PAYMENTS CANADA

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Real-Time Rail ISO 20022 message specification companion document

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Legal Notices

Confidential Information of Payments Canada for RTR Implementation

Not to be disclosed or used for any other purpose without the express consent of Payments Canada.

1. Purpose

This document is a companion document to the Real-Time Rail (RTR) ISO 20022 Message Specifications for the RTR. It should be read prior to implementing the ISO 20022 messages since there is important information included about message usage in the context of the RTR. This document aims to explain the information in the RTR ISO 20022 Message Specifications at a higher level. If there is a conflict between the RTR ISO 20022 Message Specifications and this companion document, the RTR ISO 20022 Message Specifications shall take precedence. This companion document is a living document that will evolve as the implementation of ISO 20022 in the RTR moves from pre-implementation to the target state of full implementation.

This document focuses on the implementation of RTR ISO 20022 messages. The document should give the reader an understanding of all the messages created by RTR Participants, as well as the RTR Exchange.

Detailed content information related to each specific RTR ISO 20022 message (elements, rules and implementation information) is contained in the RTR ISO 20022 Message Specifications. Both the RTR ISO 20022 Message Specifications and this companion document will be published on the Payments Canada website and are available on the SWIFT MyStandards web platform. XSD versions of the RTR ISO 20022 Message Specifications are available upon request from Payments Canada.

The target audience for this document and the RTR ISO 20022 Message Specifications is broad and includes both RTR Participants and the vendor community that will support RTR Participants with their implementations. This document is important for developers, technical managers and other resources who are responsible for implementing the new formats in either new or existing applications. It will also be relevant for business and product managers who want to gain an overall understanding of how the RTR ISO 20022 messages work and what new content is available. In addition, operational managers will find it useful to understand how the RTR ISO 20022 messages are part of the payment flows and what exception processes might need to be enhanced and/or created to ensure a smooth end-to-end experience for their customers.

1.1 Related Documentation

This companion document should be read in conjunction with the following document:

- RTR ISO 20022 Message Specifications

This document includes sample components and elements illustrated by XML.

2. Message Development Approach

All RTR ISO 20022 messages have been developed in conjunction with the ISO 20022 Message Development Group during a series of meetings in November 2018 and onward. This group was formed in 2018 and there are 22 organizations participating in the group. It consists of Payments Canada Members including the Bank of Canada as well as government and corporate stakeholder representatives. It is a cross-system group and each firm may send different experts to the meetings depending on whether the meeting is focused on creating messages for high-value payments (Lynx), real-time payments (RTR) or batch payments. See Appendix 1 for more information related to the ISO 20022 Message Development Group, including the terms of reference and list of participating organizations.

The ISO 20022 Message Development Group created a list of guiding principles with regards to building ISO 20022 messages. A few key principles are listed here.

1. The group ensures alignment with the best global practices, as well as with other Payments Canada payment streams.
2. The group agrees to maintain the most recent versions of the ISO 20022 messages and ensure all updates to the messages follow the SWIFT annual standards release cycle.
3. The group makes sure to build for the future and focus on providing room for innovation.

Payments Canada participates in international groups, such as Real-Time Payments Group (RTPG), High-Value Payments System Group (HVPS) and Real-Time Gross Settlement (RTGS) operators and provided insights from these groups to the ISO 20022 Message Development Group. Other public sources, such as The Clearing House (TCH) RTP guidelines have been used as reference points.

In 2015, SWIFT launched an ISO 20022 Harmonization Charter to promote common approaches to implementation among Financial Market Infrastructures (FMI) around the world (https://www.swift.com/standards/iso-20022-harmonisation-charter). Since introduction, 30 FMIs (including Payments Canada and the Bank of Canada) have signed the ISO 20022 Harmonization Charter. The key principles of the Charter include:

- Sharing of information – FMIs share information about their ISO 20022 implementation plans with the other endorsing and supporting FMIs.
- Adherence to market practice – FMIs adhere to global ISO 20022 Market Practices and base their own usage guidelines on these market practices.
- Adherence to the message version and release management – FMIs update to the latest ISO 20022 message version that is in line with the ISO 20022 release cycle.

With this in mind, SWIFT and other global payment system operators have agreed to begin the migration to ISO 20022 starting with the version of the message published in 2019 (referred to as Standards Release 2019 or SR2019). Payments Canada will also use this version for the second release of Lynx implementation. To align with both Lynx, as well as cross-border usage, the RTR ISO 20022 messages will also use the 2019 version of the ISO 20022 portfolio.

3. RTR ISO 20022 Message Portfolio

Below is the portfolio of ISO 20022 messages that are envisioned for the RTR at launch, and covered in this document. Other ISO 20022 messages are planned for reporting purposes but these messages are not included in this document.

To reduce complexity and to ease the interpretation of the RTR ISO 20022 Message Specifications, consistency of content, format and design was followed across all the RTR ISO 20022 messages in the portfolio. Unless needed, consistent representations of components and elements were used in supporting messages, as in the core messages for components such as Payment Identifiers, Agents, Parties, Amounts and more. This section will cover the parts of the messages where we have commonalities across the full portfolio.

Full details of the rules and all detailed content of the RTR ISO 20022 message elements can be found in the RTR ISO 20022 Message Specifications. Formal rules are validated in the message and will cause a message to be non-compliant (i.e. the message would not pass schema validation and would be rejected by the RTR) if they are not followed. Market practice rules are textual and, if not followed, the messages will still pass validation without a message being rejected. However, to ensure alignment with market commonalities and allow for more seamless communication between financial institutions, market practice rules should still be followed when formulating any ISO 20022 message for the RTR.

This document covers all the core messages supporting messages as well as administration messages.

Core messages include:

ISO 20022 Message Name	Message Identifier	RTR Message Function
FI to FI Customer Credit Transfer	pacs.008.001.08	Single Customer Credit Transfer
FI to FI Payments Status Report	pacs.002.001.10	Payment Status Report
Business Application Header (BAH)	head.001.001.02	Business Application Header for all Messages

Supporting messages include:

ISO 20022 Message Name	Message Identifier	Message Function
FI to FI Payments Status Report Request	pacs.028.001.03	Request for Payment Status

Administration messages include:

ISO 20022 Message Name	Message Identifier	Message Function
Message Reject	Admi.002.001.01	Message Reject
System Event Notification	Admi.004.001.02	Heartbeat Notification
System Event Acknowledgement	Admi.011.001.01	Heartbeat Acknowledgement

3.1 Identification of Agents

In ISO 20022, all financial institutions are referred to as Agents.

All of the RTR ISO 20022 messages identify Agents the same way by using, the Member Identification under Clearing System Member Identification. The data type for Member Identification is Max35Text, meaning that the element allows for a maximum of 35 characters. Agents in the RTR will be identified using the Payment Canada Institution Numbers, as published on Payments Canada's website.

Sample component:

```
<CdtrAgt>
      <FinInstnId>
            <ClrSysMmbId>
                  <MmbId>123</MmbId>
            </ClrSysMmbId>
      </FinInstnId>
</CdtrAgt>
```

Element names:

```
CdtrAgt      – Creditor Agent
FinInstnId   - Financial Institution Identification
ClrSysMmId   - Clearing System Member Identification
MmbId        - Member Identification
```

Figure 1 – Agent Component

The only exception to this is 'Previous Instructing Agent 1' in the pacs.008. This Agent component has been left less restricted than the other Agents in the RTR portfolio and more flexible to allow for the inclusion of additional information that might be populated in the cross-border environment, for example, information about non-Canadian Agents.

3.2 Identification of Parties

In ISO 20022, all non-financial institutions are referred to as a Party.

The structure of Parties in the RTR has been closely aligned with the Lynx guidelines as well as Cross Border Payments and Reporting Plus (CBPR+). Following the harmonization effort in Q3 and Q4 of the 2020 calendar year, Name has been made mandatory for the following Parties: Debtor, Creditor, Initiating Party, Ultimate Debtor and Ultimate Creditor. Formal rules and restrictions are in place mandating that Name is present and that either Structured or Unstructured Postal Address may be used, but not both. Parties in the Remittance Information component remain less restricted to allow for additional flexibility for end-users populating these Party components.

Sample component:

```
<Cdtr>
	<Nm>Creditor Name INC</Nm>
	<PstlAdr>
		<StrtNm>Toronto Street</StrtNm>
		<BldgNb>250</BldgNb>
		<PstCd>K1R0A1</PstCd>
		<TwnNm>Ottawa</TwnNm>
		<CtrySubDvsn>Ontario</CtrySubDvsn>
		<Ctry>CA</Ctry>
	</PstlAdr>
	<Id>
		<OrgId>
			<Othr>
				<Id>123456789</Id>
			</Othr>
		</OrgId>
	</Id>
</Cdtr>
```

Element names:

```
Cdtr          – Creditor
Nm            - Name
PstlAdr       - Postal Address
StrtNm        - Street Name
BldgNb        - Building Number
PstCd         - Post Code
TwnNm         - Town Name
CtrySubDvsn   - Country Sub Division
Ctry          - Country
Id            - Identification
OrgId         - Organization Identification
Othr          - Other
Id            - Identification
```

Figure 2 – Creditor Component

3.3 Account Component

The way to identify account numbers is consistent across the message portfolio. According to the ISO 20022 standard, the Identification in the account number component is mandatory. International Bank Account Number (IBAN) has been removed for the RTR payments, and that leaves that following mandatory usage of account components in the RTR noted below.

Sample component:

```
<CdtrAcct>
      <Id>
            <Othr>
                  <Id>987654321</Id>
            </Othr>
      </Id>
</CdtrAcct>
```

Element names:

```
CdtrAcct     – Creditor Account
Id           - Identification
Othr         - Other
Id           - Identification
```

Figure 3 – Account Number Component

In addition to the mandatory Account Number, the Proxy component is left optional for use in the RTR. Examples of proxies are phone numbers and email addresses that can be used by end-users instead of providing their actual account number. If only a proxy is provided at the payment initiation phase, it is the responsibility of the RTR Participant to ensure that this is converted to an account number before the message is sent to the RTR Exchange. The proxy value can still be provided for information to the receiving participant.

Sample component:

```
<CdtrAcct>
      <Id>
            <Othr>
                  <Id>987654321</Id>
            </Othr>
      </Id>
      <Prxy>
            <Tp>
                  <Cd>EMAL</Cd>
            </Tp>
            <Id>Sam.Ple@gmail.com</Id>
      </Prxy>
</CdtrAcct>
```

Element names:

```
CdtrAcct     – Creditor Account
Id           - Identification
Othr         - Other
Id           - Identification
Prxy         - Proxy
Tp           - Type
Cd           - Code
```

Figure 4 – Account Number with Proxy Component

The ISO 20022 Message Development Group has also agreed to add the following Market Practice to all the account components.

"This element should contain the actual account number that unambiguously identifies the account for the customer. In Canada, an account number may include a 5 character branch number for account identification purposes. If applicable, this branch number must precede the account number".

This rule will not be validated by the RTR, but is rather a market practice rule that should be followed to ensure seamlessness in the flow of the payment.

3.4 Message and Payment Identifiers

ISO 20022 allows for multiple Message and Payment Identifiers to be provided in the RTR ISO 20022 messages. The usage of Identifiers in the Credit Transfer message (pacs.008) is the foundation for the usage in all the other RTR ISO 20022 messages.

Usage of Identifiers in RTR pacs.008:

Message Identification	-	Mandatory
Instruction Identification	-	Optional
End to End Identification	-	Mandatory
Transaction Identification	-	Removed
UETR	-	Mandatory
Clearing System Reference	-	Assigned by RTR

Usage of Original Identifiers in other RTR Messages:

Original Message Identification	-	Mandatory
Original Instruction Identification	-	Optional
Original End to End Identification	-	Mandatory
Original Transaction Identification	-	Removed
Original UETR	-	Mandatory
Original Clearing System Reference	-	Optional/Mandatory

Figure 5 – Identifiers

Identifier	ISO 20022 Description
Message Identification	Point-to-point reference, as assigned by the instructing party, and sent to the next party in the chain to unambiguously identify the message. Usage: The instructing party has to make sure that Message Identification is unique per instructed party for a pre-agreed period.
Instruction ID	Unique identification, as assigned by an instructing party for an instructed party, to unambiguously identify the instruction. Usage: The instruction identification is a point-to-point reference that can be used between the instructing party and the instructed party to refer to the individual instruction. It can be included in several messages related to the instruction.
End to End ID	Unique identification, as assigned by the initiating party, to unambiguously identify the transaction. This identification is passed on, unchanged, throughout the entire end-to-end chain.

	Usage: The end-to-end identification can be used for reconciliation or to link tasks relating to the transaction. It can be included in several messages related to the transaction. Usage: In case there are technical limitations to pass on multiple references, the end-to-end identification must be passed on throughout the entire end-to-end chain.
Transaction ID	Unique identification, as assigned by the first instructing agent, to unambiguously identify the transaction that is passed on, unchanged, throughout the entire interbank chain. Usage: The transaction identification can be used for reconciliation, tracking or to link tasks relating to the transaction on the interbank level. Usage: The instructing agent has to make sure that the transaction identification is unique for a pre-agreed period.
Unique End-to-end Transaction Reference (UETR)	Universally unique identifier to provide an end-to-end reference of a payment transaction.
Clearing System Reference *	Unique reference, as assigned by a clearing system, to unambiguously identify the instruction.

* *For more information about the RTR usage of the Clearing System Reference, please see section 4.2.7*

3.5 Settlement Amount

All amount elements that refer to settlement have been restricted to allow for two decimals only.

Sample component:

```
<IntrBkSttlmAmt Ccy="CAD">100.00</IntrBkSttlmAmt>
```

Element names:

```
IntrBkSttlmAmt            – Interbank Settlement Amount
```

Figure 6 – Interbank Settlement Amount Component

3.6 Character Set

The RTR ISO 20022 messages will support UTF 8 – Unicode version 6.2. This allows for a variety of characters and provides flexibility in creating ISO 20022 messages.

4. Core Messages

4.1 Business Application Header – head.001

Payments Canada will use the Business Application Header (BAH) for all messages in the RTR ISO 20022 portfolio. The BAH is a point-to-point message.

4.1.1 Sender and Receiver

The 'From' component in the BAH will identify the sender of the message. The 'To' component in the BAH will identify the receiver of the message. The sender and receiver can be an RTR Participant, a Connection Service Provider (CSP) to an RTR Participant or the RTR Exchange.

If an Agent is sending the message, the Financial Institution Identification should be used:

Sample component:

```
<Fr>
      <FIId>
            <FinInstnId>
                  <ClrSysMmbId>
                        <MmbId>123</MmbId>
                  </ClrSysMmbId>
            </FinInstnId>
      </FIId>
</Fr>
```

Element names:

```
Fr           – From (sender)
FIId         - Financial Institution Identification
FinInstnId   - Financial Institution Identification
ClrSysMmbId  - Clearing System Member Identification
MmbId        - Member Identification
```

Figure 7 – Sender Component – Financial Institution

When a message is sent from a Party, meaning a non-Agent, the Organization Identification should be used:

Sample component:

```
<Fr>
	<OrgId>
		<Id>
			<OrgId>
				<Othr>
					<Id>111111111</Id>
				</Othr>
			</OrgId>
		</Id>
	</OrgId>
</Fr>
```

Element names:

```
Fr          - From (sender)
OrgId       - Organisation Identification
Id          - Identification
Othr        - Other
```

Figure 8 – Sender Component – Party

A message that is sent from an RTR Participant to the RTR will have the following sender and receiver:

Sample components:

```
<Fr>
	<FIId>
		<FinInstnId>
			<ClrSysMmbId>
				<MmbId>999</MmbId> <!--RTR Participant-->
			</ClrSysMmbId>
		</FinInstnId>
	</FIId>
</Fr>
<To>
	<OrgId>
		<Id>
			<OrgId>
				<Othr>
					<Id>111111111</Id> <!--RTR-->
				</Othr>
			</OrgId>
		</Id>
	</OrgId>
</To>
```

Element names:

```
Fr            – From (sender)
FIId          - Financial Institution Identification
FinInstnId    - Financial Institution Identification
ClrSysMmbId   - Clearing System Member Identification
MmbId         - Member Identification
To            - To (receiver)
OrgId         - Organisation Identification
Id            - Identification
Othr          - Other
```

Figure 9 – Sender and Receiver Components

All of the RTR ISO 20022 messages sent to the RTR will have an identifier specific to the RTR in the ‘To’ component. Every message that the RTR sends to RTR Participants, or their Connection Service Provider (CSP), will have the RTR identifier in the ‘From’ component.

The BAH that is attached to a pacs.008 message that is sent from RTR Participant 1 will have the following identifiers in the ‘From’ and ‘To’ components:

From: RTR Participant 1
To: RTR

After the RTR completes the necessary validations, the RTR will send the pacs.008 to the RTR Participant 2, and the BAH will have the following identifiers in the ‘From’ and ‘To’ components:

From: RTR
To: RTR Participant 2

4.1.2 Optional Elements

The following elements and components are left optional but, if populated, will have no impact on the RTR processing and the content will not be validated:

- Copy Duplicate
- Possible Duplicate
- Signature

4.1.3 Related BAH

The component ‘Related’ will be used to provide information about BAH that is related. This will be used in the following scenario:

pacs.002:
If a pacs.002 is sent from the RTR as a response to a Payment Status Report Request (pacs.028), the ‘Related’ component in the BAH in the pacs.002 will be populated with the information that was present in the BAH of the pacs.028.

4.2 Credit Transfer – pacs.008

This message will be sent from the Debtor Agent to the RTR Exchange to instruct a credit transfer. The RTR Exchange will also send this message to the Creditor Agent to complete the instruction of the credit transfer.

The master ISO 20022 pacs.008 message allows for multiple payments to be included in a single message; however, the RTR will only allow a single payment in each respective ISO 20022 message. This restriction is already part of the RTR ISO 20022 Message Specifications where the Number of Transactions is limited to ‘1’.

4.2.1 pacs.008 Credit Transfer Flow

1. Debtor Agent sends a Credit Transfer (pacs.008) to RTR. RTR performs both syntax validation and business validation.
2. RTR sends the Credit Transfer (pacs.008) to Creditor Agent. The Creditor Agent processes the Credit Transfer and performs necessary validations.
3. The Creditor Agent sends a Payment Status Report (pacs.002) to RTR to confirm it is ready to execute the payment. RTR will then declare finality of the payment based on the response from the Creditor Agent and the clearing and settlement processing.
4. (a) RTR sends the Payment Status Report (pacs.002) to the Debtor Agent to confirm the success of the Payment.
   (b) RTR sends the Payment Status Report (pacs.002) to the Creditor Agent to confirm the success of the Payment.
5. (a) RTR sends the Payment Status Report (pacs.002) to the Debtor Agent to confirm the settlement of the Payment.

   (b) RTR sends the Payment Status Report (pacs.002) to the Creditor Agent to confirm the settlement of the Payment.

Flow 1 - pacs.008

4.2.2 Agents

The RTR pacs.008 allows for a total of five Agents to be included in the message.

Name	Usage	ISO 20022 Description
Instructing Agent	Mandatory	Agent that instructs the next party in the chain to carry out the (set of) instruction(s).
Instructed Agent	Mandatory	Agent that is instructed by the previous party in the chain to carry out the (set of) instruction(s).
Debtor Agent	Mandatory	Financial institution servicing an account for the debtor.
Creditor Agent	Mandatory	Financial institution servicing an account for the creditor.
Previous Instructing Agent 1	Optional	Agent immediately prior to the instructing agent.

Four of these agents are mandatory in the pacs.008 as per the ISO 20022 standard. The following market practice rule has been added to these four components:

Instructing Agent must be the same as Debtor Agent, and Instructed Agent must be the same as Creditor Agent.

It is important to note that an RTR Participant can offer connection services to another RTR Participant. In this scenario, the RTR Participant that provides a connection to the RTR will be a Connection Service Provider, and will therefore be identified as the sender of the message (From in the BAH), and not as an Instructing Agent.

The Previous Instructing Agent 1 is an optional Agent provided in the pacs.008 message. This component serves as information to the Creditor Agent, and is not used or validated by the RTR.

Please refer to section 3.1 for more information about how Agent components are used.

4.2.3 Parties

There are five Parties available in the RTR pacs.008 message, this is excluding the four Parties that are available in the Structured Remittance Information component.

Name	Usage	ISO 20022 Description
Debtor	Mandatory	Party that owes an amount of money to the (ultimate) creditor.
Creditor	Mandatory	Party to which an amount of money is due.
Ultimate Debtor	Optional	Ultimate party that owes an amount of money to the (ultimate) creditor.
Ultimate Creditor	Optional	Ultimate party to which an amount of money is due.
Initiating Party	Optional	Party that initiates the payment. Usage: This can be either the debtor or a party that initiates the credit transfer on behalf of the debtor.

The following formal rules are applied to all Party components:

1. If Postal Address is present then Name is mandatory.
2. If Postal Address is used and if Address Line is present, then all other optional elements in Postal Address must be absent. (Structured or Unstructured)
3. If Postal Address is used, and if Address Line is absent, then Country and Town Name must be present.

An additional restriction is in place for Ultimate Debtor, Ultimate Creditor and Initiating Party where only Structured Address is allowed.

Contact details are optional to be provided for the Initiating Party, Debtor and Creditor.

4.2.4 Payment Type

There are three elements in the Payment Type component in the RTR pacs.008:

Name	Usage	ISO 20022 Description
Service Level	Optional	Agreement under which or rules under which the transaction should be processed.
Local Instrument	Mandatory	User community specific instrument. Usage: This element is used to specify a local instrument, local clearing option and/or further qualify the service or service level.
Category Purpose	Optional	Specifies the high-level purpose of the instruction based on a set of pre-defined categories. Usage: This is used by the initiating party to provide information concerning the processing of the payment. It is likely to trigger special processing by any of the agents involved in the payment chain.

Service Level is left optional and both Code and Proprietary are allowed.

Local Instrument is mandatory in the RTR pacs.008 and will be used to identify the Competitive Service (CS) used. Every Credit Transfer in the RTR will have a Competitive Service code that will be validated by the RTR. Valid codes will have to be registered in the RTR before use. The codes will not be registered in the ISO 20022 External Code List and will, therefore, use Proprietary only.

Category Purpose is optional, without any defined RTR usage. The RTR will not validate this element. Only Code is allowed.

4.2.5 Account Components

The RTR is an account-to-account based real-time payment system and the Debtor Account component as well as the Creditor Account component has therefore been made mandatory. The account identification is mandatory, and the Proxy component is optional.

For information about the structure of the components, see section 3.3.

4.2.6 Remittance Data

This section will cover the Related Remittance Information component and Remittance Information component. The Remittance Information component consists of the element Unstructured and the component Structured. The harmonization effort in Q3 and Q4 of the 2020 calendar year concluded that the RTR will align the remittance data in the pacs.008 with what the Payments Canada Members have indicated that they are

able to handle in release one. The full RTR ISO 20022 remittance data restrictions will be used as part of the target state RTR ISO 20022 Remittance Data, but will not be used until YYYY-MM-DD (date to be confirmed).

At the RTR launch the following restrictions will be put in place to the Remittance data:

- Related Remittance will be restricted to one repetition, with only URL allowed.
- Unstructured Remittance Information will be limited to maximum three repetitions of 140 characters
- Structured Remittance Information will be limited to 69 unique elements, and a maximum of five repetitions.

For more information, please see the RTR ISO 20022 Message Specifications.

The following restrictions will be will be used as part of the target state RTR ISO 20022 Remittance Data, but will not be used until YYYY-MM-DD (date to be confirmed):

The RTR pacs.008 has a textual rule to enforce mutual exclusivity between Related Remittance Information and Remittance Information. This means that only one of these two components are allowed in an RTR Credit Transfer.

The RTR pacs.008 also has a textual rule to enforce mutual exclusivity between Unstructured and Structured. This means that, if Remittance Information is present, then either Unstructured or Structured can be used, but not both.

These two textual rules ensure mutual exclusivity on the following three elements/components, after the effective date:

Related Remittance Information	**Unstructured**	**Structured**
Provides information related to the handling of the remittance information by any of the agents in the transaction processing chain.	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in an unstructured form.	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in a structured form.

The Related Remittance Information component will be restricted to maximum one repetition. The Remittance Location Details component will be restricted to maximum two repetitions.

Sample component:

```
<RltdRmtInf>
      <RmtId>1234567890</RmtId>
            <RmtLctnDtls>
                  <Mtd>URID</Mtd>
                  <ElctrncAdr>www.website1.ca</ElctrncAdr>
            </RmtLctnDtls>
            <RmtLctnDtls>
                  <Mtd>URID</Mtd>
                  <ElctrncAdr>www.website2.ca</ElctrncAdr>
            </RmtLctnDtls>
</RltdRmtInf>
```

Element names:

```
RltdRmtInf          – Related Remittance Information
RmtId               - Remittance Identification
RmtLctnDtls         - Remittance Location Details
Mtd                 - Method
ElctrncAdr          - Electronic Address
```

Figure 10 – Related Remittance Information Component

The total number of business characters are limited to 9,000 for the Related Remittance Information component. Business characters are all characters excluding the tags.

The Unstructured element is restricted to maximum three repetitions of 140 characters each. This means that a total of 420 characters are allowed.

Sample component:

```
<RmtInf>
      <Ustrd>Up to 140 characters</Ustrd>
      <Ustrd>Up to 140 characters</Ustrd>
      <Ustrd>Up to 140 characters</Ustrd>
</RmtInf>
```

Element names:

```
RmtInf       – Remittance Information
Ustrd        - Unstructured
```

Figure 11 – Remittance Information Component – Unstructured

The Structured component allows for unlimited repetitions, with a maximum of 9,000 business characters. Business characters are all characters excluding the tags.

Sample component:

```
<RmtInf>
	<Strd>
		<RfrdDocInf>
			<Nb>555444333222111</Nb>
			<RltdDt>2020-02-02</RltdDt>
		</RfrdDocInf>
	</Strd>
	<Strd>
		<RfrdDocInf>
			<Nb>999888777666000</Nb>
			<RltdDt>2020-02-01</RltdDt>
		</RfrdDocInf>
	</Strd>
</RmtInf>
```

Element names:

```
RmtInf       – Remittance Information
Strd         - Structured
RfrdDocInf   - Referred Document Information
Nb           - Number
RltdDt       - Related Date
```

Figure 12 – Remittance Information Component – Structured

4.2.7 Information from the RTR Exchange

There are two elements that will be absent in the pacs.008 sent from the Debtor Agent and added to the pacs.008 that is populated by the RTR Exchange and sent to the Creditor Agent.

Clearing System Reference: This is a reference assigned by the RTR, after the pacs.008 message has passed the initial validations. The Clearing System Reference will be communicated back to the Debtor Agent in the pacs.002 message and will therefore be a payment reference that is unique and known by both the Debtor Agent and Creditor Agent. This reference can be used for exception handling between the two RTR Participants or between any RTR Participant and the RTR.

Acceptance Date and Time: This is the time stamp for when the pacs.008 message passed the syntax validation in the RTR and when the RTR assigned the Clearing System Reference. This will be the start time of the timer that the RTR will maintain. It gives the Creditor Agent information about how much time is left until the payment item will time out in the RTR.

4.2.8 pacs.008 Syntax & Business Validations

The following validations will be performed by the RTR Exchange on the pacs.008 message:

pacs.008 Syntax and Duplicate Check Validations

Reference #	Validation	Rules for Validation	ISO 20022 Elements to be Validated
SCT_S1	The population of mandatory elements	All the mandatory elements in the PACS.008 need to be populated and should be in line with the RTR Exchange message specification of PACS.008. This includes rule-based elements that are conditionally mandatory, e.g., RTR_Rule "RTR_ Instructed Amt CAD Equal To Interbank Settlement Amt CAD Rule" If Instructed Amount is CAD and Interbank Settlement Amount is CAD, they must be equal. Path: /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/IntrBkSttlmAmt/@Ccy If the mandatory elements are not present, or the data is not populated in line with the RTR ISO 20022 Message Specifications, the message should be rejected.	All the mandatory elements in PACS.008
SCT_S2	Schema and/or signature validation	Schema validations include the checks on the message blocks and the structure of the element's hierarchy and validation that the message does not contain components / elements that are not mandatory nor optional as per Payments Canada ISO 20022 specifications. The header of the message consists of the Digital Signature of the Participant, which will be validated by RTR Exchange; Should either of these two checks fail, the message should be rejected.	All the elements in PACS.008
SCT_S3	The uniqueness of the payment	The UETR in PACS.008 is validated against the RTR Exchange Transaction Log to check that there are no duplicate transactions. If a duplicate is detected, the message should be rejected.	**UETR** Document/FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/UETR

pacs.008 Business Validations

Reference #	Validation	Rules for Validation	ISO 20022 Elements to be Validated
SCT_B1	Acceptable Connection Service Provider (CSP) ID to send PACS.008 on behalf of the Debtor Agent (DA).	CSP ID details provided in the HEAD.001 will be validated against list of registered CSP for the provided DA ID in the RTR Exchange Registry. Validation: Check if HEAD.001 of PACS.008 {CSP ID} is authorized to send of behalf of DA for given PACS.008 {Debtor Agent ID} defined in DA Participant Registry Then: Payment processes successfully Else: Payment fails	**BAH** **CSP ID** Populated in BAH (Business Application Header) - Organization identification > Other > Identification /Document/AppHdr/Fr/OrgId/Id/OrgId/Othr/Id **CSP ID (If CSP is also a Participant)** Populated in BAH /Document/AppHdr/Rltd/Fr/FIId/FinInstnId/ClrSysMmbId/MmbId **Debtor Agent ID** /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAgt/FinInstnId/ClrSysMmbId/MmbId

SCT_B2	DA is valid and active	The elements in PACS.008 pertaining to DA are validated against the RTR Exchange Registry to check the status as Active or Inactive. Validation: If PACS.008{Debtor Agent ID} = Participant ID (DA) defined in Registry, And Status of Participant (DA) = Active Then: Payment processes successfully. Else: Payment fails.	**Debtor Agent ID** /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAgt/FinInstnId/ClrSysMmbId/MmbId
SCT_B3	Creditor Agent (CA) is valid and active	The elements in PACS.008 pertaining to CA are validated against the RTR Exchange Registry to check the status as Active or Inactive. Validation: If PACS.008{Creditor Agent ID} = Participant ID (CA) defined in Registry, And Status of Participant (CA) = Active Then: Payment processes successfully. Else: Payment fails.	**Creditor Agent ID** /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAgt/FinInstnId/ClrSysMmbId/MmbId
SCT_B4	DA permitted to send a PACS.008	The DA in the PACS.008 is validated against the RTR Exchange Registry to check if DA is authorized to Originate Credit Transfers. Validation: If PACS.008{Debtor Agent ID} = Participant ID defined in Registry And Authorized to Originate Credit Transfer = 'Yes' Then Payment processes successfully. Else: Payment fails.	**Debtor Agent ID** /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAgt/FinInstnId/ClrSysMmbId/MmbId

SCT_B5	RTR Exchange system wide maximum limit check	PACS.008 element Interbank Settlement Amount is validated against the systemwide maximum limit value stored in the RTR Exchange Registry. Validation: If PACS.008{Interbank Settlement Amount} <= RTR Exchange System wide Maximum Limit amount Then Payment processes successfully Else Payment fails	**Interbank Settlement Amount** /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/IntrBkSttlmAmt
SCT_B6	CS ID is valid and associated to DA	When a PACS.008 is received, CS ID details will be validated against the CS ID details in the RTR Exchange Registry. Validation: Check against DA Participant Registry for the given PACS.008{Debtor Agent ID} if the CS ID, PACS.008{Local Instrument > Proprietary value}, is registered. Then: Payment processes successfully. Else: Payment fails.	**Local Instrument** /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/PmtTpInf/LclInstrm/Prtry **Debtor Agent ID** /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAgt/FinInstnId/ClrSysMmbId/MmbId
SCT_B7	Transaction Currency	Only CAD will be accepted as a valid value in the PACS.008 Validation: If PACS.008{Currency} = CAD, Then: Payment processes successfully. Else: Payment fails.	**Currency** /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/IntrBkSttlmAmt/Ccy

SCT_B8	Invalid Transit Code	If the CA has selected transit number based routing, then the first nine characters in the Creditor Account ID will be validated; RTR Exchange will look up this transit number against the entries in the Transit number routing table to determine the routing to the CA; if a valid entry is not found in the table, the transaction will be rejected Validation: If first nine characters of {'id'} = entry in Transit number routing table Then: Routing resolution successful. Else: Routing resolution fails and PACS.002 is initiated with the respective error code.	**Creditor Account ID:** /Document/FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAcct/Id/Othr/Id

4.3 Payment Status Report – pacs.002

This message will be used to provide the status of a payment item to/from all RTR Participants and the RTR.

4.3.1 Payment and Message Identifiers

The pacs.002 message contains two sets of identifiers:

1. Identifiers of the Payment Status Report (pacs.002)
2. Original Identifiers of the Credit Transfer message (pacs.008)

For the payment and message identifiers for the Payment Status Report, the message contains the following identifiers:

Identifiers of the RTR pacs.002:		
Message Identification	-	Mandatory
Status Identification	-	Removed

Figure 13 – Identifiers of the pacs.002

To link the Payment Status Report to the original Credit Transfer the message contains the following identifiers:

Original Payment and Message Identifiers:		
Original Message Identification	-	Mandatory
Original Instruction Identification	-	Optional
Original End to End Identification	-	Mandatory
Original Transaction Identification	-	Removed
Original UETR	-	Mandatory
Clearing System Reference	-	Mandatory

Figure 14 – Original Payment and Message Identifiers in pacs.002 message

‘Original Instruction ID’ is optional in the pacs.002, since the ‘Instruction ID’ is optional in the pacs.008 message. However, a market practice rule as been added that says the original Instruction ID from the original payment message (pacs.008) must be present if it was present in the original payment message.

4.3.2 Status and Reason

'Transaction Status' is mandatory in the RTR pacs.002 message. The following codes will be used in the RTR Exchange:

Status	RTR Comments	Populated by Participant	Populated by the RTR	ISO 20022 Code
Accepted by Creditor Agent	This code is used by a Creditor Agent to Accept a payment item.	Yes	No	ACWP
Successful payment finality	The payment has been declared final by the RTR Exchange and the obligation of Participants to settle the payment value is established	No	Yes	ACSP
Settlement completed	The payment item is final and settled.	No	Yes	ACSC
Rejected	The payment may be rejected by the RTR or the Creditor Agent. A reason for rejection will be provided in the status message.	Yes	Yes	RJCT
Pending	Populated by the RTR Exchange only as a response to a pacs.028 to indicate that the transaction is in flight	No	Yes	PDNG

Figure 15 – Transaction Status Codes

If the status is rejected (RJCT), the 'Status Reason Information' must be present, to provide more information about why the payment item was rejected. The 'Status Reason Information' component allows for a reason code, as well as additional information.

The 'Code' element in the 'Reason' component will contain a code from the ISO 20022 External Code Sets.

The pending (PDNG) status is to be used only by the RTR in response to a pacs.028 status inquiry when a transaction is "in flight" (i.e. has not reached the status of successful or rejected). This code will not be populated by Participants.

Sample component:

```
<TxSts>RJCT</TxSts>
<StsRsnInf>
      <Rsn>
            <Cd>AC01</Cd>
      </Rsn>
      <AddtlInf>Free text element for additional information</AddtlInf>
</StsRsnInf>
```

Element names:

```
TxSts        - Transaction Status
StsRsnInf    – Status Reason Information
Rsn          - Reason
Cd           - Code
AddtlInf     - Additional Information
```

Figure 16 – Status and Status Reason Information in pacs.002

4.3.3 pacs.002 Syntax & Business Validations

The following validations will be performed by the RTR Exchange on the pacs.002 message:

pacs.002 Syntax and Duplicate Check Validations

Reference #	Validation	Rules for Validation	ISO 20022 Elements to be Validated
PSR_S1	The population of mandatory fields	All the mandatory elements in the message must be populated in line with the Payments Canada ISO 20022 Message Specifications. This includes rule-based elements which are conditionally mandatory, e.g., Example: RTR_ Reason Mandatory If _ Rule": If Transaction Status is RJCT, then TIAS/StatusReasonInformation/Reason is mandatory If the mandatory elements are not present, or the data is not populated in line with the RTR ISO 2002 Message Specifications, the message will be rejected.	All the mandatory elements

PSR_S2	Schema and/or signature validation	Schema validations include the checks on the message blocks and the structure of the element's hierarchy and validation that the message does not contain components / elements that are not mandatory nor optional as per Payments Canada ISO 20022 Message Specifications. The header of the message consists of the Digital Signature of the Participant, which will be validated by RTR Exchange; Should these checks fail, the message will be rejected.	All the elements in PACS.002

pacs.002 Business Validations

Reference #	Validation	Rules for Validation	ISO 20022 Elements to be Validated
PSR_B1	Accurate Reference of Payment Status Report to PACS.008	Transaction information block of PACS.002 will contain the details of referenced PACS.008, specifically the UETR and Clearing System Reference number. This information is validated against the PACS.008 information stored in the RTR Exchange Transaction Log. Validation: If PACS.002{Original UETR} = PACS.008{UETR} And PACS.002{Clearing System Ref #} = PACS.008{Clearing System Ref#} Then: PACS.002 processed successfully. Else: PACS.002 will be rejected.	**Original UETR** /Document/FIToFIPmtStsRpt/TxInfAndSts/OrgnlUETR **Clearing System Reference number** /Document/FIToFIPmtStsRpt/TxInfAndSts/ClrSysRef

PSR_B2	CSP for sending PACS.002 is the same as that of receiving PACS.008	CSP ID of PACS.008 stored in the RTR Exchange should be the same as that of CSP ID received in PACS.002. Validation: (If HEAD.001 of PACS.002{CSP Id} = Head.001 of PACS.008{CSP Id} Or If HEAD.001 of PACS.002 {CSP ID} = Participant CSP ID for the DA defined in Registry, in the case of a direct connector) Then: PACS.002 processed successfully. Else: PACS.002 will be rejected.	**CSP ID** Populated in BAH (Business Application Header) - Organization identification > Other > Identification /Document/AppHdr/Fr/OrgId/Id/OrgId/Othr/Id **CSP ID (If CSP is also a Participant)** Populated in BAH (Business Application Header) /Document/AppHdr/Rltd/Fr/FIId/FinInstnId/ClrSysMmbId/MmbId
PSR_B3	Status in PACS.002 is ACWP or RJCT	RTR Exchange checks if ACWP or RJCT status is received from Creditor Agent. Validation: If PACS.002{TxSts} = ACWP Then: CA has accepted a Payment. AND If PACS.002{TxSts} = RJCT Then: CA has rejected a Payment.	**Transaction Status** /Document/FIToFIPmtStsRpt/TxInfAndSts/TxSts

PSR_B4	Valid reason code	Reason codes will be defined as part of the error handling model and needs to be defined in the RTR Exchange. Validation: If {Reason Code} = Reason code defined in the RTR Exchange System Then: PACS.002 processed successfully. Else: PACS.002 will be rejected.	**Reason Code** /Document/FIToFIPmtStsRpt/TxInfAndSts/StsRsnInf/Rsn/Cd

5. Supporting Messages

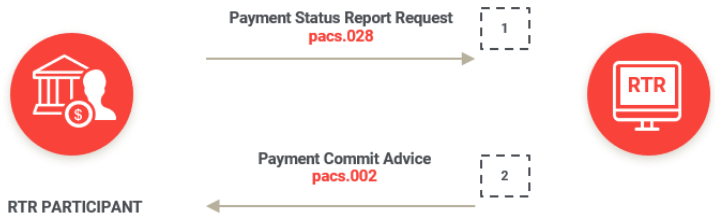
Supporting messages are a group of RTR ISO 20022 messages that underpin the core payment messages such as the FI to FI Customer Credit Transfer (pacs.008) message. Currently the supporting message will be used for the following functionality in the RTR:

- Payment Status Report Request (pacs.028)

5.1 Payment Status Report Request – pacs.028

This message will be sent by a RTR Participant to the RTR to request the status of a payment item. The response to this message is a pacs.002 (FIToFIPaymentStatusReport).

5.1.1 – pacs.028 Payment Status Report Request – Flow



1. The RTR Participant sends a Payment Status Report Request (pacs.028) to RTR. The RTR performs both syntax validation and business validation.

2. The RTR sends the Payment Status Report (pacs.002) to the RTR Participant

Flow 2 - pacs.028

5.1.2 Payment Status Report Request – Identifiers

The pacs.028 message contains two sets of identifiers:

1. Identifiers of the Payment Status Report Request (pacs.028)
2. Original Identifiers of the Credit Transfer message (pacs.008)

For the payment and message identifiers for the Payment Status Report Request, the message contains the following identifiers:

Identifiers of the RTR pacs.028:		
Message Identification	-	Mandatory
Status Request Identification	-	Removed

Figure 17 – Identifiers of the pacs.028

To link the Payment Status Report Request to the original Credit Transfer, the message contains the following identifiers:

Original Payment and Message Identifiers:		
Original Message Identification	-	Mandatory
Original Instruction Identification	-	Optional
Original End to End Identification	-	Mandatory
Original Transaction Identification	-	Removed
Original UETR	-	Mandatory
Clearing System Reference	-	Optional

Figure 18 – Original Payment and Message Identifiers in pacs.028 message

'Original Instruction ID' is optional in the pacs.028, since the 'Instruction ID' is optional in the pacs.008 message. However, a market practice rule has been added that says the 'original Instruction ID' from the original payment message (pacs.008) must be present if it was present in the original payment message.

Clearing System Reference is the preferred reference, and should be used if it is known to the pacs.028 sender. The Clearing System Reference is provided to the Debtor Agent in the pacs.002 message. Should this message not be received by the Debtor Agent, other original identifiers must be used.

5.1.3 pacs.028 Syntax & Business Validations

The following validations will be performed by the RTR Exchange on the pacs.028 message:

pacs.028 Syntax and Duplicate Check Validations

Reference #	Validation	Rules for validation	ISO 20022 elements to be validated
PSRR_S1	The population of mandatory fields	All the mandatory elements in the message must be populated in line with RTR ISO 20022 Message Specifications. If the mandatory elements are not present, or the data is not populated in line with the RTR ISO 20022 Message Specifications, the message will be rejected.	All the mandatory fields

PSRR_S2	Schema and/or signature validation	Schema validations include the checks on the message blocks and the structure of the element's hierarchy and validation that the message does not contain components / elements that are not mandatory nor optional as per Payments Canada ISO 20022 specifications. The header of the message consists of the Digital Signature of the Participant, which will be validated by RTR Exchange; Should these checks fail, the message will be rejected.	All the fields in PACS.028

pacs.028 Business Validations

Reference #	Validation	Rules for Validation	ISO 20022 Elements to be Validated
PSRR_B1	CSP is valid and allowed to send on behalf of DA or CA	CSP ID details provided in the HEAD.001 will be validated against list of registered CSP for the provided DA/CA ID in the RTR Exchange Registry. Validation: Check if HEAD.001 of PACS.028 {CSP ID} is authorized to send of behalf of DA/CA for given PACS.028 {Instructing Agent ID}/{Instructed Agent ID} defined in DA/CA Participant Registry Then: Message processes successfully. Else: Message fails.	**CSP ID** CSP ID will be populated in BAH (Business Application Header) - Organization identification > Other > Identification **DA ID** /Document/FIToFIPmtStsReq/TxInf/InstgAgt/FinInstnId/ClrSysMmbId/MmbId **CA ID** /Document/FIToFIPmtStsReq/TxInf/InstdAgt/FinInstnId/ClrSysMmbId/MmbId

PSRR_B2	Reference to valid PACS.008 or PACS.004	Transaction information block of PACS.028 will contain the details of referenced PACS.008 or PACS.004, specifically the UETR and Clearing System Reference number. This information is validated against the PACS.008 or PACS.004 information stored in the RTR Exchange Transaction Log. Validation: If PACS.028{Original UETR} = PACS.008{UETR} AND If PACS.028{Clearing System Ref #} = PACS.008{Clearing System Ref#} (OR) If PACS.028{Original UETR} = PACS.004{Original UETR} AND If PACS.028{Clearing System Ref #} = PACS.004{Clearing System Ref#} Then: PACS.028 message processes successfully. Else: Fails. Note: PACS.004 is deferred for release one.	**Original UETR** /Document/FIToFIPmtStsRpt/TxInfAndSts/OrgnlUETR **Clearing System Reference Number** /Document/FIToFIPmtStsRpt/TxInfAndSts/ClrSysRef

6. Administration Messages

Administration messages are a group of RTR ISO 20022 messages that is used for administration purposes. The RTR portfolio consists of the following administration messages:

- Message Reject (admi.002)
- Heartbeat Notification (admi.004)
- Heartbeat Acknowledgement (admi.011)

6.1 Message Reject – admi.002

A message reject is used as a response to any RTR ISO 20022 message that does not pass the syntax validation. It can be sent by the RTR Exchange or any RTR Participant.

6.1.1 Message Reject Flow

1. An attempt to send an RTR ISO 20022 Message is completed by the sending system.

2. The system receiving the incoming message determines it cannot be parsed due to corrupted/unknown content, or due to schema validation error and therefore prepares and sends a “Message Reject” (admi.002) to the system sending the message.

Flow 3 – admi.002

6.1.2 Message Reject Content

The admi.002 message contains two components:

1. Related Reference
2. Reason

The ‘Related Reference’ component will contain a reference of the incoming RTR ISO 20022 message that failed syntax validation. If no references are available, then the timestamp of the receipt shall be provided.

The ‘Reason’ component contains the reason for the rejection, as well as an optional reason description.

Sample components:

```
<admi.002.001.01>
      <RltdRef>
            <Ref>ref12345</Ref>
      </RltdRef>
      <Rsn>
            <RjctgPtyRsn>Syntax Failure</RjctgPtyRsn>
            <RsnDesc>Optional description</RsnDesc>
      </Rsn>
</admi.002.001.01>
```

Element names:

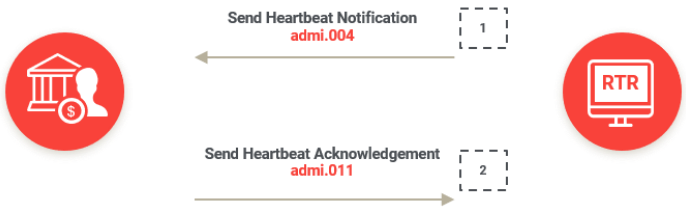
```
RltdRef      – Related Reference
Ref          - Reference
Rsn          - Reason
RjctPtyRsn   - Rejecting Party Reason
RsnDesc      - Reason Description
```

Figure 19 - Reason component in admi.002 message

6.2 Heartbeat Notification – admi.004

The Heartbeat Notification is sent by the RTR Exchange to any RTR Participant as an application heartbeat.

6.2.1 Heartbeat Notification Flow



1. The RTR timer triggers a Heartbeat message. The RTR prepares and sends a Heartbeat Notification (admi.004).

2. The RTR Participant prepares and sends the Heartbeat Acknowledgement (admi.011).

Flow 4 – admi.004

6.2.2 Heartbeat Notification Content

The admi.004 contains two data elements:

1. Event Code
2. Event Description

The ‘Event Code’ will always be populated with HBRT. ‘Event Description’ will be populated with a reference for the Heartbeat. This reference will be sent back in the Heartbeat Acknowledgement message.

Sample components:

```
<SysEvtNtfctn>
      <EvtInf>
            <EvtCd>HBRT</EvtCd>
            <EvtDesc>HeartBeat123</EvtDesc>
      </EvtInf>
</SysEvtNtfctn>
```

Element names:

```
SysEvtNtfctn – System Event Notification
EvtInf       - Event Information
EvtCd        - Event Code
EvtDesc      - Event Description
```

Figure 20- Event Code in admi.004 message

6.2.3 admi.004 Syntax Validations

The following validations will be performed by the RTR Exchange on the admi.004 message:

admi.004 Syntax Validations

Reference #	Validation	Rules for Validation	ISO 20022 Elements to be Validated
ADM_S3	The population of mandatory elements	All the mandatory elements in the message must be populated in line with the RTR ISO 20022 Message Specifications. If the mandatory elements are not present, or the data is not populated in line with the RTR ISO 20022 Message Specifications, the message will be rejected.	All the mandatory elements in ADMI.004
ADM_S4	Schema and/or signature validation	Schema validations include the checks on the message blocks and the structure of the element's hierarchy and validation that the message does not contain components / elements that are not mandatory nor optional as per RTR ISO 20022 Message Specifications. The header of the message consists of the Digital Signature of the Participant, which will be validated by the RTR Exchange; Should either of these two checks fail, the message should be rejected.	All the elements in ADMI.004

6.3 Heartbeat Acknowledgement– admi.011

The Heartbeat Acknowledgement is sent by any RTR participant as a response to a previously sent Heartbeat Notification message.

6.3.1 Heartbeat Acknowledgement Content

The admi.011 contains a mandatory ‘Message Identification’ and a mandatory ‘Acknowledgement Details’.

The ‘Message Identification’ element will contain an identification of the message.

The ‘Acknowledgement Details’ will contain the same data that was sent in the Heartbeat Notification message.

Sample components:

```
<SysEvtAck>
      <MsgId>MsgID12345678</MsgId>
      <AckDtls>
            <EvtCd>HBRT</EvtCd>
            <EvtDesc>HeartBeat123</EvtDesc>
      </AckDtls>
</SysEvtAck>
```

Element names:

```
SysEvtAck     – System Event Acknowledgement
MsgId         - Message Identification
AckDtls       - Acknowledgement Details
EvtCd         - Event Code
EvtDesc       - Event Description
```

Figure 21- Message Identification and Acknowledgement Details in admi.011 message

6.3.2 admi.011 Syntax Validations

The following validations will be performed by the RTR Exchange on the admi.011 message:

admi.011 Syntax Validations

Reference #	Validation	Rules for Validation	ISO 20022 Elements to be Validated
ADM_S1	The population of mandatory elements	All the mandatory elements in the message must be populated in line with the ISO 20022 Message Specifications. If the mandatory elements are not present, or the data is not populated in line with the RTR ISO 20022 Message Specifications, the message will be rejected.	All the mandatory elements in ADMI.011

ADM_S2	Schema and/or signature validation	Schema validations include the checks on the message blocks and the structure of the element's hierarchy and validation that the message does not contain components / elements that are not mandatory nor optional as per RTR ISO 20022 Message Specifications. The header of the message consists of the Digital Signature of the Participant, which will be validated by the RTR Exchange; Should either of these two checks fail, the message should be rejected.	All the elements in ADMI.011

Appendix 1 - ISO 20022 Message Development Group Information

Terms of Reference

Members

- Recommended for ACSS Direct Clearers as well as LVTS Direct Participants, PSPC, Bank of Canada, and small number of Indirect Clearers/participants with very good knowledge of their organization's payment processing as well as a solid understanding of ISO 20022 payment related messages.
- Representatives of Payments Canada's Stakeholder Advisory Council
- Payments Canada representatives (from applicable Payments Canada divisions)

Mandate

- To provide input and advice related to the use of ISO 20022 for the exchange, clearing and settlement of all electronic payments identified in Payments Canada's payment modernization program (including the RTR, Lynx and Automated Funds Transfer [AFT]) ensuring consistency in message development across systems while maintaining global best practices.

Key Roles & Responsibilities

- To validate the ISO 20022 messages defined by Payments Canada for use by the RTR, Lynx and AFT for the purposes of clearing and settlement as well as payment initiation and reporting.
- To ensure consistency in the definition of the messages across systems and global market practices to facilitate domestic and global interoperability.
- To provide feedback into the work of international global practice organizations as they relate to the definition of ISO 20022 messages for the aforementioned systems.

Engagement & Meeting Structure

- Co-chairs: Member representative and Payments Canada representative
- Meeting Frequency: Every three to four weeks as needed
- Circulation of Papers: Materials to be available five business days prior to each meeting
- Meeting Minutes: Decision Log, Action Items and Highlights to be tabled at each meeting
- Quorum: Since the ISO 20022 Message Development Group is working group, the co-chairs may determine if there is sufficient participation. Quorum is not necessary.

Members of the ISO 20022 Message Development Group

ADP	CIBC	National Bank of Canada
ATB	Central One	Payments Canada
Bank of America	Citibank	PSPC
Bank of Canada	Desjardins	Royal Bank of Canada
Bank of Montreal	HSBC	State Street
Bank of Nova Scotia	ICICI Bank	TD Bank
BNP Paribas	JP Morgan	Wells Fargo
	Laurentian Bank	

Appendix 2 – Glossary

Acronym/Term	Definition
Acceptance Date and Time	ISO 20022 definition: Point in time when the payment order from the initiating party meets the processing conditions of the account servicing agent. This means that the account servicing agent has received the payment order and has applied checks such as authorization, availability of funds. RTR Usage: The time stamp for when the pacs.008 message passed the syntax validation in the RTR and when the RTR assigned the Clearing System Reference, indicating start of the payment processing time measurement.
Account Number	Unambiguous identification of an account held at a financial institution.
Agent	In ISO 20022, all financial institutions are referred to as Agents.
Business Application Header (BAH)	The Business Application Header is the application header that will sit atop all the messages in the RTR portfolio.
Business Identifier Code (BIC)	Business identifier codes for financial or non-financial institutions are registered and published by the ISO 9362 Registration Authority in the ISO directory of BICs, and consists of eight or eleven contiguous characters.
CBPR+	Cross Border Payments and Reporting Plus – A market practice working group formed by SWIFT made up of international payments experts from large global banks representing more than 17 countries whose mission is to formulate global market practice and implementation guidelines for the migration to ISO 20022.

Clearing System Reference	ISO 20022 definition: Unique reference, as assigned by a clearing system, to unambiguously identify the instruction. RTR Usage: This is a payment transaction reference assigned by the RTR, after the pacs.008 message has passed the initial validations.
Competitive Service	A payment scheme, product, and/or service or capability, other than a Connection Service Provider, that facilitates real-time payments processing through the RTR Exchange. Competitive Services are provided by RTR Participants, or by third-party service providers to RTR Participants.
Connection Service Provider	An entity that connects a Participant to the RTR Exchange and facilitates the exchange of messages to and from the RTR Exchange on their behalf.
Credit Transfer	The process for the handling of messages submitted to the RTR Exchange for the purpose of making a credit payment.
Creditor	The end-user (person or organization) who receives funds when a Credit Transfer is credited to their account.
Creditor Agent	The entity servicing the account for the Payee (Creditor).

External Code List	The ISO 20022 messages use external code sets which are validated and approved by the relevant ISO 20022 Standards Evaluation Groups. The listed codes can be used in specific elements of the messages. Unlike other ISO 20022 code sets, the codes are not included in the message schema with the message element details. The purpose of externalizing these codes is to be able to update them (for example, add new codes) without impacting the messages themselves and, hence, without requiring the development of a new version of the messages that use these code sets. The codes sets are published in two sets of documents: 1) the External Code Sets and 2) the Bank Transaction Code Descriptions and Combinations. The External Code Sets can be updated quarterly. For more information about the code sets, visit www.iso20022.org (https://www.iso20022.org/catalogue-messages/additional-content-messages/external-code-sets). RTR will select a subset list of codes to be used and may extend the list as per the process defined by ISO 20022 standard.
Financial Market Infrastructures	A system that facilitates the clearing, settling or recording of payments, securities, derivatives or other financial transactions among participating entities.
Formal Rule	Formal rules are validated in the message and will cause a message to be non-compliant (i.e. the message would not pass schema validation and would be rejected by the RTR) if they are not followed.
HVPS+	A market practice group organized by SWIFT made up of high-value system operators and global financial institutions (under the sponsorship of the Payments Market Practice Group (PMPG) whose mission is to promote harmonization and alignment around the use of ISO 20022 in high-value payment systems.
International Bank Account Number (IBAN)	A standard international numbering system for individual bank accounts around the world.

ISO 20022	The universal financial industry message scheme is the platform, managed under the auspices of ISO (the International Organization for Standardization), to develop all financial messages. It is a 'recipe' to develop message standards. The main ingredients of this 'recipe' are a development methodology, a registration process and a central repository.
ISO 20022 Message Development Group	A group of ISO 20022 experts whose mandate is to provide input and advice related to the use of ISO 20022 for the exchange, clearing and settlement of all electronic payments identified in in Payments Canada's payment modernization program (including RTR, Lynx and AFT) ensuring consistency in message development across systems while maintaining global best practices.
Lynx	An electronic wire system that facilitates the transfer of high-value payments between participating financial institutions in Canada.
Market Practice Rules	Market practice rules are textual and, if not followed, the messages will still pass validation by the RTR, without a message being rejected. However, to ensure alignment with market commonalities and allow for more seamless communication between financial institutions, market practice rules should still be followed when formulating any ISO 20022 message for the RTR. If Market Practice Rules are not followed, this could cause a validation failure at the financial institution level.
Party	In ISO 20022, all non-financial institutions are referred to as a Party.
Payment and Message Identifiers	Payment and message identifiers allow users to unambiguously identify a payment and/or a message.
Payment Flows	Defines details of the high-level pre-payment processing, payment and nonpayment flows interfacing the RTR Exchange.

Payment Status Report (Pacs.002)	This message will be used to provide the status of a payment item to/from all RTR Participants and the RTR.
Payment Status Report Request (Pacs.028)	This message will be sent by either RTR Participant to the RTR to request the status of a payment item. The response to this message is a pacs.002 (FIToFIPaymentStatusReport).
Proxy	Specifies an alternate assumed name for the identification of the account. Examples of proxies are phone numbers and email addresses that can be used by end-users instead of providing their actual account number.
Real-Time Payments Group (RTPG)	The RTPG comprises a broad group of more than 70 stakeholders from 17 countries. Their mandate is to drive the international standardisation necessary to implement a globally accepted and cross-border real time payment system.
Real-Time Gross Settlement	The settlement of value messages that occurs at the same time as the exchange and clearing on a continuous basis.
RTR Participant	An entity that has been admitted and remains eligible to directly or indirectly participate in the processes of the RTR, including the exchange and/or, clearing and settlement of payments. Participants need to be Payments Canada members that can participate in the RTR Exchange and/or RTR Clearing & Settlement. Participants must either be a direct settlement participant (DSP) or an indirect settlement participant (ISP).

Appendix 3 – Sample Messages

Note: Information inside <!--Grey text--> is for information only, and not part of the messages.

head.001.001.02 Example (BAH)

```
<?xml version="1.0" encoding="UTF-8"?>
<!--BAH sample for a pacs.008 message-->
<AppHdr xmlns="urn:iso:std:iso:20022:tech:xsd:head.001.001.02"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.001.001.02
xsd&amp;apos;s/RTR_DRAFT_BusinessApplicationHeaderV02_head_001_001_02_20200817_173
3_enriched.xsd">
        <Fr>
                <OrgId>
                        <Id>
                                <OrgId>
                                        <Othr>
                                                <Id>111222333</Id>
                                        </Othr>
                                </OrgId>
                        </Id>
                </OrgId>
        </Fr>
        <To>
                <OrgId>
                        <Id>
                                <OrgId>
                                        <Othr>
                                                <Id>999888777</Id>
                                        </Othr>
                                </OrgId>
                        </Id>
                </OrgId>
        </To>
        <BizMsgIdr>1234567890</BizMsgIdr>
        <MsgDefIdr>pacs.008.001.08</MsgDefIdr>
        <CreDtTm>2020-02-03T14:02:02.002Z</CreDtTm>
</AppHdr>
```

pacs.008.001.08 Example (sent by RTR Participant)

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xmlns="urn:iso:std:iso:20022:tech:xsd:pacs.008.001.08"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:pacs.008.001.08
xsd&amp;apos;s/RTR_DRAFT_FITOFICustomerCreditTransferV08_pacs_008_001_08_20200813_1
221_enriched.xsd">
        <FIToFICstmrCdtTrf>
                <GrpHdr>
                        <MsgId>1234567890</MsgId>
                        <CreDtTm>2020-02-02T14:02:02.002Z</CreDtTm>
                        <NbOfTxs>1</NbOfTxs>
                        <SttlmInf>
                                <SttlmMtd>CLRG</SttlmMtd>
                                <ClrSys>
                                        <Cd>RTR</Cd>
                                </ClrSys>
                        </SttlmInf>
                </GrpHdr>
                <CdtTrfTxInf>
                        <PmtId>
                                <EndToEndId>0101010101010101</EndToEndId>
                                <UETR>eb6305c9-1f7f-49de-aed0-16487c27b42d</UETR>
                        </PmtId>
                        <PmtTpInf>
                                <LclInstrm>
                                        <Prtry>555999111</Prtry>
                                        <!--Competitive Service ID-->
                                </LclInstrm>
                        </PmtTpInf>
                        <IntrBkSttlmAmt Ccy="CAD">100</IntrBkSttlmAmt>
                        <IntrBkSttlmDt>2020-02-02</IntrBkSttlmDt>
                        <ChrgBr>SLEV</ChrgBr>
                        <!--ChrgBr is ignored by RTR-->
                        <InstgAgt>
                                <FinInstnId>
                                        <ClrSysMmbId>
                                                <MmbId>111</MmbId>
                                                <!--Debtor Agent Identifier-->
                                        </ClrSysMmbId>
                                </FinInstnId>
                        </InstgAgt>
                        <InstdAgt>
                                <FinInstnId>
                                        <ClrSysMmbId>
                                                <MmbId>999</MmbId>
                                                <!--Creditor Agent Identifier-->
                                        </ClrSysMmbId>
                                </FinInstnId>
                        </InstdAgt>
                        <Dbtr>
                                <Nm>Mr. Debtor Name</Nm>
                        </Dbtr>
                        <DbtrAcct>
                                <Id>
                                        <Othr>
```

```
                                        <Id>123456789</Id>
                                    </Othr>
                                </Id>
                            </DbtrAcct>
                            <DbtrAgt>
                                <FinInstnId>
                                    <ClrSysMmbId>
                                        <MmbId>111</MmbId>
                                        <!--Debtor Agent Identifier-->
                                    </ClrSysMmbId>
                                </FinInstnId>
                            </DbtrAgt>
                            <CdtrAgt>
                                <FinInstnId>
                                    <ClrSysMmbId>
                                        <MmbId>999</MmbId>
                                        <!--Creditor Agent Identifier-->
                                    </ClrSysMmbId>
                                </FinInstnId>
                            </CdtrAgt>
                            <Cdtr>
                                <Nm>Creditor Name INC</Nm>
                                <PstlAdr>
                                    <StrtNm>Toronto Street</StrtNm>
                                    <BldgNb>250</BldgNb>
                                    <PstCd>K1R0A1</PstCd>
                                    <TwnNm>Ottawa</TwnNm>
                                    <CtrySubDvsn>Ontario</CtrySubDvsn>
                                    <Ctry>CA</Ctry>
                                </PstlAdr>
                            </Cdtr>
                            <CdtrAcct>
                                <Id>
                                    <Othr>
                                        <Id>987654321</Id>
                                    </Othr>
                                </Id>
                            </CdtrAcct>
                            <RmtInf>
                                <Ustrd>This is a sample payment</Ustrd>
                            </RmtInf>
                        </CdtTrfTxInf>
                    </FIToFICstmrCdtTrf>
                </Document>
```

pacs.002.001.10 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xmlns="urn:iso:std:iso:20022:tech:xsd:pacs.002.001.10"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:pacs.002.001.10
xsd&amp;apos;s/RTR_DRAFT_FIToFIPaymentStatusReportV10_pacs_002_001_10_20200817_1734_enriche
d.xsd">
        <FIToFIPmtStsRpt>
                <GrpHdr>
                        <MsgId>ABCD567890</MsgId>
                        <CreDtTm>2020-02-02T14:02:02.004Z</CreDtTm>
                </GrpHdr>
                <TxInfAndSts>
                        <OrgnlGrpInf>
                                <OrgnlMsgId>1234567890</OrgnlMsgId>
                                <OrgnlMsgNmId>pacs.008.001.08</OrgnlMsgNmId>
                        </OrgnlGrpInf>
                        <OrgnlEndToEndId>0101010101010101</OrgnlEndToEndId>
                        <OrgnlUETR>eb6305c9-1f7f-49de-aed0-16487c27b42d</OrgnlUETR>
                        <TxSts>ACSP</TxSts>
                        <ClrSysRef>RTR456781234</ClrSysRef>
                </TxInfAndSts>
        </FIToFIPmtStsRpt>
</Document>
```

pacs.028 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xmlns="urn:iso:std:iso:20022:tech:xsd:pacs.028.001.03"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:pacs.028.001.03
xsd&amp;apos;s/RTR_DRAFT_FIToFIPaymentStatusRequestV03_pacs_028_001_03_20200817_1
735_enriched.xsd">
        <FIToFIPmtStsReq>
                <GrpHdr>
                        <MsgId>8273645</MsgId>
                        <CreDtTm>2020-02-04T14:02:02.002Z</CreDtTm>
                </GrpHdr>
                <TxInf>
                        <OrgnlGrpInf>
                                <OrgnlMsgId>1234567890</OrgnlMsgId>
                                <OrgnlMsgNmId>pacs.008.001.08</OrgnlMsgNmId>
                        </OrgnlGrpInf>
                        <OrgnlEndToEndId>0101010101010101</OrgnlEndToEndId>
                        <OrgnlUETR>eb6305c9-1f7f-49de-aed0-16487c27b42d</OrgnlUETR>
                </TxInf>
        </FIToFIPmtStsReq>
</Document>
```

admi.002 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xmlns="urn:iso:std:iso:20022:tech:xsd:admi.002.001.01"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:admi.002.001.01 ">
        <admi.002.001.01>
                <RltdRef>
                        <Ref>ref12345</Ref>
                </RltdRef>
                <Rsn>
                        <RjctgPtyRsn>Syntax Failure</RjctgPtyRsn>
                        <RsnDesc>Optional description</RsnDesc>
                </Rsn>
        </admi.002.001.01>
</Document>
```

admi.004 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xmlns="urn:iso:std:iso:20022:tech:xsd:admi.004.001.02"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:admi.004.001.02 ">
        <SysEvtNtfctn>
                <EvtInf>
                        <EvtCd>HBRT</EvtCd>
                        <EvtDesc>HeartBeat123</EvtDesc>
                </EvtInf>
        </SysEvtNtfctn>
</Document>
```

admi.011 Example

```
<?xml version="1.0" encoding="UTF-8"?>
<Document xmlns="urn:iso:std:iso:20022:tech:xsd:admi.011.001.01"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:admi.011.001.01 ">
        <SysEvtAck>
                <MsgId>MsgID12345678</MsgId>
                <AckDtls>
                        <EvtCd>HBRT</EvtCd>
                        <EvtDesc>HeartBeat123</EvtDesc>
                </AckDtls>
        </SysEvtAck>
</Document>
```

END OF DOCUMENT