



Implementation Guidelines for ISO 20022 Interbank Messages

SIC, euroSIC and SIC IP service

Base document

Version 2.4, valid from 15 November 2024

Change history

All changes made to this handbook are listed below with the version number, change date, a brief description of the change and reference to the chapters affected.

Version	Date	Description of the change	Chapter
2.4	20.06.2024	Errata per SIC Platform Release 4.10	
		New version of module document "RTGS Participant Information"	2.5.1
2.3	28.02.2024	Modifications per SIC Platform Releases 4.11 und 5.1	
		Integration of the SIC-IP service in the entire document (previously only RTGS services considered)	All
		Modifications in chapter "Message definitions and XML schemas": <ul style="list-style-type: none"> • Appendices have been removed, explanations on XML representation have been integrated under the existing chapter "Representation of XML messages" 	2.3.1, 2.3.2
		<ul style="list-style-type: none"> • Separation of overview tables for module documents and messages, extension of the tables to include reference to the respective services 	2.5, 2.6
		Addition of reda messages for RTGS services in chapter "Queries"	3.7
		Modifications in chapter "Business specifications for interbank messages": <ul style="list-style-type: none"> • Separation and clarification of the different specifications for date and time information depending on the service • Addition regarding the use of "unpublished BICs" • New chapter "Amount splits" (CR2024-SIC4-0018) • Tabular overview of payment use cases and payment types now divided by service 	4.3 4.5 4.6 4.7.1, 4.7.2
2.2	28.02.2023	Modifications per SIC Platform Release 4.10	
2.1	07.04.2022	Errata per SIC Platform Release 4.9	
2.0	05.11.2021	Complete revision due to update of ISO 20022 version 2019	All
1.13	22.03.2021	Last version based on the previous ISO20022 version status	
1.0	01.01.2014	First edition	

Table 1: Change history

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General notes

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To improve readability, the use of masculine and feminine forms of language are avoided wherever possible. All personal designations are to be regarded as gender neutral.

If you detect any errors in this document or have any ideas or suggestions for improvements, we would be extremely grateful if you would notify these by e-mail to operations.sic@six-group.com.

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1 Introduction

1.1 Overview of the documentation structure

The Implementation Guidelines consist of a base document (this document) with general information concerning all message types, and several module documents with message-specific information, including information on the application-specific handling of individual elements. These specify how the messages are to be submitted to and received from the RTGS services SIC and euroSIC as well as the SIC IP service using the ISO 20022 message standard.

These Implementation Guidelines are modular in structure:

- The base document contains general information which applies to all messages.
- The module documents contain message-specific information, including information on the application-specific handling of certain elements.
- An XML schema (XSD) and generic XML sample messages are published for each Implementation Guideline.

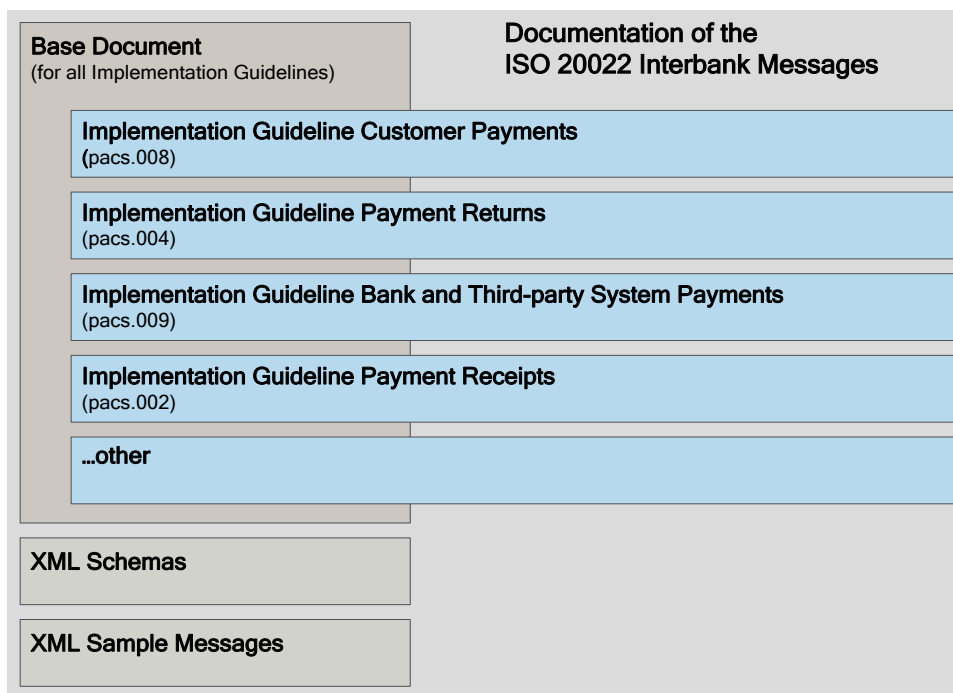


Figure 1: Documentation structure for all ISO 20022 message types

1.2 Target audience

The "Implementation Guidelines for ISO 20022 Interbank Messages" are addressed to all participants of the Swiss RTGS services SIC and euroSIC as well as the SIC IP service.

1.3 Change control

All changes made to this document are listed in the change history with the version number, change date, a brief description of the change and references to the chapters affected.

1.4 Reference documents

Ref.	Document	Title	Source
[1]	SIC/euroSIC Handbooks	SIC Handbook euroSIC Handbook	SIX
[2]	SIC IP Service Handbook	SIC IP Service Handbook	SIX
[3]	SIC IP Service Testing and Onboarding	SIC IP Service: External Test Environments and Onboarding (Detailed Information)	SIX
[4]	Swiss Business Rules SPS Customer – Bank	ISO 20022 Payments – Swiss Business Rules for Payments and Cash Management for Customer-to-Bank Messages	SIX
[5]	Swiss Implementation Guidelines SPS Customer – Bank	ISO 20022 Payments – Swiss Implementation Guidelines for Credit Transfer, Cash Management and Status Report (Customer-to-Bank)	SIX
[6]	ISO Messages	ISO 20022 XML Credit Transfers and Related Messages, February 2019: <ul style="list-style-type: none"> • Payments Clearing and Settlement • Cash Management • Exceptions & Investigations ISO 20022 XML Credit Transfers and Related Messages, March/July 2020: <ul style="list-style-type: none"> • Cash Management (camt.011) • Account Management • Reference Data 	ISO 20022
[7]	ISO External code sets	ISO 20022 External code sets	ISO 20022
[8]	Swift gpi Market Practices	Annex for Clearing and Settlement through Payments Market Infrastructures	Swift
[9]	EPC125-05	SEPA Credit Transfer Scheme Rulebook	EPC
[10]	EPC115-06	SEPA Credit Transfer Scheme Inter-PSP Implementation Guidelines	EPC
[11]	EPC132-08	SEPA Credit Transfer Scheme Customer-To-PSP Implementation Guidelines	EPC
[12]	EPC088-22	EPC Guidance Document – Improve Transparency for Retail Payment End-Users	EPC

Table 2: Reference documents

Organization	Link
SIX	www.iso-payments.ch www.six-group.com/interbank-clearing
ISO 20022	www.iso20022.org
EPC	www.europeanpaymentscouncil.eu
Swift	www.swift.com

Table 3: *Links to relevant internet sites*

2 Message definitions and XML schemas

2.1 General notes

The message definitions for the RTGS services SIC and euroSIC as well as for the SIC IP service are based on the ISO 20022 standard. XML schemas for each message-specific Implementation Guideline are also published for the RTGS services on the www.iso-payments.ch website.

The message definitions in the "Implementation Guidelines for ISO 20022 Interbank Messages" schemas are binding for all participants. The published XML schemas serve as an additional component of the message definitions and are used by the services for schema checking of incoming ISO 20022 messages.

The published XML schemas can also be used by participants in their own services and applications. However, it is the exclusive responsibility of the participants to ensure that the XML schemas are interpreted and applied correctly. SIC Ltd accepts no liability whatsoever towards users of the freely available XML schemas in the event of incorrect interpretation.

2.2 Design Principles of the Swiss XML schemas for Interbank Messages

- For messages that are used in several or all services of SIC Ltd the same uniform XML schemas are used.
- The schemas published by SIC Ltd are provided with a CH-specific namespace, but are based on the underlying ISO 20022 schemas. This is documented in each XML schema via an introductory text note.

Example:

```
<!--
```

```
(C) Copyright 2022, SIX Interbank Clearing Ltd
XML Schema used in the Swiss Interbank space:
  Suffix part 1: .ch:      Identification as a Swiss (CH) version
  Suffix part 2: .02:      Version of this scheme
```

```
Based on ISO pacs.008.001.08 (urn:iso:std:iso:20022:tech:xsd:pacs.008.001.08)
```

```
-->
```

- Elements not used in Switzerland are removed from the XML schemas and are not visible in the illustrations.
- Modifications of the CH schema definitions compared to ISO 20022 (such as removed elements) are indicated in the XML schemas via derived types by means of individual suffixes "_CH_". In addition, the message type and, if necessary, a sequence number are appended.
Example: `<xs:complexType name="BranchAndFinancialInstitutionIdentification6_CH_pacs008_2">`
- The definition of the native types according to ISO 20022 is also retained in the CH schema definitions. In the case of changed types, a derivation from the original ISO type is displayed within the corresponding XML schema by means of "restriction".
Example: `<xs:restriction base="BranchAndFinancialInstitutionIdentification6">`
- Text elements (for example, with type Max35Text) are not shortened in the XML schemas even if individual length restrictions exist. The verification of such restrictions is checked exclusively by specific business validations.

2.3 Representation of XML messages

The logical structure of XML messages is a tree structure. This can be represented in various ways: in diagrams, tables or text. Representation in text is suitable for actual examples of messages, while tables and diagrams are mainly suitable for giving an overview of the XML schemas. The figures shown in the "Implementation Guidelines for ISO 20022 Interbank Messages" are based on the schema of the Swiss XML message specifications.



2.3.1 Symbols for graphical XML representation

XML editors which have the option of graphical representation use symbols which may appear different depending on the type of editor (the illustrations in the "Implementation Guidelines for ISO 20022 Interbank Messages" were produced using the editor XMLSpy from Altova GmbH). The main symbols are explained below.

Expand and collapse symbols

Wherever parts of the tree structure can be expanded or collapsed, expand [+] and collapse [-] symbols are added to the symbols in the graphical representation.

These consist of a small square containing either a plus sign or a minus sign.

-  Expand symbol: when you click on the plus sign, the tree structure is expanded so that subsequent symbols (attributes or so-called child elements) are displayed. The expand symbol then changes to a collapse symbol.
-  Collapse symbol: when you click on the minus sign, the tree structure is collapsed again, i.e. the subsequent symbols disappear. The collapse symbol then changes to an expand symbol again.

Elements

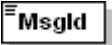
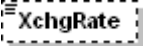
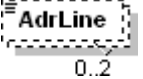


Elements are shown as rectangles containing the name of the element. For mandatory elements, the rectangle is shown with a continuous line, for optional elements the line is dotted.

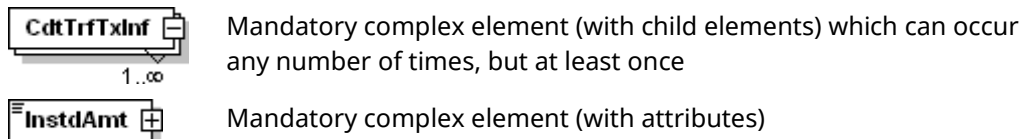
For complex elements, which, unlike simple elements could contain attributes or other elements (child elements), the rectangle has an expand or collapse symbol on the right.

Three little lines in the top left corner of the rectangle indicate that the element contains data (otherwise the element contains child elements).

Elements which are allowed to occur more than once are shown as two (2) superimposed rectangles. Bottom right, you can see the minimum and maximum number of occurrences.

Examples:

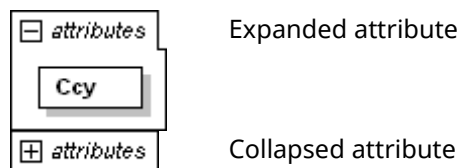
	Mandatory simple element
	Optional simple element
	Optional simple element which may occur a maximum of twice
	Mandatory complex element (with child elements) with collapsed tree structure
	Mandatory complex element (with child elements) with expanded tree structure



Attributes

Attributes are also shown as rectangles, containing the name of the attribute. They are surrounded by a box containing the word "attributes" and an expand or collapse symbol. For mandatory attributes, the rectangle is drawn with a continuous line, and for optional attributes the line is dotted.

Example:



Choice

To the right of a choice symbol, the connecting lines branch off to the possible elements, of which only one can be present in the XML message.



Sequence

To the right of a sequence symbol, the connecting lines branch off to the elements which are to be used in the XML message in the order shown (optional elements and attributes can of course also be omitted).



Frame

For increased clarity, all the child elements, attributes and other information belonging to a complex element are surrounded by a dotted frame with a yellow shaded background.

Example:

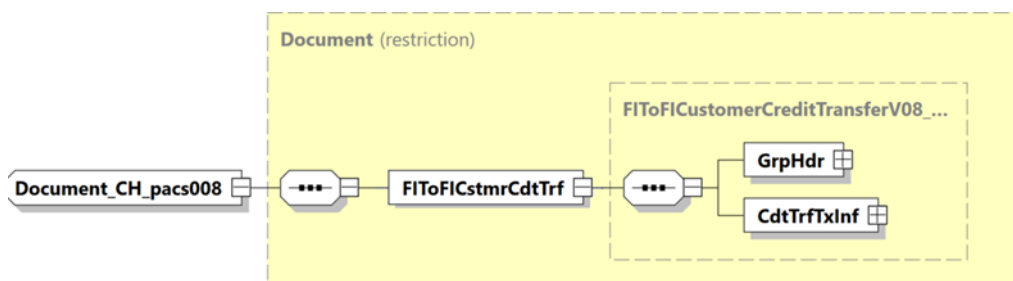


Figure 2: Example of the graphical representation of an XML message

2.3.2 Representation conventions

Representation of terms from the ISO standard

To be able to better distinguish between terms from the ISO standard and business elements, the "Implementation Guidelines for ISO 20022 Interbank Messages" use the following representation conventions:

- All terms relating to the underlying ISO standard are written in *italics*.
Exceptions: In the tables of technical definitions that are automatically generated, it is not possible to show individual terms in italics and no italic style is used in headings.
- XML tags are also written in angle brackets. (Example: The transaction status is reported using the `<ReqHdlg>` element. This may only contain the sub-element `<StsCd>`.)
Exception: XML tags separated by forward slashes in path names are written without angle brackets. (Example: The type of reference number can be identified in the element `CdtTrfTxInf/RmtInf/Strd/CdtrRefInf/Tp/CdOrPrtry/Cd`.)
- Names of XML elements are written between quotation marks.
(Example: The "Instructing Agent" is used together with the "Transaction Identification" element and the "Message Identification" for duplicate checking.)
- In some publications, the names of XML elements are written as single text strings without spaces, for example "CreditTransferTransactionInformation". In the interests of legibility, spaces are generally used in this document.

Data in tables of the module documents

The tables contain information from the ISO 20022 Standard (Message Item, XML Tag, Multiplicity). The tables also contain information about the Swiss ISO 20022 payment standard as it applies to the services of SIX Ltd.

The first line of each "Definition" column always contains the English functional name of the element highlighted in bold. In the German version of each document, there is a second line that contains the German functional name in italics. The rest of the text describes the use of the element, and the "Payment Type-specific Definition" column contains more detailed information about its use.

Colors used in the tables

The column headings are marked in **clay brown** for the information from the ISO 20022 standard and **light grey** for the information from the Swiss ISO 20022 payment standard. "Parent" elements containing one or more "child" sub-elements are marked in **light blue** in the ISO 20022 columns.

Representation of the tree structure in the tables

To make it easy to know where an element occurs in the tree structure, the Message Item column indicates the hierarchy levels with preceding "+" signs.

For example, the IBAN for the "Debtor Account" is listed as follows:

```
Credit Transfer Transaction Information
+Debtor Account
++Identification
+++IBAN
```

Representation of choices

Elements with a choice are marked in the "XML Tag" column as follows:

{Or	for start of the choice
Or}	for end of the choice

2.4 Validation portal

The implementation of the messages using the ISO 20022 message standard is supported by a central validation portal.

The goals of the validation portal are:

- To encourage the consistent use of the ISO 20022 message standard, in particular the Implementation Guidelines, by all financial institutions and software vendors.
- To support software developers in the implementation process.
- To prevent errors and problems in the submission and reception of ISO 20022 messages.
- To centralize upstream validation of ISO 20022 messages as a basis for subsequent mandatory testing between financial institutions and RTGS services SIC and euroSIC or the SIC IP service.

The validation portal covers the following features:

- Software vendors and financial institutions can upload generated messages to the validation portal via the web.
- The validation results are provided in the form of a generated description of the test result (text and HTML) for viewing as well as downloading.
- The generated description of the validation results distinguishes between an "Error" and a "Hint". While messages with an "Error" are usually rejected by the services, a "Hint" is intended to draw attention to possible deviations of the validated message from the recommendations in the Implementation Guidelines. A "Hint" should not result in rejection of the message.

The Validation Portal for Interbank Messages can be accessed at validation.iso-payments.ch/. Prior registration is required to use the validation portal.

Notes:

- The validation portal does not check changeable parameters or values from external code lists. This includes in particular the following attributes:
 - Valid identifications of parties such as SIC-IID, BIC, LEI
 - Valid currency or country codes
 - Code values according to ISO 20022 External Code Sets
- The validation portal cannot ensure full coverage of all possible message constellations. For this reason, financial institutions and software vendors must carry out tests on the corresponding test environments of the services before the productive introduction of the corresponding message definition. Further details regarding testing can be found in the SIC or euroSIC Handbook or, for the SIC IP service, in the document "SIC IP Service: External Test Environments and Onboarding".

2.5 Overview of module documents and messages

2.5.1 Module documents for RTGS participants (SIC/euroSIC)

Message	Implementation Guideline	
	Name	Current version - date
pacs.002	Payment Receipts	2.2 – 28.02.2023
pacs.004	Payment Returns	2.3 – 28.02.2024
pacs.008	Customer Payments	2.4 – 28.02.2024
pacs.009	Bank and Third-Party System Payments	2.3 – 28.02.2024
	IP Transfer Payments*	2.1 – 31.03.2023
pacs.028	Status Request	2.1 – 28.02.2024
camt.003 camt.004	Settlement Account Query / Query Response	2.2 – 28.02.2023
camt.005 camt.006	Transaction Query / Query Response	2.2 – 28.02.2023
camt.007	Settlement Order Modification	2.0 – 30.11.2021
camt.008	Cancellation	2.0 – 30.11.2021
camt.019	Clearing Day Information	2.1 – 07.04.2022
camt.025	Cash Management Receipts	2.3 – 28.02.2024
camt.027	SEPA Missing Incoming Payment Query**	2.0 – 28.02.2023
camt.029	Return Request Rejection	2.2 – 28.02.2024
	SEPA Investigation Resolution**	2.2 – 28.02.2024
camt.048	Liquidity Reservation	2.0 – 30.11.2021
camt.052	Recapitulations	2.2 – 28.02.2023
camt.054	Settlement Confirmation	2.2 – 28.02.2023
camt.056	Return Request	2.3 – 28.02.2024
camt.087	SEPA Value Date Adjustment Request**	2.0 – 28.02.2023
acmt.015 acmt.010 acmt.011	Individual Debit Stop and Receipts	1.0 – 28.02.2023
reda.015 reda.017	RTGS Participant Information	1.1 – 20.06.2024

Table 4: Overview of module documents for RTGS participants (SIC/euroSIC)

* Only relevant for participants who participate in both the SIC RTGS and SIC IP services.

** These Implementation Guidelines describe use cases that are currently only permitted for SEPA transactions in euroSIC.

2.5.2 Module documents for SIC IP participants

Message	Implementation Guideline	
	Name	Current version - date
pacs.002	IP Status Report	2.2 – 28.02.2024
pacs.004	IP Returns	2.2 – 28.02.2024
pacs.008	IP Customer Payment	2.1 – 31.03.2023
pacs.009	IP Transfer Payments	2.1 – 31.03.2023
pacs.028	IP Status Request	2.2 – 30.06.2023
camt.003 camt.004	IP Settlement Account Information	2.2 – 30.06.2023
camt.005 camt.006	IP Messages Query	2.3 – 28.02.2024
camt.011	IP Limit Management	2.0 – 20.10.2022
camt.019	IP Clearing Day Information	2.0 – 20.10.2022
camt.025	IP Cash Management Receipts	2.3 – 28.02.2024
camt.029	IP Return Request Rejection	2.2 – 28.02.2024
camt.052	IP Recapitulations	2.2 – 28.02.2024
camt.056	IP Return Request	2.2 – 28.02.2024
acmt.015 acmt.010 acmt.011	Individual IP Debit Stop and Receipts	1.0 – 31.03.2023
reda.015 reda.017	IP Participant Information	2.2 – 28.02.2024

Table 5: Overview of module documents for IP participants

2.5.3 Module documents for System Manager

Message	Implementation Guideline		Affected services		
	Name	Current version - date	SIC RTGS	euroSIC RTGS	SIC-IP
pacs.009	IP Liquidity Distribution System Manager	1.1 – 31.03.2023			X
acmt.015 acmt.010 acmt.011	Service Steering System Manager	2.0 – 28.02.2024	X	X	X
camt.003 camt.004	System Manager Settlement Accounts Liquidity Query	2.0 – 28.02.2024	X	X	X
camt.011	IP System Manager Emergency Limit	1.0 – 20.10.2022			X
camt.048	System Manager Reservation	2.0 – 28.02.2024	X	X	X
camt.050	Sight Deposit Account Transfers System Manager	2.0 – 30.11.2021	X	X	

Table 6: Overview of module documents for System Manager

2.6 Overview of message versions and schemas

ISO-20022 message version	CH XML-schema-version	Affected services		
		SIC RTGS	euroSIC RTGS	SIC IP
pacs.002.001.10	pacs.002.001.10.ch.02.xsd	X	X	X
pacs.004.001.09	pacs.004.001.09.ch.02.xsd	X	X	X
pacs.008.001.08	pacs.008.001.08.ch.02.xsd	X	X	X
pacs.009.001.08	pacs.009.001.08.ch.03.xsd	X	X	X
pacs.028.001.03	pacs.028.001.03.ch.01.xsd	X	X	X
camt.003.001.07	camt.003.001.07.ch.02.xsd	X	X	X
camt.004.001.08	camt.004.001.08.ch.02.xsd	X	X	X
camt.005.001.08	camt.005.001.08.ch.01.xsd	X	X	X
camt.006.001.08	camt.006.001.08.ch.02.xsd	X	X	X
camt.007.001.08	camt.007.001.08.ch.01.xsd	X	X	
camt.008.001.08	camt.008.001.08.ch.01.xsd	X	X	
camt.011.001.07	camt.011.001.07.ch.01.xsd			X
camt.019.001.07	camt.019.001.07.ch.02.xsd	X	X	X
camt.025.001.05	camt.025.001.05.ch.02.xsd	X	X	X
camt.027.001.07	camt.027.001.07.ch.01.xsd		X	
camt.029.001.09	camt.029.001.09.ch.03.xsd	X	X	X
camt.048.001.05	camt.048.001.05.ch.01.xsd	X	X	X*
camt.050.001.05	camt.050.001.05.ch.01.xsd	X*	X*	
camt.052.001.08	camt.052.001.08.ch.02.xsd	X	X	X
camt.054.001.08	camt.054.001.08.ch.02.xsd	X	X	
camt.056.001.08	camt.056.001.08.ch.04.xsd	X	X	X
camt.087.001.06	camt.087.001.06.ch.01.xsd		X	
acmt.010.001.03	acmt.010.001.03.ch.01.xsd	X	X	X
acmt.011.001.03	acmt.011.001.03.ch.01.xsd	X	X	X
acmt.015.001.03	acmt.015.001.03.ch.01.xsd	X	X	X
reda.015.001.01	reda.015.001.01.ch.01.xsd	X	X	X
reda.017.001.01	reda.017.001.01.ch.02.xsd	X	X	X

Table 7: Overview of messages and schemas

* This message is only used in the corresponding service when communicating with the System Manager.

3 Message flows in the RTGS services

3.1 General notes

Scope

All subsequent descriptions of message flows refer exclusively to the SIC RTGS and euroSIC RTGS services. Detailed message flow diagrams for the SIC IP service can be found in the "SIC-IP Service Handbook".

Note about Swift InterAct messages

Swift InterAct messages received via the RTGS services must not be acknowledged by the participant.

3.2 Payments

The following diagram shows the message flows for payment messages between participants and the respective RTGS services.

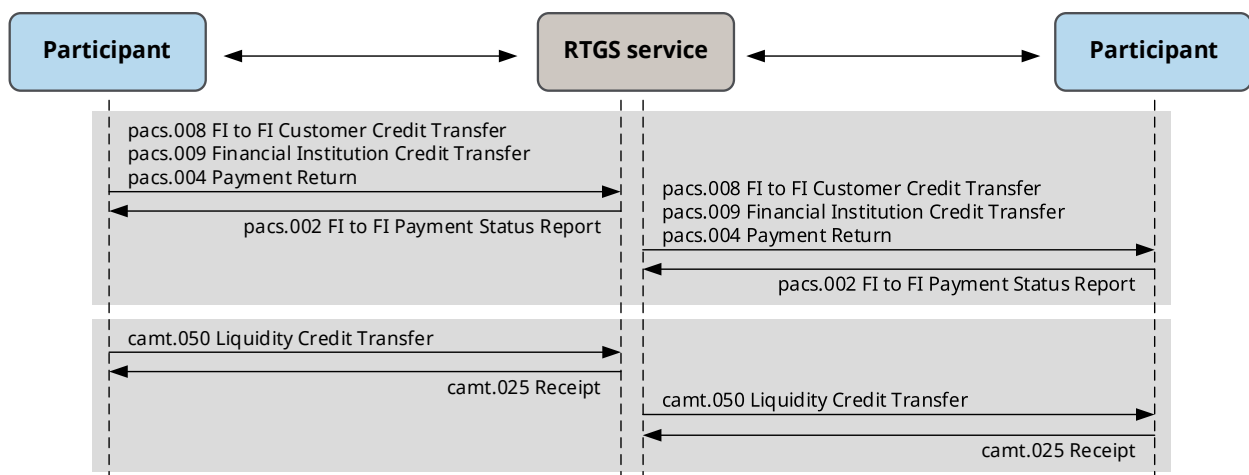


Figure 3: Message flows for payment messages

Commentary on the message flows:

1. A participant sends a "pacs.008" message to the RTGS service.
2. The RTGS service acknowledges receipt by sending a "pacs.002" to this participant.
3. The RTGS service settles the payment and then sends a "pacs.008" message to the participant for whom the payment is intended.
4. That participant acknowledges receipt by sending a "pacs.002" to the RTGS service.

3.3 Message transfers for the payment return request

The following diagram shows the message flows for a payment return request and rejection of a payment return request. With these messages the RTGS service only validates the submitted messages and forwards them to the receiver, but does not really process the messages.

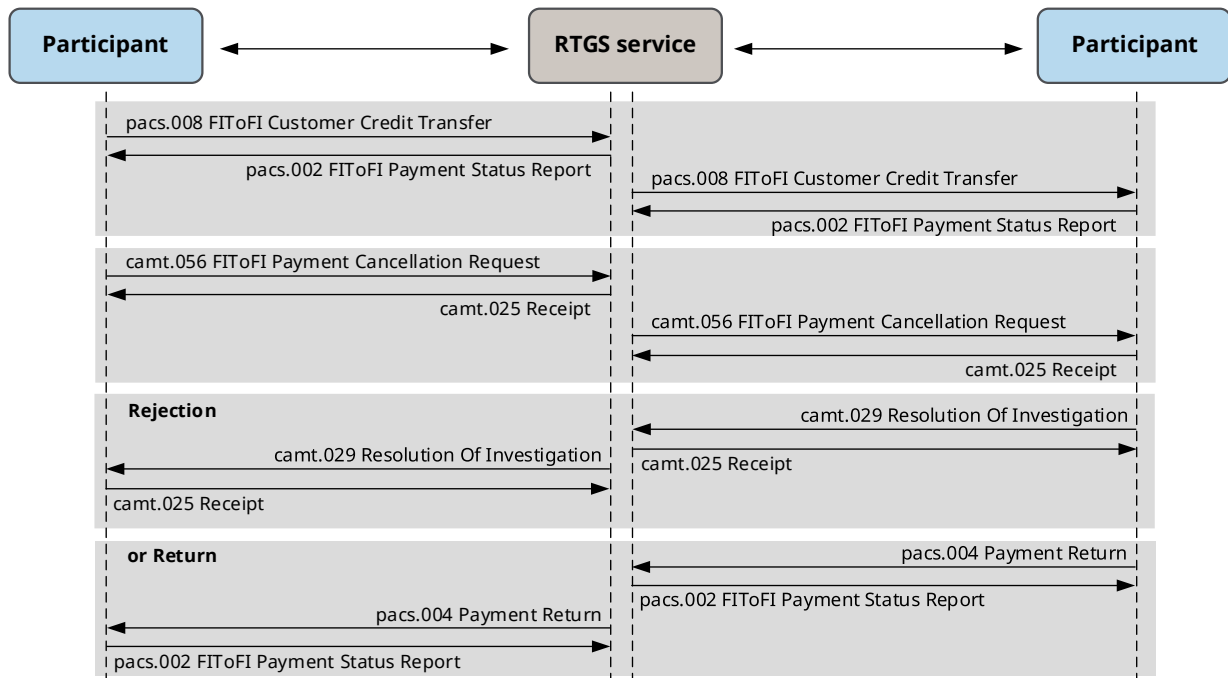


Figure 4: Message flows for payment return requests

Commentary on the message flows (the return request starts at step 3):

1. A participant sends a "pacs.008" message to the RTGS service.
2. The RTGS service settles the payment and then sends a "pacs.008" message to the participant for whom the payment is intended.
3. The Debtor Agent initiates a return request (camt.056).
4. The RTGS service forwards the return request (camt.056) to the Creditor Agent.
5. The Creditor Agent decides to reject the return request and sends a return request rejection (camt.029) to the RTGS service.
6. The RTGS service forwards the return request rejection (camt.029) to the Debtor Agent.
7. As an alternative to the rejection, the Creditor Agent may opt for a return and send a payment return (pacs.004) to the RTGS service.
8. The RTGS service settles the payment return and then sends a "pacs.004" message to the participant for whom the payment return is intended.

3.4 Message transfers for SEPA investigations

The following diagram shows the message flows for SEPA investigations. With these messages, the RTGS service only validates the submitted messages and forwards them to the receiver, but does not really process the messages.

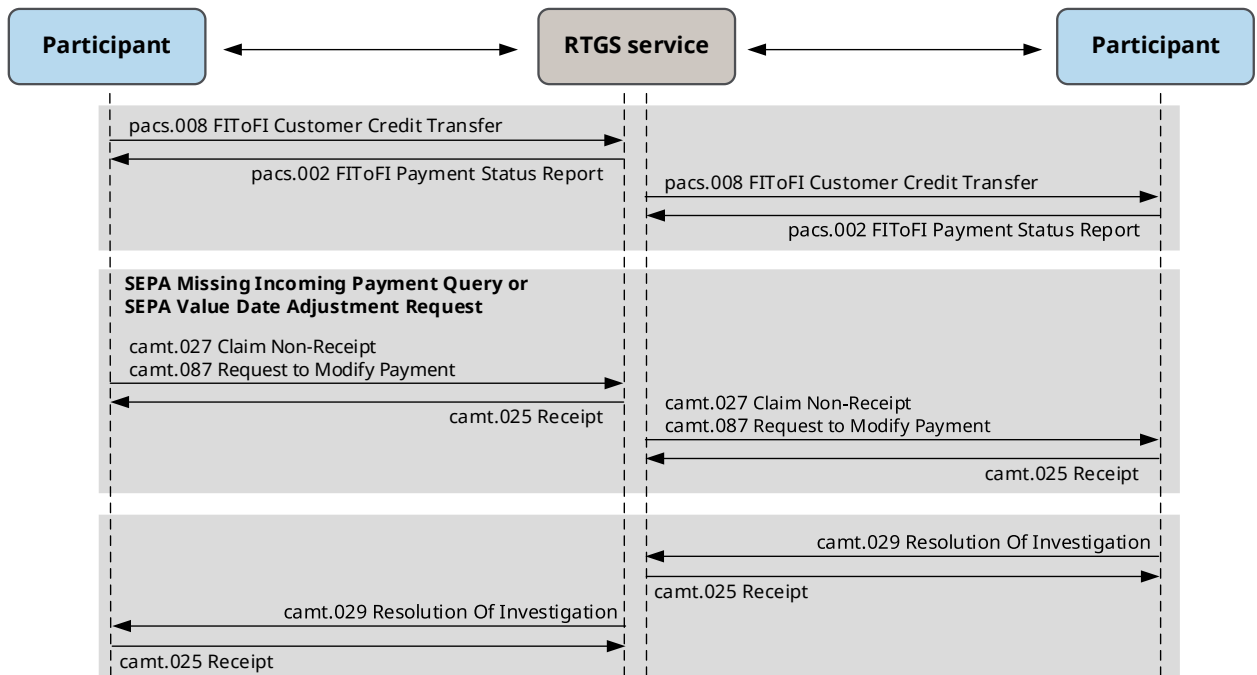


Figure 5: Message flows for SEPA investigations

Commentary on the message flows (the SEPA query starts at step 3):

1. A participant sends a "pacs.008" message to the RTGS service.
2. The RTGS service settles the payment and then sends a "pacs.008" message to the participant for whom the payment is intended.
3. The Debtor Agent initiates a SEPA missing incoming payment query (camt.027).
4. The RTGS service forwards the SEPA missing incoming payment query (camt.027) to the Creditor Agent.
5. The Creditor Agent sends a SEPA resolution of investigation (camt.029) with either a positive or negative answer to the RTGS service.
6. The RTGS service forwards the SEPA resolution of investigation (camt.029) with positive or negative answer to the Debtor Agent.

3.5 Message transfers for status request

The following diagram shows the message flows for status request. The status request can be a query for an unanswered "Return Request", an unanswered "SEPA Missing Incoming Payment Query" or an unanswered "SEPA Value Date Adjustment Request". With this message, the RTGS service only validates the submitted message and forwards this to the receiver, but does not really process the message.

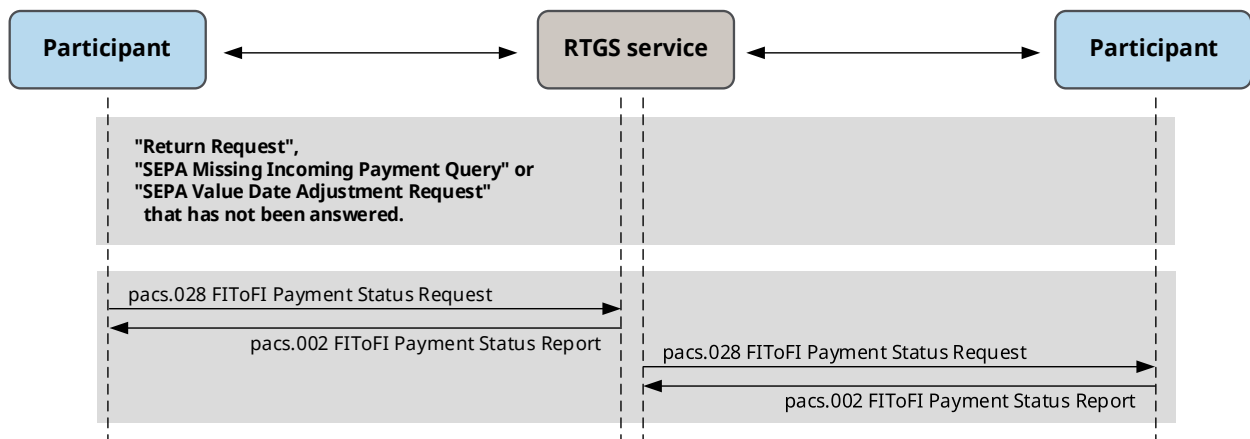


Figure 6: Message flows for status request

Commentary on the message flows:

1. A Debtor Agent sends a status request (pacs.028) to the RTGS service, because there has been no response to a previously sent "Return Request", "SEPA Missing Incoming Payment Query" or "SEPA Value Date Adjustment Request" message. The RTGS service acknowledges receipt by sending a "pacs.002" to this participant.
2. The RTGS service forwards the status request (pacs.028) to the Creditor Agent, which acknowledges receipt by sending a "pacs.002" to the RTGS service.
3. The Creditor Agent responds with a corresponding message to the RTGS service (see previous chapters 3.3 and 3.4).

3.6 Reconciliation and notification

The following diagram shows the message flows for reconciliation and notification messages between the respective RTGS services and participants.

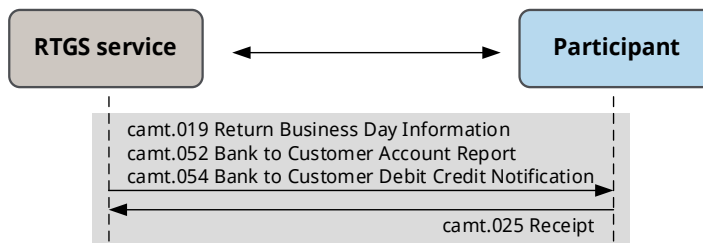


Figure 7: Message flows for reconciliation and notification messages

Commentary on the message flows:

1. The RTGS service sends a "camt.054" message to a participant.
2. The participant acknowledges receipt by sending a "camt.025" to the RTGS service.

3.7 Queries

The following diagram shows the message flows for query messages between participants and the respective RTGS services.

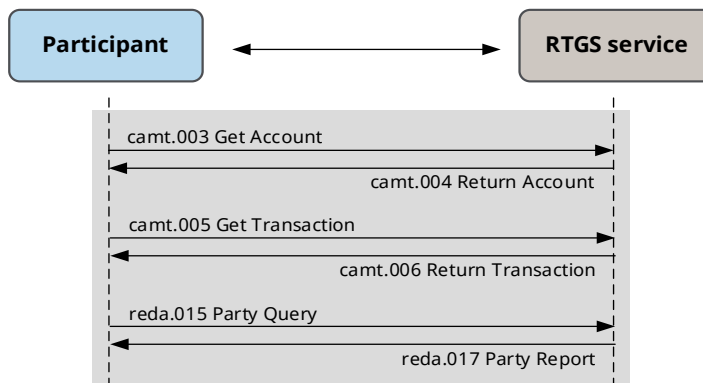


Figure 8: Message flows for query messages

Commentary on the message flows:

1. The participant sends a query message "camt.003" (settlement account query), "camt.005" (transaction query) or "reda.015" (RTGS participant query) to the RTGS service.
2. The RTGS service acknowledges receipt by sending the participant a response message "camt.004", "camt.006" or "reda.017", containing either the query result or an error message.

Note

In the case of a query message "reda.015", the query result can consist of several response messages "reda.017".

3.8 Modifications

The following diagram shows the message flows for modifications between participants and the respective RTGS services.

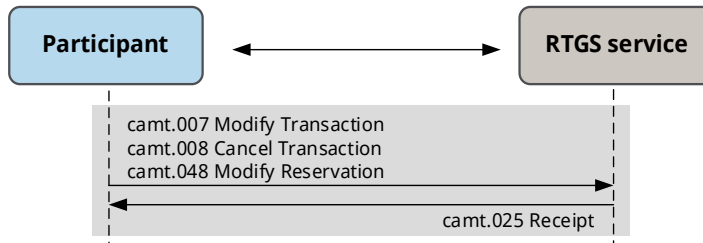


Figure 9: Message flows for modifications

Commentary on the message flows:

1. The participant sends a modification message "camt.007" (settlement order modification), "camt.008" (cancellation) or "camt.048" (liquidity reservation) to the RTGS service.
2. The RTGS service acknowledges the receipt by sending a "camt.025" to the participant as confirmation of execution or as an error message.

3.9 Steering

The following diagram shows the message flows for steering actions between participants and the respective RTGS services.

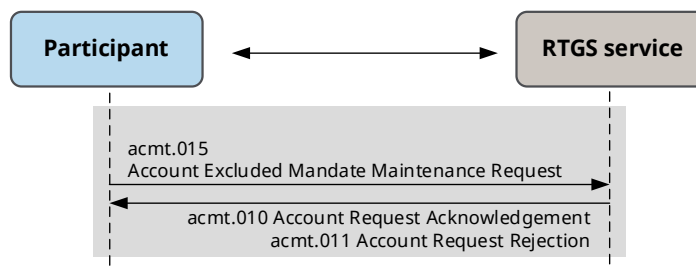


Figure 10: Message flows for steering

Commentary on the message flows:

1. The participant sends a steering message "acmt.015".
2. The RTGS service acknowledges execution of the ordered action either
 - a. in the positive case as execution confirmation by means of message "acmt.010" or
 - b. in the negative case as a rejection by means of message "acmt.011".

4 Business specifications for interbank messages

4.1 Duplicate checking

For payment messages and message transfers, the RTGS services SIC and euroSIC as well as the SIC IP service perform duplicate checking on two levels:

- Message level
- Payment or transaction level

The two checks are carried out independently of each other.

The services only support individual transactions. This means that there must be no errors at either the message level or at the transaction level for the message to be processed correctly.

Duplicate checking is carried out on both levels within the value dates permitted in the services. The period therefore extends over the current value date at the time of delivery and

- a) 2 value dates in the past in the RTGS services SIC and euroSIC,
- b) 1 value date in the past in the SIC IP service.

If a duplicate is detected during checking at the message and/or transaction levels, the payment is rejected.

Duplicate checking includes the message identification (message level) or the transaction reference (transaction level) in association with identification of the paying or instructing participant.

The following pairs of elements are therefore used for duplicate checking (the appropriate exact elements are listed in the corresponding Implementation Guidelines):

Level	Element pair
Message level	Message identification paired with the paying or instructing participant
Payment or transaction level	Transaction reference paired with the paying or instructing participant

Table 8: Levels for duplicate checking

Handling for Queries (camt.003 / camt.005 / reda.015), Modifications (camt.007 / camt.008 / camt.011 / camt.048) as well as Steering (acmt.015)

No duplicate checking is performed for messages of the type Query, Modification and Steering.

4.2 Specifications for amounts

In an XML context, various forms of representation are permitted in the amount elements (e.g. XML types *"Active Currency And Amount"*, *"Implied Currency And Amount"* etc.). To ensure smooth processing, the following specifications for all services apply:

- No use of leading or closing filler characters (space, white space, zero, plus sign).
- The maximum allowed number of decimal points depends on the currency, in accordance with ISO 4217.
- Amounts are always given as absolutes (no preceding characters). Wherever it is technically necessary to show negative amounts (e.g. the balance), the standard provides a separate element for classification purposes (Credit Debit Indicator).

4.3 Specifications for dates and times

In an XML context, various forms of representation are permitted for dates and times. The following specifications according to W3C serve as a basis:

ISODate = www.w3.org/TR/xmlschema11-2/#date

ISODateTime = www.w3.org/TR/xmlschema11-2/#dateTime

To ensure smooth processing, the following representations are defined depending on the service concerned.

4.3.1 Dates in all services (ISODate)

Specifying time zones is not supported in any services. Dates are interpreted as the local date (Switzerland) or as the system date. Entering a time zone in an incoming message will cause it to be rejected.

4.3.2 Times in the RTGS services SIC/euroSIC (ISODateTime)

In contrast to the W3C and ISO 20022 specifications, only the following form of representation is supported in elements of the *"ISO Date Time"* data type by the RTGS services:

Form of representation	Example	Interpretation in the RTGS services
Local time format (YYYY-MM-DDThh:mm:ss)	2024-11-05T10:46:48	The time entered is interpreted as local time and is considered as the relevant time for all subsequent processing steps.

Table 9: Representation of *"ISO Date Time"* in the RTGS services

Local time means the current time zone in Switzerland, taking account of summer/winter time (UTC+2 or UTC+1).

All other ways of representing time supported by the *"ISO Date Time"* data type will lead to the submitted message being rejected when it is validated by the RTGS services.

Exception: This general definition for *"ISO Date Time"* does not apply to the element *<CreDtTm>*. Here, only the specifications according to W3C / ISO 20022 are to be considered.

4.3.3 Times in the SIC IP service (ISODatetime)

In contrast to the W3C and ISO 20022 specifications, only the following form of representation is supported in elements of the "ISO Date Time" data type by the SIC IP service:

Darstellungsform	Beispiel
UTC time format (YYYY-MM-DDThh:mm:ss.sssZ)	2024-11-05T10:46:48.003Z
Local time with UTC offset format (YYYY-MM-DDThh:mm:ss.sss+/-hh:mm)	2024-11-05T10:46:48.003+01:00

Table 10: Representation of "ISO Date Time" in the SIC IP service

Both forms of representation are permitted for times provided by participants in messages to the SIC IP service. The selected form of representation is forwarded unchanged to the message recipient by the SIC IP service.

The SIC IP service always uses the "Local time with UTC offset format" for all times generated in messages by the SIC-IP service.

The indication of milliseconds is mandatory in the SIC-IP service.

4.4 Character set

Generally speaking, ISO 20022 XML messages can use all characters from the Unicode character set UTF-8 (8-bit Unicode Transformation Format). The message must be UTF-8 encoded, without the BOM – Byte Order Mark.

Only a subset of these characters is actually allowed within the XML messages. This includes the printable characters of the following Unicode blocks:

- Basic-Latin (Unicode point U+0020 – U+007E)
- Latin1-Supplement (Unicode point U+00A0 – U+00FF)
- Latin Extended-A (Unicode point U+0100 – U+017F)

as well as the following additional characters:

- Š – (LATIN CAPITAL LETTER S WITH COMMA BELOW, Unicode point U+0218)
- š – (LATIN SMALL LETTER S WITH COMMA BELOW, Unicode point U+0219)
- Ť – (LATIN CAPITAL LETTER T WITH COMMA BELOW, Unicode point U+021A)
- ť – (LATIN SMALL LETTER T WITH COMMA BELOW, Unicode point U+021B)
- € - (EURO SIGN, Unicode point U+20AC)

Notes:

- The range of permitted characters within the interbank message definitions matches that of the "Swiss Payments Standards" customer-bank messages. This allows financial institutions to transport information from payments based on the Swiss recommendations unchanged from the payer's order to the payee's notification without character conversions.
- For cross-system payments that are forwarded by a system participant to another network, the corresponding specifications of these networks must be taken into account and, if necessary, the appropriate character conversions performed. The correct handling of such conversions is the full responsibility of the institutions concerned.

Escapes

The characters below should use the escaped representation (partially optional):

Character	Description	Escape	Remark
&	AMPERSAND	&	Only escape permitted
<	LESS-THAN SIGN	<	Only escape permitted
>	GREATER-THAN SIGN	>	Escape or character permitted
'	APOSTROPHE	'	Escape or character permitted
"	QUOTATION MARK	"	Escape or character permitted

Table 11: Escape characters

Validation of permitted characters on the schema level

Compliance with the above-mentioned restrictions in text elements is provided by character patterns in the schema. Different sets of characters are permitted depending on the usage of the element:

- **Text elements in general:**

- For general text elements, all printable characters are allowed as per the previous description.
- Pattern: `[\p{IsBasicLatin}\p{IsLatin-1Supplement}\p{IsLatinExtended-A}€$%Tt-[\p{C}]]+`

- **Restricted character set for references:**

- For the references for message or transaction reference identification at their respective levels, which are mandatory to be used in the context of the duplicate check (see chapter 4.1), only the following restricted character set may be used, which in particular does not allow spaces.
- Pattern: `[A-Za-z0-9+?/:()\.,'\-]*`

Using special characters

The following special characters comply with XML syntax but must not be used within text elements/data: tab character (hexadecimal #x9), line feed character (#xA) and carriage return character (#xD).

Using CDATA

The use of CDATA within messages from participants to the services is not supported and is ignored. When data is delivered within a CDATA section, the CDATA start and end tags are removed by the service and the remaining data content is checked according to the specifications of the corresponding element.

CDATA is only used on payment receipts from the services to participants resulting from an incorrect payment message, or when answering a query about a single transaction.

4.5 Using the BIC (Business Identifier Code)

Only valid "published BIC"s may be used in all elements intended to indicate a BIC (Business Identifier Code) (<AnyBIC> or <BICFI>).

BICs for financial and non-financial institutions are registered and published by the ISO 9362 Registration Authority in the ISO directory of BICs and consist of eight (8) or eleven (11) contiguous alphanumeric characters.

Use of "unpublished BICs"

In order to ensure the conflict-free forwarding of 11-character "unpublished BICs" from the Swift network, SIC Ltd's services only check the first 8 characters of a BIC (BIC8) against corresponding reference data from Swift for the following parties:

- "Previous Instructing Agent 1"
- "Previous Instructing Agent 2"
- "Previous Instructing Agent 3"

SIC Ltd accepts no responsibility towards the participants for the use of "unpublished BICs". In the event of any processing problems due to the use of such BICs, these must be clarified bilaterally between the participants concerned.

4.6 Amount splits

As specified in the regulations of the SIC RTGS service and the euroSIC RTGS service, money market transactions between participants that are larger than CHF 100 million (SIC RTGS service) or larger than EUR 50 million (euroSIC RTGS service) must be split into partial payments.

Participants in the SIC RTGS service or the euroSIC RTGS service who split the amount must take the following requirements into account in the resulting split payments:

- A new, unique UETR must be generated for each split payment in the element `.../PmtId/UETR`. The UETR of the original payment may not be forwarded.
- In the element `.../PmtTpInf/SvcLvl/Cd`, split payments must be identified using the code "SPLI". If an element `<SvcLvl>` already existed in the original payment (e.g. gpi service level code "G004"), this must not be removed; the new code "SPLI" must be added as an additional occurrence of the element `<SvcLvl>`.
- In the element `.../PmtId/EndToEndId`, the corresponding identification from the original payment must be transferred in all split payments. This information can be used to establish a reference to the original payment from all split payments.

The instructions apply primarily to money market transactions but can in principle be applied to all pacs.008/pacs.009 payment messages. The following general conditions must be taken into account:

- The services do not validate these instructions. The correct application is the full responsibility of the participants involved.
- The services only ensure the transport of message content. SIX is not responsible for the correct handling of transfers of international payments to or from the Swift network and in connection with Swift Tracker / Swift GPI.
- For further information in relation to Swift (CBPR+, Tracking or Swift GPI), please refer to the relevant Swift guidelines.

4.7 Assignment of payment use cases to ISO 20022 messages and payment types

4.7.1 Use cases and payment types in the RTGS services (SIC/euroSIC)

ISO 20022 message	Use case	Payment type (code)	Name of the payment type
pacs.008	Customer payment	CSTPMT	Generic customer payment
	Direct debit payment	ESRDEB	Direct debit payment (LSV reference)
		IPIDEB	Direct debit payment (IPI reference)
	SEPA credit transfer	SEPPMT	SEPA payment
		SEPPFCP	SEPA fee and/or compensation payment
pacs.009	FI-to-FI-payment	F2FPMT	FI-to-FI-payment
	Cover payment	COVPMT	Cover payment
	Compensation payment	CMPPMT	Compensation payment
	Sight deposit account transfer by the participant	PPTSD	Sight deposit account transfer by the participant
	SECOM settlement	SECSTM	SECOM settlement
	Eurex settlement	EUXSTM	Eurex settlement
	Repo settlement	REPSTM	Repo settlement
	Debit settlement	BCMSTM	Bancomat settlement
		POSSTM	EFT/POS settlement
	Terravis settlement	STVSTM	Terravis settlement
	Viseca settlement	VISSTM	Viseca settlement
	BX Digital settlement	BXDSTM	BX Digital settlement
	Transfer payment to SIC IP service	IPLQTT	Transfer payment to SIC IP service
pacs.004	Return	CSTRTN	Payment return
		SEPRTN	SEPA payment return
camt.050	Sight deposit account transfer by the system manager	SMTTSD	Sight deposit account transfer by the system manager
	Transfer from sight deposit account	SMTFSD	Transfer from sight deposit account

Table 12: Assignment of payment use cases to ISO 20022 messages and payment types (RTGS)

4.7.2 Use cases and payment types in the SIC IP service

ISO 20022 message	Use case	Payment type (code)	Name of the payment type
pacs.008	IP customer payment	IPCPMT	IP customer payment
pacs.009	Transfer payment to SIC IP service	IPLQTT	Transfer payment to SIC IP service
	Transfer payment from SIC IP service	IPLQTF	Transfer payment from SIC IP service
	IP liquidity distribution system manager	IPLQDT	IP liquidity distribution to IP settlement account
		IPLQDF	IP liquidity distribution from IP settlement account
pacs.004	IP return	IPCRTN	IP return

Table 13: Assignment of payment use cases to ISO 20022 messages and payment types (SIC IP)