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## CHANGES VERSION 2.1 TO VERSION 2.2

<table>
<thead>
<tr>
<th>Section</th>
<th>Change</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>Created new section 1.5 to address Member ID usage within the Business Application Header</td>
<td>The former section 1.5 “Branch ID Usage” is now section 1.6. No other changes were made to this section.</td>
</tr>
<tr>
<td>4.1.3</td>
<td>Description of To/FIId/FinInstnId/ClrSysMmbId/MmbId (Index 1.137) was updated to include the possibility of 0BROADCAST0 as a valid value in this field.</td>
<td>0BROADCAST0 will be populated by RTP on Broadcast System Notification Messages. All network endpoints should have the ability to receive messages with 0BROADCAST0 in this field.</td>
</tr>
<tr>
<td>4.1.3</td>
<td>Updated Rules within Field Index 1.53 and 1.137.</td>
<td>The reason code used when rejecting a business message (any pain.0XX, pacs.0XX, camt.0xx, or remt.001) due to failed validation on these fields is DS0H. The specification previously stated RC01.</td>
</tr>
</tbody>
</table>

## CHANGES VERSION 2.2 TO VERSION 2.3

<table>
<thead>
<tr>
<th>Section</th>
<th>Change</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Removed the following language:</td>
<td>The “TCH RTP Supported Character Set” is available in the appendix.</td>
</tr>
<tr>
<td></td>
<td>“The UNIFI (ISO 20022) XML messages allow for the full range of global language requirements (UTF-8). The UNICODE character set, encoded in UTF-8, is the official ISO 20022 character set.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Replaced with a reference to the RTP Supported Character Set.</td>
<td></td>
</tr>
<tr>
<td>4.1.4</td>
<td>Redacted digital signature information to ensure network security.</td>
<td>None.</td>
</tr>
</tbody>
</table>

## CHANGES VERSION 2.3 TO VERSION 2.4

<table>
<thead>
<tr>
<th>Section</th>
<th>Change</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>New section describing the RTP Message Persona Requirements.</td>
<td>None.</td>
</tr>
</tbody>
</table>
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1 INTRODUCTION

1.1 Document Purpose

This document should be used as a reference by Participants as they develop their systems to send and receive real-time messages in the ISO 20022 format. In particular, the document defines the specific Business Application Header (BAH) message formats used within RTP®, a real-time payment system from The Clearing House, for sending and receiving messages between RTP and its Participants. The BAH is included in the schema validation which the system performs in order to check each message for the following:

- Structural validation of the message, both the BAH and the attached payload
- Syntax validation of the message, both the BAH and the attached payload
- Authorized Sender – only BAH
- Digital Signature – only BAH

Note: All other business validation will be performed after the above checks as the message is processed based on information in the payload of the message.

1.2 Scope

This document provides an overview of the mandatory Business Application Header which includes the following:

- The message structure of the head.001.001.01 message which is used as the mandatory Business Application Header (BAH) in all RTP messages (including both ISO 20022 and RTP proprietary message types)
- The required data types and usage rules of the data fields in the BAH
- Sample layouts of the defined message format

For representative purposes in all examples the payload message being used is the Credit Transfer message (pacs.008). This document does not include message flows.
1.3 Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAH</td>
<td>Business Application Header</td>
</tr>
<tr>
<td>ISO</td>
<td>International Standards Organization</td>
</tr>
<tr>
<td>UNIFI</td>
<td>Universal Financial Industry Message scheme</td>
</tr>
<tr>
<td>XML</td>
<td>Extensible Mark-up Language</td>
</tr>
<tr>
<td>TPSP</td>
<td>Third Party Service Provider</td>
</tr>
<tr>
<td>ET</td>
<td>Eastern Time</td>
</tr>
</tbody>
</table>

1.4 Date / Time Format

All message processing dates are required to be set to Eastern Time (Eastern Standard Time or Eastern Daylight Time, as applicable under the Energy Policy Act of 2005) by the message sender. This includes the following fields:

- Creation Date Time
- Date within the Business Message Identifier

1.5 Member ID Usage

The Business Application Header identifies the technical endpoints for a specific message leg. In other words, when a participant submits any message to any other participant through RTP, the Participant ID of the sending participant (or the TPSP ID of the participant’s Third-Party Service Provider) will be the “Member ID” within the “FROM” element, while the Participant ID for RTP will be the “Member ID” within the “TO” element. When RTP forwards that request on to the receiving participant, it will create a new Business Application Header in which the Participant ID for RTP is the “Member ID” within the “FROM” element, while the Participant ID of the Receiving Participant is the “Member ID” within the “TO” element.

When a connection is owned by a Third-Party Service Provider, the endpoint identified as described above will be the 11-digit Third-Party Service Provider ID (TPSP ID).

*Figure 1: Member ID usage within BAH (pacs.008 use case)*
1.6 Branch ID Usage

The System uses the Branch ID field in order to ensure that response messages are sent back to the appropriate party via the correct connection. The system will populate the element BranchID under the “FROM” element in the outgoing message (RTP to receiving FI). Whenever the receiving FI (or TPSP) receives an incoming message from RTP where the “FROM” BranchID has been populated, the receiving FI (or TPSP) must copy the content of this field into the “TO” BranchID of the corresponding response message that it sends back to RTP. If this information is not copied into the correct field, the System will reject the incoming response message with a structural error.

Information from RTP to Receiving FI field Id in element Branch Id

Information from Receiving FI to RTP field Id in element Branch Id
2 MESSAGE FORMAT DESCRIPTIONS

RTP supports the ISO 20022 message standard also known as the Universal Financial Industry Message scheme (UNIFI) for the communication between its Participants and the System. In cases where the standard ISO 20022 message format does not cater to certain communications (e.g. Participant Sign-On to the System), The Clearing House has developed proprietary messages based on the ISO 20022 data dictionary for use in connection with RTP. The specific schemas relating to the supported RTP message formats are available to all RTP Participants and must be adhered to when constructing and processing messages.

RTP messages are made up of Message Blocks comprising a Business Application Header (BAH) and the Business Payload.

The table below shows the list of the RTP messages and their constituent components:

<table>
<thead>
<tr>
<th>Business Area</th>
<th>Message ID1</th>
<th>Message Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Header</td>
<td>head.001.001.01</td>
<td>BusinessApplicationHeader</td>
<td>Business Application Header containing information on routing and message features</td>
</tr>
<tr>
<td>Payments Clearing and Settlement</td>
<td>pacs.008.001.06</td>
<td>FIToFICustomerCreditTransferV06</td>
<td>Credit Transfer message</td>
</tr>
<tr>
<td></td>
<td>pacs.002.001.07</td>
<td>FIToFIPaymentStatusReportV07</td>
<td>Message Status Report of Credit Transfer message</td>
</tr>
<tr>
<td>Creditor Payment Activation Request (Request for Payment)</td>
<td>pain.013.001.05</td>
<td>CreditorPaymentActivationRequestV04</td>
<td>Request for Payment</td>
</tr>
<tr>
<td></td>
<td>pacs.002.001.07</td>
<td>FIToFIPaymentStatusReportV07</td>
<td>Message Status Report of Request for Payment</td>
</tr>
<tr>
<td></td>
<td>pain.014.001.05</td>
<td>CreditorPaymentActivationRequestStat usReportV04</td>
<td>Response to Request for Payment</td>
</tr>
<tr>
<td></td>
<td>pacs.002.001.07</td>
<td>FIToFIPaymentStatusReportV07</td>
<td>Message Status Report of Response to Request for Payment</td>
</tr>
<tr>
<td>System Time-out Message &amp; Request for Return of Funds</td>
<td>camt.056.001.05</td>
<td>FIToFIPaymentCancellationRequestV05</td>
<td>This message is used for two different business scenarios: (i) Payment Instruction cancellation after a time-out at the Creditor FI; and (ii) Debtor FI Request for Return of Funds from the Creditor FI (Note: this is an FI to FI investigation message).</td>
</tr>
<tr>
<td></td>
<td>pacs.002.001.07</td>
<td>FIToFIPaymentStatusReportV07</td>
<td>Message Status Report of System Time-out Message or Request for Return of Funds</td>
</tr>
</tbody>
</table>

1 The latest ISO 20022 versions were published on 8th February 2016 at the ISO 20022 website.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>camt.029.001.06</td>
<td>ResolutionOfInvestigationV06</td>
<td>Response (reject or accept) to Request for Return of Funds. (Note: this is an FI to FI investigation message).</td>
</tr>
<tr>
<td><strong>Stand-alone Remittance Advice</strong></td>
<td>remt.001.001.02 RemittanceAdviceV02</td>
<td>Provide additional remittance information outside of the standard payment message (pacs.008) or Request for Payment message (pain.013).</td>
</tr>
<tr>
<td><strong>Request for Information</strong></td>
<td>camt.026.001.05 UnableToApplyV05</td>
<td>Request for Information (RFI) message</td>
</tr>
<tr>
<td>pacs.002.001.07</td>
<td>FIToFIPaymentStatusReportV07</td>
<td>Message Status Report of Request for Information</td>
</tr>
<tr>
<td>camt.028.001.05</td>
<td>AdditionalPaymentInformationV05</td>
<td>Response to Request for Information</td>
</tr>
<tr>
<td>pacs.002.001.07</td>
<td>FIToFIPaymentStatusReportV07</td>
<td>Message Status Report of Response to Request for Information</td>
</tr>
<tr>
<td><strong>Payment Acknowledgement</strong></td>
<td>camt.035.001.03 ProprietaryFormatInvestigation</td>
<td>This message is used for two different business scenarios: (i) Payment Acknowledgement by the Receiver of a Payment (ii) Payment Acknowledgement by Creditor FI confirming funds posting following ACWP response to Credit Transfer.</td>
</tr>
<tr>
<td>pacs.002.001.07</td>
<td>FIToFIPaymentStatusReportV07</td>
<td>Message Status Report of Payment Acknowledgement</td>
</tr>
<tr>
<td><strong>Message Reject</strong></td>
<td>admi.002.001.01 MessageRejectV01</td>
<td>Response in case of Rejection of a previously received message as a result of signature failure or syntax error.</td>
</tr>
<tr>
<td><strong>System Event Notification Message</strong></td>
<td>admi.004.001.02 SystemEventNotificationV01</td>
<td>Notification sent by RTP on the occurrence of a System event</td>
</tr>
<tr>
<td><strong>Sign-on</strong></td>
<td>admn.001.001.01 SignOnRequest</td>
<td>Initiate a Sign-on</td>
</tr>
<tr>
<td></td>
<td>admn.002.001.01 SignOnResponse</td>
<td>Response to a Sign-On Request</td>
</tr>
</tbody>
</table>
2.1 Character Set

Please refer to the appendix “TCH RTP Supported Character Set” for a list of supported characters within RTP messages.

2.2 XML Element Format

The detail of how each ISO 20022 standard XML Element is to be used within the BAH is included within the Message Structure Description in section 4.1.2. There are two aspects to the XML Element usage. First, there is an occurrence notation (e.g. [1..1]). The occurrence indicates whether the element is a mandatory or an optional element with the first character in the notation. A value of ‘1’ indicates the field is mandatory and a ‘0’ indicates it is optional. The second character indicates how many occurrences of the element can be used. This value starts at ‘1’ occurrence of the element and can go up to an unlimited number ‘n’. The table below provides examples of how the occurrence notations are used in this document:

<table>
<thead>
<tr>
<th>Notation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1..1]</td>
<td>Is a mandatory single Element with one occurrence</td>
</tr>
<tr>
<td>[0..1]</td>
<td>Is an optional Element with one occurrence</td>
</tr>
<tr>
<td>[0..n]</td>
<td>Is an optional Element with unlimited occurrences</td>
</tr>
</tbody>
</table>

In addition to the ISO notations, the Message Structure Description includes a column that defines the usage of the element within RTP.

The RTP usage definitions are as follows:

- **M** – Mandatory, this is a mandatory field in RTP even though it may be optional according to the ISO 20022 definition
- **O** – Optional, this is an optional field in RTP and is always an optional field according to ISO 20022
- **C** – Conditional, means that the field usage in RTP is on a conditional basis (as specified within the individual field description) and is always an optional field (or a mandatory sub-field of an optional field) according to ISO 20022
3 OVERALL MESSAGE STRUCTURE

This section of the document provides an overview of the ISO 20022 Message Structure (made up of a Business Application Header and the Business Payload) that is used in RTP messages. The Business Payload of a message may be split into many Message Blocks, which can be further broken down into even smaller Message Blocks with a single, or multiple, occurrence(s) within the message, depending on the purpose of the message. In order to form a valid message structure, these Message Blocks must be arranged in a specific hierarchy.

3.1 Message Structure

The figure below shows the high level message structure of a RTP message.

![Message Structure Diagram]

3.2 Business Application Header

The purpose of the Business Application Header (BAH) is to segregate information important for routing a message (such as the sender or receiver of a message, whether the message is a repeat message, identifying the security signature on the message, determining the message priority, etc.) from the business payload. This allows the pertinent information in the BAH to be made readily available to the business applications without having to open and read the message’s business payload.

3.3 Business Payload

The business payload is made up of different Message Blocks including (but not limited to) a group header block and transaction information block. The arrangement of these Message Blocks is done in accordance with the definition of an ISO 20022 message or a proprietary message that has been designed for the System. For those messages that are ISO 20022 messages, the Message Blocks are built according to the list of approved ISO 20022 message
definitions or schemas. For example: the "FI To FI Customer Credit Transfer – pacs.008.001.06" message schema defines the format and content of the message blocks in the pacs.008 message used in the System.

3.4 Sample RTP Message Structure

The table below shows an example of the high level Message Blocks and Hierarchy of the RTP Credit Transfer message used in the System.

<table>
<thead>
<tr>
<th>Block Name</th>
<th>Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Application Header</td>
<td>(1..1)</td>
</tr>
<tr>
<td>Group Header</td>
<td>(1..1)</td>
</tr>
<tr>
<td>Customer Credit Transfer Transaction Information</td>
<td>(1..1)</td>
</tr>
</tbody>
</table>

The first Message Block in an RTP payment message is always the Business Application Header (BAH). The subsequent Message Blocks, after the BAH, are constructed in accordance with the defined schemas of the different message types (e.g. pacs.008 Group Header, Customer Credit Transfer Transaction Information, etc.).

3.5 Message Schema

The table below shows the ISO Schemas that define the specific RTP messages including the Business Application Header and the Payload Messages. The BAH for RTP messages (head.001.001.01) is defined in further detail in section 4.

<table>
<thead>
<tr>
<th>Message Description</th>
<th>Namespace Prefix</th>
<th>ISO Schema</th>
<th>Non-ISO Schema</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Application Header</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Header</td>
<td>head</td>
<td>head.001.001.01</td>
<td>-</td>
</tr>
<tr>
<td>Business Messages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit Transfer</td>
<td>ct</td>
<td>pacs.008.001.06</td>
<td>-</td>
</tr>
<tr>
<td>Message Status Report of Credit Transfer</td>
<td>ps</td>
<td>pacs.002.001.07</td>
<td>-</td>
</tr>
<tr>
<td>Request for Payment</td>
<td>pr</td>
<td>pain.013.001.05</td>
<td>-</td>
</tr>
<tr>
<td>Response to Request for Payment</td>
<td>rp</td>
<td>pain.014.001.05</td>
<td>-</td>
</tr>
<tr>
<td>System Time-out Message &amp; Request for Return of Funds</td>
<td>rt</td>
<td>camt.056.001.05</td>
<td>-</td>
</tr>
</tbody>
</table>

2 The latest ISO 20022 versions were published on 8th February 2016 at the ISO 20022 website.
3 The schema is identical even if it is used in different response situations.
<table>
<thead>
<tr>
<th>Message Description</th>
<th>Code</th>
<th>RTP Code</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response to Request for Return of Funds</td>
<td>tr</td>
<td>camt.029.001.06</td>
<td>-</td>
</tr>
<tr>
<td>Stand-alone Remittance Advice</td>
<td>ar</td>
<td>remt.001.001.02</td>
<td>-</td>
</tr>
<tr>
<td>Request for Information</td>
<td>fi</td>
<td>camt.026.001.05</td>
<td>-</td>
</tr>
<tr>
<td>Response to Request for Information</td>
<td>if</td>
<td>camt.028.001.05</td>
<td>-</td>
</tr>
<tr>
<td>Payment Acknowledgement</td>
<td>ac</td>
<td>camt.035.001.03</td>
<td>-</td>
</tr>
<tr>
<td>System / Administration Messages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Message Status Report to all non-payment Business Messages</td>
<td>ps</td>
<td>pacs.002.001.07</td>
<td>-</td>
</tr>
<tr>
<td>Message Reject</td>
<td>mr</td>
<td>admi.002.001.01</td>
<td>-</td>
</tr>
<tr>
<td>System Event Notification Message</td>
<td>ne</td>
<td>admi.004.001.02</td>
<td>-</td>
</tr>
<tr>
<td>Sign-on Request</td>
<td>sr</td>
<td>-</td>
<td>admn.001.001.01</td>
</tr>
<tr>
<td>Sign-on Response</td>
<td>rs</td>
<td>-</td>
<td>admn.002.001.01</td>
</tr>
<tr>
<td>Sign-off Request</td>
<td>fr</td>
<td>-</td>
<td>admn.003.001.01</td>
</tr>
<tr>
<td>Sign-off Response</td>
<td>rf</td>
<td>-</td>
<td>admn.004.001.01</td>
</tr>
<tr>
<td>Echo Request</td>
<td>er</td>
<td>-</td>
<td>admn.005.001.01</td>
</tr>
<tr>
<td>Echo Response</td>
<td>re</td>
<td>-</td>
<td>admn.006.001.01</td>
</tr>
</tbody>
</table>

These schema definitions are used in the overall schema “message.xsd” to enable validation against all RTP used messages. Below is the XML Schema Definition (xsd) for the “message.xsd”.

---

*The schema is identical even if it is used in different response situations*
4 MESSAGE PERSONA SPECIFICATIONS

This section identifies the RTP Messages that are associated with the “Receive Only Persona” and the “Send & Receive Persona” (each a “Message Persona”), including for each message whether receiving or sending such message is Mandatory (Participant must be able to receive or send), Optional (Participant may at its discretion choose to receive or send) or Conditional (Participant must be able to receive or send if it has chosen to receive or send a specific, paired Optional message). In addition to receiving and sending messages, Participants must also make available certain message information to their customers and pass back certain message response information from their customers, as specified in the RTP Operating Rules and as noted below.

Each Participant must select a Message Persona. The message requirements for each Message Persona are set forth in the table below.

**Timing (General):** Effective January 1, 2019, a Participant must be able to send and receive the Mandatory messages and, to the extent applicable, the Conditional messages for the Message Persona it has selected. However, a Participant may request and The Clearing House may grant the Participant’s request for an extended implementation period for certain Mandatory and Conditional messages, as described below.

**Extended Implementation Period:** For certain Mandatory and Conditional messages identified in the table of below, if a Participant is unable to send and/or receive, as applicable, the message(s) by January 1, 2019, the Participant may request additional time to implement the message. TCH may in its sole discretion grant the request and allow the Participant additional time. However, in no case will this extended implementation period extend beyond December 31, 2019. A Participant’s written request (which may be by email) for an extended implementation must be sent to RTP Enforcement and include: (a) the message(s) for which an extended implementation is requested and the reason for the request, (b) the Participant’s proposed interim treatment of the message(s), (c) the date by which the Participant will fully support the message(s) (i.e., send and/or receive as applicable), and (d) any other information requested by The Clearing House.
<table>
<thead>
<tr>
<th>ISO Message; RTP Name</th>
<th>Receive Only Persona</th>
<th>Send &amp; Receive Persona</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Receive</td>
<td>Send</td>
<td>Receive</td>
</tr>
</tbody>
</table>
| 1 pacs.002 et al.; Message Status Report, Admin and SNMs | M | M | M | M | **Mandatory to Receive (unless noted otherwise):**  
  • pacs.002 – Message Status Report  
  • admn.002 – Sign-on Response  
  • admn.004 – Sign-off Response  
  • admn.005 – Echo Request  
  • admn.006 – Echo Response – *Conditional on opting to send admn.005 (Echo Request)*  
  • admi.002 – Technical Reject  
  • admi.004 – System Notification Message  
  **Mandatory to Send (unless noted otherwise):**  
  • pacs.002 – Message Status Report  
  • admn.001 – Sign-on Request  
  • admn.003 – Sign-off Request  
  • admn.005 – Echo Request – *Optional*  
  • admn.006 – Echo Response |
| 2 pacs.008 Credit Transfer | M | O<sup>°</sup> | M | M | **Mandatory to receive at all times, for all accounts on RTP-enabled routing numbers (three exceptions in Operating Rule V.C.).**  
  • Receiving Participants must (i) display credit for payment immediately for online customers and via usual account statement for offline customers, and (ii) make available up to 140 characters of remittance advice through at least one method (e.g., UI, Ops Dept, Cust Svc Dept). |
| 3a camt.035; Bank Acknowledgement | O | C<sup>WP</sup> | M<sup>*</sup> | C<sup>WP</sup> | |
| 3b camt.035; User Acknowledgement | O | O | M<sup>*</sup> | O | |
| 4 remt.001 Remittance Advice | M<sup>*</sup> | O | M<sup>*</sup> | O | **Mandatory to receive for commercial customers.**  
  • Optional to receive for consumer customers. If Participant chooses not to receive for consumer customers, it must reject with a response that account does not support this message.  
  • If Participant accepts this message, it must make message information available to its customer through at least one method (e.g., UI, Ops Dept, Cust Svc Dept); the method may differ by customer segment, such commercial vs. retail. |
<table>
<thead>
<tr>
<th>ISO Message; RTP Name</th>
<th>Receive Only Persona</th>
<th>Send &amp; Receive Persona</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 5 camt.056 Request for Return of Funds (RFR) | M O^1 | M O^1 | • This is a bank-to-bank message.  
• How a Participant presents the RFR to its customer is determined by the Participant’s communication model (e.g., UI, Ops Dept, Cust Svc Dept) |
| 6 camt.029 Request to RFR | C^1 M* | C^1 M | • Funds returned should be made via Credit Transfer, if the returning Participant has the ability to send; otherwise via ACH (same day or standard) or wire. |
| 7 camt.026 Request for Information (RFI) | O^2 O^3 | M* O^3 | • If Participant receives RFIs and the receiving customer is offline, the Participant must include “/RJCT/” in the Remittance Information / Unstructured field followed by free-format text informing the Sending Participant that the customer is offline, such as “customer does not have online access and cannot respond”. |
| 8 camt.028 Response to RFI | C^3 C^2 | C^3 M* | |
| 9 pain.013 Request for Payment (RFP) | O^4 O^5 | O^4 O^5 | • If Participant receives RFPs and is able to send Credit Transfers, it must allow customers to respond to a RFP with a Credit Transfer. |
| 10 pain.014 Response to RFP | C^5 C^4 | C^5 C^4 | • If customer rejects RFP or is an offline customer, Participant should send negative response.  
• It is encouraged that a payment made in response to an RFP be made via Credit Transfer; the amount paid need not equal the amount requested in RFP. |

**M** Mandatory Message  
**O** Optional Message; Participant may choose whether to support  
**Ci** Conditional Message; required if Participant supports paired option message O^i  
**O^LTD** Optional Limited Send; in the Receive Only Persona, Participant may send a Credit Transfer only for (a) return of funds or (b) on-us transfers of ≤$1  
**C^WP** Conditional for ACWP; required if Participant supports Accept Without Posting  
**Message is eligible for extended implementation**
5 MESSAGE STRUCTURE BUSINESS APPLICATION HEADER (BAH)

5.1 Business Application Header – head.001.001.01

5.1.1 Scope

The purpose of the Business Application Header (BAH) is to separate the routing and message specific information (such as the identity of the end-point sending the message and the type of message) from the Payload (message content, such as dollar value). This allows for the business applications receiving the message to retrieve the information required for the business application to send and receive a message without having to parse the message payload. The BAH is mandatory and used in the routing of every RTP message.

Note: The ‘From’ and ‘To’ identifications refer to the physical parties directly participating in that step (‘leg’) of the message chain. In the leg of the transaction between the Instructing Agent (Sending FI or the Sending FI’s Third Party Service Provider – TPSP) and the System, the ‘From’ would be the Instructing Agent and the ‘To’ would be the System. For the leg of transaction between the System and the Instructed Agent (Receiving FI or the Receiving FI’s TPSP), the ‘From’ would be the System and the ‘To’ would be the Instructed Agent.

5.1.2 Message Structure Description

Note:
The signature element is provided as a representative illustration. Full details regarding Digital Signatures are provided in the RTP Customer Documentation System Interface Guide.

<table>
<thead>
<tr>
<th>Index</th>
<th>XML Tag</th>
<th>Element Name</th>
<th>Occurr.</th>
<th>Length</th>
<th>M/O/C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>AppHdr</td>
<td>Business Application Header V01</td>
<td>[1..1]</td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1.2</td>
<td>Fr</td>
<td>From</td>
<td>[1..1]</td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1.46</td>
<td>Fld</td>
<td>Financial Institution Identification</td>
<td>[1..1]</td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1.47</td>
<td>FinInstnId</td>
<td>Financial Institution Identification</td>
<td>[1..1]</td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1.49</td>
<td>ClrSysMmbId</td>
<td>Clearing System Member Identification</td>
<td>[1..1]</td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1.53</td>
<td>MmbId</td>
<td>Member Identification</td>
<td>[1..1]</td>
<td>11</td>
<td>M</td>
</tr>
<tr>
<td>1.72</td>
<td>BrnchId</td>
<td>Branch Identification</td>
<td>[0..1]</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>1.73</td>
<td>Id</td>
<td>Identification</td>
<td>[1..1]</td>
<td>11</td>
<td>M</td>
</tr>
<tr>
<td>1.86</td>
<td>To</td>
<td>To</td>
<td>[1..1]</td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1.130</td>
<td>Fld</td>
<td>Financial Institution Identification</td>
<td>[1..1]</td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1.131</td>
<td>FinInstnId</td>
<td>Financial Institution Identification</td>
<td>[1..1]</td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1.133</td>
<td>ClrSysMmbId</td>
<td>Clearing System Member Identification</td>
<td>[1..1]</td>
<td></td>
<td>M</td>
</tr>
<tr>
<td>1.137</td>
<td>MmbId</td>
<td>Member Identification</td>
<td>[1..1]</td>
<td>11</td>
<td>M</td>
</tr>
<tr>
<td>1.156</td>
<td>BrnchId</td>
<td>Branch Identification</td>
<td>[0..1]</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>1.157</td>
<td>Id</td>
<td>Identification</td>
<td>[1..1]</td>
<td>11</td>
<td>M</td>
</tr>
<tr>
<td>1.170</td>
<td>BizMsgIdr</td>
<td>Business Message Identifier</td>
<td>[1..1]</td>
<td>35</td>
<td>M</td>
</tr>
<tr>
<td>1.171</td>
<td>MsgDefIdr</td>
<td>Message Definition Identifier</td>
<td>[1..1]</td>
<td>35</td>
<td>M</td>
</tr>
<tr>
<td>1.173</td>
<td>CreDt</td>
<td>Creation Date</td>
<td>[1..1]</td>
<td>19</td>
<td>M</td>
</tr>
<tr>
<td>1.174</td>
<td>CpyDplct</td>
<td>Copy Duplicate</td>
<td>[0..1]</td>
<td>4</td>
<td>O</td>
</tr>
</tbody>
</table>
The following section of this document provides a detailed description of each element used in the Business Application Header for RTP. In some cases there are two different definitions for a single field. In these instances, the first definition is in accordance with the ISO 20022 specification provided by the ISO group. The second definition is the definition of the product usage of this element within the RTP implementation. The second definition is only provided where the RTP product usage is different from the ISO group specification, or where for purposes of RTP more detailed information of the usage of this field is required.

For the ISO Definition and further detail on the message itself please refer to the official ISO 20022 website (www.iso20022.org).

<table>
<thead>
<tr>
<th>Index</th>
<th>XML Tag</th>
<th>Element Name</th>
<th>Occurr.</th>
<th>Length</th>
<th>M/O/C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.177</td>
<td>Sgntr</td>
<td>Signature</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.178</td>
<td>Signature</td>
<td>XML Signature</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.180</td>
<td>ds:SignedInfo</td>
<td>Signed Info</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.182</td>
<td>ds:CanonicalizationMethod</td>
<td>Canonicalization Method</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.185</td>
<td>ds:SignatureMethod</td>
<td>Signature Method</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.189</td>
<td>ds:Reference</td>
<td>Reference</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.193</td>
<td>ds:Transforms</td>
<td>Transforms</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.194</td>
<td>ds:Transform</td>
<td>Transform</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.198</td>
<td>ds:DigestMethod</td>
<td>Digest Method</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.201</td>
<td>ds:DigestValue</td>
<td>Digest Value</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.202</td>
<td>ds:SignatureValue</td>
<td>Signature Value</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.204</td>
<td>ds:KeyInfo</td>
<td>Key Info</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.228</td>
<td>ds:X509Data</td>
<td>X509 Data</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.229</td>
<td>{Or</td>
<td>X509IssuerSerial</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.230</td>
<td>X509IssuerName</td>
<td>X509 Issuer Name</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.231</td>
<td>X509SerialNumber</td>
<td>X509 Serial Number</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.233</td>
<td>Or}</td>
<td>X509SubjectName</td>
<td>[1..1]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.1.3 Detail Message Field Description

The following section of this document provides a detailed description of each element used in the Business Application Header for RTP. In some cases there are two different definitions for a single field. In these instances, the first definition is in accordance with the ISO 20022 specification provided by the ISO group. The second definition is the definition of the product usage of this element within the RTP implementation. The second definition is only provided where the RTP product usage is different from the ISO group specification, or where for purposes of RTP more detailed information of the usage of this field is required.

For the ISO Definition and further detail on the message itself please refer to the official ISO 20022 website (www.iso20022.org).

<table>
<thead>
<tr>
<th>Business Application Header V01</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
### From

<table>
<thead>
<tr>
<th>Document</th>
<th>ISO Definition:</th>
<th>Product Usage:</th>
<th>Index:</th>
<th>XML Tag:</th>
<th>Occurrences:</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
<td>The sending Messaging Endpoint that has created this Business Message for the receiving Messaging Endpoint that will process this Business Message.</td>
<td>For identifying the sender of the message. This could be the Sending FI, a Third Party Service Provider (TPSP) on behalf of the Sending FI, or RTP.</td>
<td>1.2</td>
<td>&lt;Fr&gt;</td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

### Financial Institution Identification

<table>
<thead>
<tr>
<th>Document</th>
<th>ISO Definition:</th>
<th>Index:</th>
<th>XML Tag:</th>
<th>Occurrences:</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
<td>Identification of a financial institution.</td>
<td>1.46</td>
<td>&lt;FlnId&gt;</td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

### Financial Institution Identification

<table>
<thead>
<tr>
<th>Document</th>
<th>ISO Definition:</th>
<th>Index:</th>
<th>XML Tag:</th>
<th>Occurrences:</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
<td>Unique and unambiguous identification of a financial institution, as assigned under an internationally recognized or proprietary identification scheme.</td>
<td>1.47</td>
<td>&lt;FinInstnId&gt;</td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

### Clearing System Member Identification

<table>
<thead>
<tr>
<th>Document</th>
<th>ISO Definition:</th>
<th>Index:</th>
<th>XML Tag:</th>
<th>Occurrences:</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
<td>Information used to identify a member within a clearing system.</td>
<td>1.49</td>
<td>&lt;ClrSysMmbId&gt;</td>
<td>[1..1]</td>
</tr>
</tbody>
</table>
### Member Identification

<table>
<thead>
<tr>
<th>ISO Definition:</th>
<th>Identification of a member of a clearing system.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Usage:</td>
<td>For identifying the sender of the message. This could be the Sending FI, a Third Party Service Provider (TPSP) on behalf of the Sending FI, or RTP.</td>
</tr>
<tr>
<td>Index:</td>
<td>1.53</td>
</tr>
<tr>
<td>XML Tag:</td>
<td><code>&lt;MmbId&gt;</code></td>
</tr>
<tr>
<td>Occurrences:</td>
<td>[1..1]</td>
</tr>
<tr>
<td>Format:</td>
<td>11 character Participant Identifier</td>
</tr>
<tr>
<td>Rules:</td>
<td>Member identification validation:</td>
</tr>
<tr>
<td></td>
<td>• Must be the registered identification number of the Sending FI, Third Party Service Provider, or RTP</td>
</tr>
<tr>
<td></td>
<td>• If the 'To' field is the Participant Identifier of RTP, then this field must be a valid Participant Identifier for a Participant or Third Party Service Provider</td>
</tr>
<tr>
<td>Reason Codes:</td>
<td>Reject with code 'DS0H' for all Business Messages in a Message Status Report (pacs.002) for failing validation</td>
</tr>
<tr>
<td></td>
<td>Reject with code '9964' for a Sign-on request (admn.001) in a Sign-on response (admn.002) or for a Sign-off request (admn.003) in a Sign-off response (admn.004) for failing validation</td>
</tr>
<tr>
<td></td>
<td>Reject with code '650' in Administration Advice message (admi.002) for failing validation on this field, within:</td>
</tr>
<tr>
<td></td>
<td>• Echo request (admn.005)</td>
</tr>
<tr>
<td></td>
<td>• Admin advice (admi.002)</td>
</tr>
<tr>
<td></td>
<td>• Message Status Report (pacs.002)</td>
</tr>
<tr>
<td></td>
<td>If these messages are rejected, they are ignored by RTP.</td>
</tr>
<tr>
<td>Note:</td>
<td>Further information regarding the definition of Business Messages is provided within sections 2 and 3.</td>
</tr>
<tr>
<td>Example:</td>
<td><code>&lt;MmbId&gt;021200201A1&lt;/MmbId&gt;</code></td>
</tr>
</tbody>
</table>

### Branch Identification

<table>
<thead>
<tr>
<th>ISO Definition:</th>
<th>Identifies a specific branch of a financial institution.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Usage:</td>
<td>This element is only populated by RTP to provide the routing information of the original sender of the message and must be returned in the corresponding response message under the element 'TO'.</td>
</tr>
<tr>
<td>Index:</td>
<td>1.72</td>
</tr>
<tr>
<td>XML Tag:</td>
<td><code>&lt;BrnchId&gt;</code></td>
</tr>
<tr>
<td>Occurrences:</td>
<td>[0..1]</td>
</tr>
</tbody>
</table>
### Identification

<table>
<thead>
<tr>
<th>Field</th>
<th>ISO Definition</th>
<th>Product Usage</th>
<th>Index</th>
<th>XML Tag</th>
<th>Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr++Fr++Fld++++BrnchId+++++Id</td>
<td>Unique and unambiguous identification of a branch of a financial institution.</td>
<td>Participant Identifier of the sender of the message only provided by RTP.</td>
<td>1.73</td>
<td>&lt;Id&gt;</td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

**ISO Definition:** Unique and unambiguous identification of a branch of a financial institution.

**Product Usage:** Participant Identifier of the sender of the message only provided by RTP.

**Index:** 1.73

**XML Tag:** `<Id>`

**Occurrences:** [1..1]

**Format:** 11 character Participant Identifier

**Example:** `<Id>02120020101</Id>`

### To

<table>
<thead>
<tr>
<th>Field</th>
<th>ISO Definition</th>
<th>Product Usage</th>
<th>Index</th>
<th>XML Tag</th>
<th>Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr++To++Fld</td>
<td>The Messaging Endpoint designated by the sending Messaging Endpoint to be the recipient who will ultimately process this Business Message.</td>
<td>For identifying the receiver of the message. This could be the Receiving FI, a Third Party Service Provider (TPSP) on behalf of the Receiving FI, or RTP.</td>
<td>1.86</td>
<td>&lt;To&gt;</td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

**ISO Definition:** The Messaging Endpoint designated by the sending Messaging Endpoint to be the recipient who will ultimately process this Business Message.

**Product Usage:** For identifying the receiver of the message. This could be the Receiving FI, a Third Party Service Provider (TPSP) on behalf of the Receiving FI, or RTP.

**Index:** 1.86

**XML Tag:** `<To>`

**Occurrences:** [1..1]

### Financial Institution Identification

<table>
<thead>
<tr>
<th>Field</th>
<th>ISO Definition</th>
<th>Index</th>
<th>XML Tag</th>
<th>Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr++To++Fld</td>
<td>Identification of a financial institution.</td>
<td>1.130</td>
<td>&lt;FId&gt;</td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

**ISO Definition:** Identification of a financial institution.

**Index:** 1.130

**XML Tag:** `<FId>`

**Occurrences:** [1..1]

### Financial Institution Identification

<table>
<thead>
<tr>
<th>Field</th>
<th>ISO Definition</th>
<th>Index</th>
<th>XML Tag</th>
<th>Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr++To++Fld++++FinInstnId</td>
<td>Unique and unambiguous identification of a financial institution, as assigned under an internationally recognized or proprietary identification scheme.</td>
<td>1.131</td>
<td>&lt;FinInstnId&gt;</td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

**ISO Definition:** Unique and unambiguous identification of a financial institution, as assigned under an internationally recognized or proprietary identification scheme.

**Index:** 1.131

**XML Tag:** `<FinInstnId>`

**Occurrences:** [1..1]
### Clearing System Member Identification

<table>
<thead>
<tr>
<th>Document</th>
<th>ISO Definition</th>
<th>Index</th>
<th>XML Tag</th>
<th>Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
<td>Information used to identify a member within a clearing system.</td>
<td>1.133</td>
<td>&lt;ClrSysMmbId&gt;</td>
<td>[1..1]</td>
</tr>
<tr>
<td>++To</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+++FlId</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>++++FinInstnId</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+++++ClrSysMmbId</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ISO Definition:** Information used to identify a member within a clearing system.

**Index:** 1.133

**XML Tag:** <ClrSysMmbId>

**Occurrences:** [1..1]

---

### Member Identification

<table>
<thead>
<tr>
<th>Document</th>
<th>ISO Definition</th>
<th>Product Usage</th>
<th>Index</th>
<th>XML Tag</th>
<th>Occurrences</th>
<th>Format</th>
<th>Rules</th>
<th>Reason Codes</th>
<th>Note</th>
<th>Example</th>
</tr>
</thead>
</table>
| +AppHdr  | Identification of a member of a clearing system. | For identifying the receiver of the message. This could be the Receiving FI, a Third Party Service Provider (TPSP) on behalf of the Receiving FI, or RTP. In the case of a broadcast System Notification Message sent by RTP, this will be "0BROADCAST0". | 1.137 | <MmbId> | [1..1] | 11 character Participant Identifier | Member identification validation:  
• Must be the registered identification number of the Participating FI, Third Party Service Provider, or RTP  
• If the 'From Member ID' field is the Participant Identifier of RTP, then this field must be a valid Participating FI or Third Party Service Provider, unless the message is a broadcast System Notification Message (admi.004) | Reject with code 'DS0H' for all Business Messages in a Message Status Report (pacs.002) for failing validation  
Reject with code '9964' for a Sign-on request (admn.001) in a Sign-on response (admn.002) or for a Sign-off request (admn.003) in a Sign-off response (admn.004) for failing validation  
Reject with code '650' in Administration Advice message (admi.002) for failing validation on this field, within:  
• Echo request (admn.005)  
• Admin advice (admi.002)  
• Message Status Report (pacs.002)  
If these messages are rejected, they are ignored by RTP. | Further information regarding the definition of Business Messages is provided within sections 2 and 3. | &lt;MmbId&gt;990000001S1&lt;/MmbId&gt; |
### Branch Identification

<table>
<thead>
<tr>
<th>ISO Definition:</th>
<th>Identifies a specific branch of a financial institution.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Usage:</td>
<td>This is a conditional field for response messages. In instances when the BranchId in the 'FROM' element of the incoming request from RTP was populated, the content of the BranchId in the 'FROM' element of the original request message must be copied into this field within the outgoing response message. For example, when the BranchId in the 'FROM' element of a pacs.008 is populated in the message received, the responding pacs.002 message sent will include an exact copy of that data in this element.</td>
</tr>
<tr>
<td>Index:</td>
<td>1.156</td>
</tr>
<tr>
<td>XML Tag:</td>
<td>&lt;BrnchId&gt;</td>
</tr>
<tr>
<td>Occurrences:</td>
<td>[0..1]</td>
</tr>
<tr>
<td>Note:</td>
<td>This element is only used when an incoming request message from RTP has the BranchId within the 'FROM' element populated.</td>
</tr>
</tbody>
</table>

### Identification

<table>
<thead>
<tr>
<th>ISO Definition:</th>
<th>Unique and unambiguous identification of a branch of a financial institution.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Usage:</td>
<td>This is used to provide the Participant Identifier of the original sender of a request in the corresponding response message.</td>
</tr>
<tr>
<td>Index:</td>
<td>1.157</td>
</tr>
<tr>
<td>XML Tag:</td>
<td>&lt;Id&gt;</td>
</tr>
<tr>
<td>Occurrences:</td>
<td>[1..1]</td>
</tr>
<tr>
<td>Format:</td>
<td>11 character Participant Identifier</td>
</tr>
<tr>
<td>Rules:</td>
<td>Mandatory provision of the original sender in the form of the 11 character Participant Identifier if received in the original message from RTP.</td>
</tr>
<tr>
<td>Reason Codes:</td>
<td>Reject with code '650' in Administration Advice message admi.002 for failing validation on this field.</td>
</tr>
<tr>
<td>Note:</td>
<td>This field is mandatory for the Sending FI of the corresponding response message if the information under the element Fr/FIId/BranchId/Id was provided in the originally received message. This received information needs to be copied into this element.</td>
</tr>
<tr>
<td>Example:</td>
<td>&lt;Id&gt;02120020101&lt;/Id&gt;</td>
</tr>
</tbody>
</table>
### Business Message Identifier

**ISO Definition:** Unambiguously identifies the Business Message to the Messaging Endpoint that has created the Business Message.

**Product Usage:** The end-point to end-point identification of the Business Message for each leg (e.g. Sending FI to RTP, RTP to Receiving FI). This identifier is located in the BAH. It is assigned by the sender of the message, that is either the Sending FI (or a Third Party Service Provider for the Sending FI), or RTP.

**Index:** 1.170

**XML Tag:** `<BizMsgIdr>`

**Occurrences:** [1..1]

**Format:**
- Expected Format: BYYYYYMMDDbbbbbbbbbbXAAAnnnnnnnnnnn
- Pos. 01-01 - Prefix "B"
- Pos. 02-09 - File creation date in format YYYYMMDD
- Pos. 10-20 - 11 character Participant Identifier of the sending Institution either TCH FI, TPSP, or RTP
- Pos. 21-21 - Message generation source ("B" if generated by a Participant FI or TPSP, "H" if generated by RTP)
- Pos. 22-24 - Alphabetic serial identifier (3 alphabetic characters)
- Pos. 25-35 - Message serial number (11 numeric characters)

**Rules:** The first 20 characters of Business Message Identification (positions 01-20) are validated for structural alignment in accordance with the format specification.

**Reason Code:** If structural validation fails, reject with reason code ‘650’ in Administration Advice message (admi.002).

**Note:** The Sending FI (or TPSP for the Sending FI) or RTP must ensure that Business Message Identification is unique within a calendar day. The alphabetic and numeric sequences need not be the same as in the Message Identification of the payload.

**Example:** `<BizMsgIdr>B20151112020010001A1BRR000000000001</BizMsgIdr>`

---

### Message Definition Identifier

**ISO Definition:** Contains the Message Identifier that defines the Business Message. It must contain a Message Identifier published on the ISO 20022 website.

**Product Usage:** Contains the Message Definition Identifier. There are additional proprietary non-ISO schema identifiers that are used within RTP (e.g. admn messages).

**Index:** 1.171

**XML Tag:** `<MsgDefIdr>`
Occurrences: [1..1]

Reason Codes: Reject with code '650' in Administration Advice message (admi.002) if Message Definition Identifier is not valid.

Example: <MsgDefIdr>pacs.008.001.06</MsgDefIdr>

Messages used within RTP:

<table>
<thead>
<tr>
<th>Codes</th>
<th>Name / Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>admi.002.001.01</td>
<td>Message Reject (Admin)</td>
</tr>
<tr>
<td>admi.004.001.01</td>
<td>System Even Notification</td>
</tr>
<tr>
<td>admn.001.001.01</td>
<td>Sign On Request</td>
</tr>
<tr>
<td>admn.002.001.01</td>
<td>Sign-On Response</td>
</tr>
<tr>
<td>admn.003.001.01</td>
<td>Sign-Off Request</td>
</tr>
<tr>
<td>admn.004.001.01</td>
<td>Sign-Off Response</td>
</tr>
<tr>
<td>admn.005.001.01</td>
<td>Echo Request</td>
</tr>
<tr>
<td>admn.006.001.01</td>
<td>Echo Response</td>
</tr>
<tr>
<td>camt.026.001.05</td>
<td>Unable to Apply (Request for Information)</td>
</tr>
<tr>
<td>camt.028.001.06</td>
<td>Additional Payment Information (Response to Request for Information)</td>
</tr>
<tr>
<td>camt.029.001.06</td>
<td>Resolution of Investigation (Response to Request for Return of Funds)</td>
</tr>
<tr>
<td>camt.035.001.03</td>
<td>Payment Acknowledgement Receiver (Payment Acknowledgement by Recipient)</td>
</tr>
<tr>
<td>camt.056.001.05</td>
<td>Payment Cancellation (Request for Return of Funds or System Time-out)</td>
</tr>
<tr>
<td>pacs.002.001.07</td>
<td>Message Status Report (Message Status Report)</td>
</tr>
<tr>
<td>pacs.008.001.06</td>
<td>Credit Transfer</td>
</tr>
<tr>
<td>pain.013.001.05</td>
<td>Creditor Payment Activation Request (Request for Payment)</td>
</tr>
<tr>
<td>pain.014.001.05</td>
<td>Creditor Payment Activation Request Status Request (Response to Request for Payment)</td>
</tr>
<tr>
<td>remt.001.001.02</td>
<td>Stand-alone Remittance Advice</td>
</tr>
</tbody>
</table>

**Creation Date**

**ISO Definition:** Date and time when this Business Message (header) was created.

**Product Usage:** The Date/Time is determined by the sender.

**Index:** 1.173

**XML Tag:** <CreDt>

**Occurrences:** [1..1]

**Reason Codes:** Reject with code '650' in Administration Advice message (admi.002) if code is invalid.

**Note:** The date is required to be set to Eastern Time (ET).

**Example:** <CreDt>2015-11-19T00:10:00</CreDt>
### Copy Duplicate

**ISO Definition:** Indicates whether the message is a Copy, a Duplicate, or a copy of a duplicate of a previously sent ISO 20022 Message.

**Product Usage:** This element is used to identify a business message that is a duplicate to a previously submitted message, and is also used in the Message Status Report response to a business message that had ‘DUPL’ populated in this element of the original message.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUPL</td>
<td>Duplicate Message is for information/confirmation purposes. It identifies a duplicate of a message that was previously sent or a Message Status Response sent in response to a duplicate message.</td>
</tr>
</tbody>
</table>

### Signature

**ISO Definition:** Contains the Digital Signature of the Business Entity authorised to sign this Business Message.

**Note:** The signature element is provided as a representative documentation. Detail information about Digital Signature is provided in the Bank Interface Specification (BIS).

### XML Signature

**Product Usage:** The XML signature applied to the Business Message. The default value will be populated by the signing libraries supporting the W3C standard.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reject with code 690 in administration message admi.002 if any element in the Signature is invalid.</td>
<td></td>
</tr>
</tbody>
</table>
## Signed Info

<table>
<thead>
<tr>
<th><strong>Product Usage:</strong></th>
<th>Contains the signature itself (i.e. the result of the signing process).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index:</strong></td>
<td>1.180</td>
</tr>
<tr>
<td><strong>XML Tag:</strong></td>
<td><code>&lt;ds:SignedInfo&gt;</code></td>
</tr>
<tr>
<td><strong>Occurrences:</strong></td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

## Canonicalization Method

<table>
<thead>
<tr>
<th><strong>Product Usage:</strong></th>
<th>Specifies the algorithm used to canonicalize the SignedInfo element, before it is digested as a part of the signature creation. The default value will be populated by the signing libraries supporting the W3C standard.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index:</strong></td>
<td>1.182</td>
</tr>
<tr>
<td><strong>XML Tag:</strong></td>
<td><code>&lt;ds:CanonicalizationMethod&gt;</code></td>
</tr>
<tr>
<td><strong>Occurrences:</strong></td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

## Signature Method

<table>
<thead>
<tr>
<th><strong>Product Usage:</strong></th>
<th>Specifies the algorithm used to transform the canonicalized SignedInfo element into the SignatureValue element. This is a combination of a message digest algorithm and key-dependent algorithm. The default value will be populated by the signing libraries supporting the W3C standard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index:</strong></td>
<td>1.185</td>
</tr>
<tr>
<td><strong>XML Tag:</strong></td>
<td><code>&lt;ds:SignatureMethod&gt;</code></td>
</tr>
<tr>
<td><strong>Occurrences:</strong></td>
<td>[1..1]</td>
</tr>
</tbody>
</table>

## Reference

<table>
<thead>
<tr>
<th><strong>Product Usage:</strong></th>
<th>Includes the mechanism used for calculating the message digest and the resulting digest value over the original data.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index:</strong></td>
<td>1.189</td>
</tr>
<tr>
<td><strong>XML Tag:</strong></td>
<td><code>&lt;ds:Reference&gt;</code></td>
</tr>
<tr>
<td><strong>Occurrences:</strong></td>
<td>[1..1]</td>
</tr>
</tbody>
</table>
### Transforms

<table>
<thead>
<tr>
<th>Document</th>
<th>Product Usage: Specifies the operations performed before calculating the digest, such as compression, encoding, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
<td></td>
</tr>
<tr>
<td>++Sgntr</td>
<td></td>
</tr>
<tr>
<td>+++Signature</td>
<td></td>
</tr>
<tr>
<td>++++ds:SignedInfo</td>
<td></td>
</tr>
<tr>
<td>++++++ds:Reference</td>
<td></td>
</tr>
<tr>
<td>++++++ds:Transforms</td>
<td></td>
</tr>
</tbody>
</table>

**Index:** 1.193

**XML Tag:** `<ds:Transforms>`

**Occurrences:** [1..1]

### Transform

<table>
<thead>
<tr>
<th>Document</th>
<th>Product Usage: Specifies the operations performed before calculating the digest, such as compression, encoding, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
<td></td>
</tr>
<tr>
<td>++Sgntr</td>
<td></td>
</tr>
<tr>
<td>+++Signature</td>
<td></td>
</tr>
<tr>
<td>++++ds:SignedInfo</td>
<td></td>
</tr>
<tr>
<td>++++++ds:Reference</td>
<td></td>
</tr>
<tr>
<td>++++++ds:Transforms</td>
<td></td>
</tr>
</tbody>
</table>

**Index:** 1.194

**XML Tag:** `<ds:Transform>`

**Occurrences:** [1..1]

### Digest Method

<table>
<thead>
<tr>
<th>Document</th>
<th>Product Usage: Specifies the algorithm used to calculate the message digest. Default value will be populated by the signing libraries supporting W3C standard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
<td></td>
</tr>
<tr>
<td>++Sgntr</td>
<td></td>
</tr>
<tr>
<td>+++Signature</td>
<td></td>
</tr>
<tr>
<td>++++ds:SignedInfo</td>
<td></td>
</tr>
<tr>
<td>++++++ds:Reference</td>
<td></td>
</tr>
<tr>
<td>++++++ds:DigestMethod</td>
<td></td>
</tr>
</tbody>
</table>

**Index:** 1.198

**XML Tag:** `<ds:DigestMethod>`

**Occurrences:** [1..1]

### Digest Value

<table>
<thead>
<tr>
<th>Document</th>
<th>Product Usage: Contains the message digest of the original message</th>
</tr>
</thead>
<tbody>
<tr>
<td>+AppHdr</td>
<td></td>
</tr>
<tr>
<td>++Sgntr</td>
<td></td>
</tr>
<tr>
<td>+++Signature</td>
<td></td>
</tr>
<tr>
<td>++++ds:SignedInfo</td>
<td></td>
</tr>
<tr>
<td>++++++ds:Reference</td>
<td></td>
</tr>
<tr>
<td>++++++ds:DigestValue</td>
<td></td>
</tr>
</tbody>
</table>

**Index:** 1.201

**XML Tag:** `<ds:DigestValue>`

**Occurrences:** [1..1]

**Example:** `<ds:DigestValue>qZk+NkcGgWq6PIVxeFDCb1zQ2J0=</ds:DigestValue>`
### Signature Value

**Document**
- AppHdr
- Sgntr
- Signature
  - ds:SignatureValue

**Product Usage:**
Contains the Base64 encoded signature result - the signature generated with the parameters specified in the SignatureMethod element - of the SignedInfo element after applying the algorithm specified by the CanonicalizationMethod.

**Index:** 1.202
**XML Tag:** `<ds:SignatureValue>`
**Occurrences:** [1..1]
**Example:** `<ds:SignatureValue>....</ds:SignatureValue>`

### Key Info

**Document**
- AppHdr
- Sgntr
- Signature
  - ds:KeyInfo

**Product Usage:**
Indicates a key that can be used to validate the digital signature. This can consist of digital certificates, key names, key agreement algorithms used, etc. Usually in the form of one or more X.509 digital certificates.

**Index:** 1.204
**XML Tag:** `<ds:KeyInfo>`
**Occurrences:** [1..1]

### X509 Data

**Document**
- AppHdr
- Sgntr
- Signature
  - ds:KeyInfo
  - ds:X509Data

**Product Usage:**
An X509 Data element within KeyInfo contains one or more identifiers of keys or X509 certificates (or certificates' identifiers or a revocation list).

**Index:** 1.228
**XML Tag:** `<ds:X509Data>`
**Occurrences:** [1..1]

### X509 Issuer Serial

**Document**
- AppHdr
- Sgntr
- Signature
  - ds:KeyInfo
  - ds:X509Data
  - X509IssuerSerial

**Product Usage:**
Indicates the information of the issuer and the serial number

**Index:** 1.229
**XML Tag:** `<X509IssuerSerial>`
**Occurrences:** [1..1]
### X509 Issuer Name

**Product Usage:** Contains the certificate issuer name of the signer of the X.509 certificate.

**Index:** 1.230

**XML Tag:** `<X509IssuerName>`

**Occurrences:** [1..1]

**Example:** `<X509IssuerName>Issuer</X509IssuerName>`

### X509 Serial Number

**Product Usage:** Contains the serial number of the X.509 certificate

**Index:** 1.231

**XML Tag:** `<X509SerialNumber>`

**Occurrences:** [1..1]

**Example:** `<X509SerialNumber>001</X509SerialNumber>`

### X509 Subject Name

**Product Usage:** Contains the subject distinguished name of the signer’s X.509 certificate.

**Index:** 1.233

**XML Tag:** `<X509SubjectName>`

**Occurrences:** [1..1]

**Example:** `<X509SubjectName>Subject of Certificate</X509SubjectName>`

#### 5.1.4 Example BAH

These are examples of the Business Application Header in the XML format used with the payload of a Credit Transfer (pacs.008) and the Response to Credit Transfer (pacs.002).

Note: The signature element is only representative and is part of the technical implementation during the on-boarding to the system. Detail information about Digital Signature is provided in the RTP Customer Documentation System Interface Guide. Sample signature information is only provided in the Sending FI to RTP Example below.
Example Message Initiating Agent (Debtor FI) to RTP:

```xml
<Message xmlns="urn:tch">
  <AppHdr>
    <head:Fr xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">
      <head:FIId>
        <head:FinInstnId>
          <head:ClrSysMmbId>
            <head:MmbId>021200201A1</head:MmbId>
          </head:ClrSysMmbId>
        </head:FinInstnId>
      </head:FIId>
    </head:Fr>
    <head:To xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">
      <head:FIId>
        <head:FinInstnId>
          <head:ClrSysMmbId>
            <head:MmbId>990000001S1</head:MmbId>
          </head:ClrSysMmbId>
        </head:FinInstnId>
      </head:FIId>
    </head:To>
    <head:MsgDefIdr xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">pacs.008.001.06</head:MsgDefIdr>
    <head:CreDt xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">2015-11-12T16:45:00</head:CreDt>
    <head:Sgntr xmlns:head="http://www.w3.org/2000/09/xmldsig#">
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="SignatureMethod Algorithm="SignatureMethod Algorithm="DigestMethod Algorithm="DigestValue>
            </DigestValue>
          </Reference>
        </SignedInfo>
      </Signature>
    </head:Sgntr>
  </AppHdr>
</Message>
```
Note the following examples do not show the signature information.

Example Message RTP to Receiving Agent (Creditor FI):

```xml
<Message xmlns="urn:tch">
  <AppHdr>
    <head:Fr xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">
      <head:FIId>
        <head:FinInstnId>
          <head:ClrSysMmbId>
            <head:MmbId>99000001S1</head:MmbId>
          </head:ClrSysMmbId>
        </head:FinInstnId>
        <head:BrnchId>
          <head:Id>021200201A1</head:Id>
        </head:BrnchId>
      </head:FIId>
    </head:Fr>
    <head:To xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">
      <head:FIId>
        <head:FinInstnId>
          <head:ClrSysMmbId>
            <head:MmbId>231000001B1</head:MmbId>
          </head:ClrSysMmbId>
        </head:FinInstnId>
        <head:BrnchId>
          <head:Id>021200201A1</head:Id>
        </head:BrnchId>
      </head:FIId>
    </head:To>
  </AppHdr>
  <BizMsgIdr xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">B20151112020010001A1BRRR00000000002</BizMsgIdr>
  <MsgDefIdr xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">pacs.008.001.06</MsgDefIdr>
  <CreDt xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">2015-11-12T16:45:10</CreDt>
</Message>
```
Example Message Sending Agent (Creditor FI) to RTP – response:

```xml
<Message xmlns="urn:tch">
  <AppHdr>
    <head:Fr xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">
      <head:FIId>
        <head:FinInstnId>
          <head:ClrSysMmbId>
            <head:MmbId>231000001B1</head:MmbId>
          </head:ClrSysMmbId>
        </head:FinInstnId>
      </head:FIId>
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    <head:BizMsgIdr xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">B2015111223100001B1BRRR000000077</head:BizMsgIdr>
    <head:MsgDefIdr xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">pacs.002.001.07</head:MsgDefIdr>
    <head:CreDt xmlns:head="urn:iso:std:iso:20022:tech:xsd:head.001.001.01">2015-11-12T16:46:00</head:CreDt>
  </AppHdr>
</Message>
```
Example Message RTP to Receiving Agent (Debtor FI) – response:

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        <head:Fr>
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  </AppHdr>
</Message>
```
# APPENDIX A – SUPPORTED CHARACTER SET

RTP Supported Character List: Fields highlighted yellow must be escaped in the manner specified

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