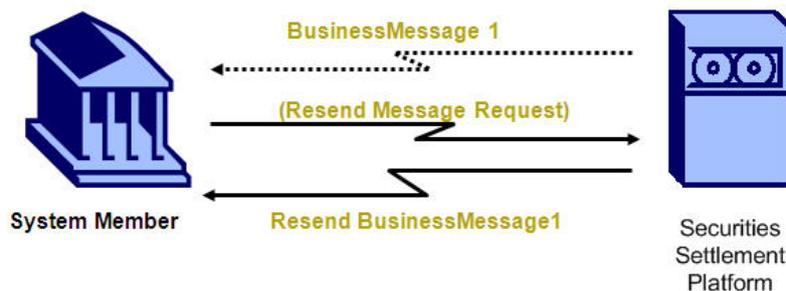


Following MessageElements must be used:

MessageElement Name	Usage
CharacterSet	
From	Id of BusinessApplication A
To	Id of BusinessApplication B
BusinessMessageIdentifier	Identification of the BusinessMessage
MessageDefinitionIdentifier	Identification of the MessageDefinition
BusinessService	
CreationDate	Date (and time) of the creation of this BusinessApplicationHeader
CopyDuplicate	DUPL
PossibleDuplicate	
Priority	
Related	Copy of the relevant MessageElements of the BusinessApplicationHeader of the original BusinessMessage
Signature	

EXAMPLE

Upon request, the Securities Settlement platform resends BusinessMessage1

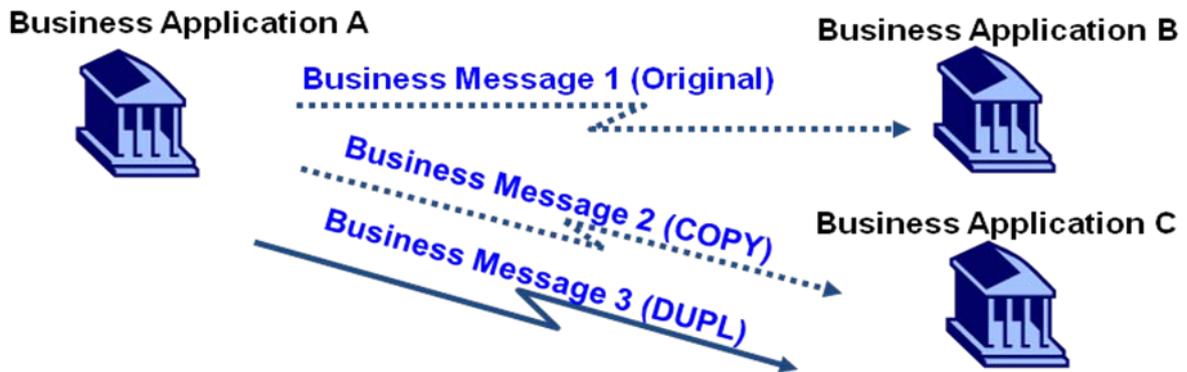


```

<AppHdr>
  <Fr>Securities Settlement Platform</Fr>
  <To>System Member </To>
  ...
  <CpyDplct>DUPL</ CpyDplct>
  <Rltd>copy of original BAH</Rltd>
  ...
</AppHdr>
<Document>
  <LqdyCdtTfr>.....</LqdyCdtTfr>
</Document>

```

2.9 Business Application A sends a duplicate of a previously sent copy of a Business Message.



Following MessageElements must be used:

MessageElement Name	Usage
CharacterSet	
From	Id of BusinessApplication A
To	Id of BusinessApplication B
BusinessMessageIdentifier	Identification of the BusinessMessage
MessageDefinitionIdentifier	Identification of the MessageDefinition
BusinessService	
CreationDate	Date (and time) of the creation of this BusinessApplicationHeader
CopyDuplicate	CODU
PossibleDuplicate	
Priority	
Related	Copy of the relevant MessageElements of the BusinessApplicationHeader of the copy BusinessMessage
Signature	

2.10 Business Application A sends a Business Message B that relates to BusinessMessage A, but which is not a duplicate or a copy.

In this case, the BusinessApplicationHeader of the related BusinessMessage must be mentioned in the Related element.

This scenario is used when it is relevant for the recipient to know where the BusinessMessage A came from that triggered the creation of this Business Message B. It will show in the Related element who created the original BusinessMessage (in the From element of the Related element).

CopyDuplicate and PossibleDuplicate are not used.

For example when there is a 'middle man' that does process the Business Message (and as such is an active business partner in the transaction) as opposed to a middle man that only technically forwards a BusinessMessage and as such is not involved in a business transaction and therefore not mentioned in the BusinessMessage (see also chapter 2.2)



Following MessageElements must be used:

MessageElement Name	Usage
CharacterSet	
From	Id of BusinessApplication C
To	Id of BusinessApplication B
BusinessMessageIdentifier	Identification of the BusinessMessage B
MessageDefinitionIdentifier	Identification of the MessageDefinition B
BusinessService	
CreationDate	Date (and time) of the creation of this BusinessMessage
CopyDuplicate	
PossibleDuplicate	
Priority	
Related	Copy of the relevant MessageElements of the BusinessApplicationHeader of BusinessMessage A
Signature	

2.11 Business Application A sends a Business Message to BusinessApplication B with a pre-agreed priority

The standard doesn't define the meaning of the values. The meaning is service/market/business area depended and must be pre-agreed within a specific context like the BusinessService, BusinessArea, etc.

Where required, the BusinessService must be used to identify that specific context (i.e. when there may be ambiguity) about the meaning of the value in Priority.

Following MessageElements must be used:

MessageElement Name	Usage
CharacterSet	
From	Id of BusinessApplication A
To	Id of BusinessApplication B
BusinessMessageIdentifier	Identification of the BusinessMessage
MessageDefinitionIdentifier	Identification of the MessageDefinition
BusinessService	
CreationDate	Date (and time) of the creation of this BusinessApplicationHeader
CopyDuplicate	
PossibleDuplicate	
Priority	the priority as defined within the BusinessService
Related	
Signature	

2.12 Business Application A sends a signed Business Message to BusinessApplication B

The signature must be structured as per the W3C XML Signatures specification and any additional constraints stated for the service / business area within which this BusinessMessage is exchanged.

Following MessageElements must be used:

MessageElement Name	Usage
CharacterSet	
From	Id of BusinessApplication A
To	Id of BusinessApplication B
BusinessMessageIdentifier	Identification of the BusinessMessage
MessageDefinitionIdentifier	Identification of the MessageDefinition
BusinessService	
CreationDate	Date (and time) of the creation of this BusinessApplicationHeader
CopyDuplicate	
PossibleDuplicate	
Priority	the priority as defined within the BusinessService
Related	
Signature	signature specification containing the signature of the Sending Business Entity

3 Mapping of the BAH to other headers

3.1 Introduction

Below list contains all MessageElements of the BusinessApplicationHeader. For readability purposes, below mapping uses the MessageElement names of the BAH and not their equivalent XML name.

MessageElement Name	XML Name
CharacterSet	CharSet
From	Fr
To	To
BusinessMessageIdentifier	BizMsgIdr
MessageDefinitionIdentifier	MsgDefIdr
BusinessService	BizSvc
CreationDate	CreDt
CopyDuplicate	CpyDplct
PossibleDuplicate	PssblDplct
Priority	Prty
Related	Rltd
Signature	Sgntr

3.2 BAH to SWIFTNet Application Header

Business Application Header MessageElement	AppHdr V1
Sending Business Entity the Business Entity that created the BusinessMessage	<From>
Receiving Business Entity the Business Entity that will process the BusinessMessage	<To>
character set the additionally used character set(s) in the BusinessMessage for Text datatypes	–
BusinessService Example: E&I	<SvcName>
MessageDefinitionIdentifier the identification of MessageDefinition	<MsgName>
BusinessMessageIdentifier the identification of the BusinessMessage, unique to the SendingBusinessEntity	<MsgRef>

Copy / Duplicate / Functionality to indicate this message is a copy / duplicate of another BusinessMessage	–
Related Reference Reference of the original BusinessMessage	–
Possible Duplicate The BusinessMessage may have been sent before.	<Dup>
Priority Relative indication of the processing precedence of the message over a (set of) BusinessMessages with assigned priorities	–
Signature Contains the digital signature of the person authorised to sign this BusinessMessage (based on W3C's XML Signature standard)	–
CreationDateTime Creation date (and time) of the Business Message	<CrDate>

3.3 BAH to ebXML/ebMS Header

Business Application Header element	ebMS 3.0
Sending Business Entity the Business Entity that created the BusinessMessage	<eb:From>
Receiving Business Entity the Business Entity that will process the BusinessMessage	<eb:To>
character set the additionally used character set(s) in the BusinessMessage for Text datatypes	–
BusinessService Example: E&I	<eb:Service>
MessageDefinitionIdentifier the identification of MessageDefinition	<eb:Property>
BusinessMessageIdentifier the identification of the BusinessMessage, unique to the SendingBusinessEntity	<eb:MessageId>
Copy / Duplicate / Functionality to indicate this message is a copy / duplicate of another BusinessMessage	–
Related Reference Reference of the original BusinessMessage	<eb:RefToMessageId>
Possible Duplicate The BusinessMessage may have been sent before.	–
Priority Relative indication of the processing precedence of the message over a (set of) BusinessMessages with assigned priorities	–
Signature Contains the digital signature of the person authorised to sign this BusinessMessage (based on W3C's XML Signature standard)	–
CreationDateTime Creation date (and time) of the BusinessMessage	<eb:Timestamp>

3.4 BAH to FpML

Business Application Header element	Message Header
Sending Business Entity the Business Entity that created the BusinessMessage	<sentBy>
Receiving Business Entity the Business Entity that will process the BusinessMessage	<sendTo>
character set the additionally used character set(s) in the BusinessMessage for Text datatypes	<?xml version="1.0" encoding="UTF-8">
BusinessService Example: E&I	-
MessageDefinitionIdentifier the identification of MessageDefinition	<xsi:type from Document>
BusinessMessageIdentifier the identification of the BusinessMessage, unique to the SendingBusinessEntity	<messageId>
Copy / Duplicate / Functionality to indicate this message is a copy / duplicate of another BusinessMessage	<copyTo>
Related Reference Reference of the original BusinessMessage	<inReplyTo>
Possible Duplicate The BusinessMessage may have been sent before.	
Priority Relative indication of the processing precedence of the message over a (set of) BusinessMessages with assigned priorities	-
Signature Contains the digital signature of the person authorised to sign this BusinessMessage (based on W3C's XML Signature standard)	<dsig:Signature>
CreationDateTime Creation date (and time) of the Business Message	<creationTimestamp>

Revision Record

Revision	Date	Author	Description	Sections affected
1.0	15/04/2010	ISO 20022 RMG/TSG	Initial version	All
1.1	30/06/2010	TSG secretariat	corrected typos in some examples using T2S and added this revision record	2.1.1.1 and 2.1.6.1
1.2	20/10/2010	TSG secretariat	corrected typos, clarified scenario 2, updated the TOC. Replaced MessageInstanceIdentifier by BusinessMessageIdentifier in chapter 3 Added new scenario 2.10	2.1.2, 3.x, 2.10, TOC
1.4	20/4/2011	TSG secretariat	corrected typos, added 1.7, corrected scenario 2.4	1.7, 2.4

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