



ISO 20022 Payments

**Swiss Implementation Guidelines
for Customer-to-Bank Messages
for the Swiss Direct Debit Procedure**

**Customer Direct Debit Initiation (pain.008) and
Customer Payment Status Report (pain.002)**



Any suggestions or questions relating to this document should be addressed to the financial institution in question or to SIX Interbank Clearing Ltd at the following address: pm@six-group.com.

Description of amendments

The previous amendments from the preceding version are marked in the document using the track changes facility, to the extent that these amendments are meaningful. Layout amendments, corrections of spelling mistakes and altered terms that are repeated several times throughout the entire document, are not marked.

The amendments are marked in the document with a vertical blue line in the margin.

Amendment control

<i>Version</i>	<i>Date</i>	<i>Comment</i>
1.0	10.08.2015	First edition
1.0.1	21.12.2015	<p>Publication as a "minor" version with the following amendments:</p> <p>Section 1.3.3: Description of the Swiss DD message standard expanded and made more detailed.</p> <p>Section 1.5: Status description presented as a table and expanded.</p> <p>Section 2.2.2: Amendments to the following elements:</p> <ul style="list-style-type: none"> • PmtInf/CdtrAcct/Id/Othr/Id (Index 2.20) Direct debit type-specific definition for "CH-TA" deleted. • PmtInf/CdtrAgt/FinInstnId/Othr/Id (Index 2.21) Element for ISR participant number added to schema. • PmtInf/UltmtCdtr/Nm (Index 2.23) Length restricted to 70 characters. <p>Section 2.2.3: Amendments to the following elements:</p> <ul style="list-style-type: none"> • DrctDbtTxInf/PmtId/EndToEndId (Index 2.31) Text of the direct debit type-specific definition added. • DrctDbtTxInf/UltmtCdtr/Nm (Index 2.69) and DrctDbtTxInf/UltmtDbtr/Nm (Index 2.74) Length restricted to 70 characters. • DrctDbtTxInf/RmtInf (Index 2.88) Text of the general definition deleted. • DrctDbtTxInf/RmtInf/Ustrd (Index 2.89) and DrctDbtTxInf/RmtInf/Strd (Index 2.90) Text of the general definition expanded. • DrctDbtTxInf/RmtInf/Strd/CdtrRefInf/Tp/CdOrPrtry/Prtry (Index 2.114) (Text of the general definition corrected: Code for ISR reference number is ESR) <p>Section 2.4.2: Graphical representation of the example updated.</p> <p>Appendix A: New XML schema "pain.008.01.02.ch.03".</p>

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1 Introduction

The Swiss recommendations for implementing the message standards for Payments Initiation and Cash Management based on ISO standard 20022 have been produced on the instructions of PaCoS (Payments Committee Switzerland), a committee under the Swiss Payments Council (SPC). This version is based on the ISO Maintenance Release 2009 and the latest EPC recommendations.

The Swiss recommendations consist of the following documents:

- Swiss Business Rules
- Swiss Implementation Guidelines
 - for Credit Transfer and Status Report (pain.001/pain.002)
 - for the Swiss direct debit procedure and Status Report (pain.008/pain.002) (this document)
 - for the SEPA direct debit procedure and Status Report (pain.008/pain.002), valid until October 2016
 - for Cash Management messages (camt.052, camt.053 and camt.054)
- Swiss Usage Guide (use cases and examples)

The first document, the **Business Rules**, describes the requirements of business representatives of users, financial institutions and software providers, from the point of view of processes. It discusses the following subjects:

- Definition and description of specific business transactions, describing the relevant parties and the messages that are used (types of payments, versions of reports)
- Summary of message structures with more detail about certain structural elements
- Description of the main validation rules and ways of handling errors.

The **Implementation Guidelines** serve as manuals for the technical implementation of the standard and provide assistance in producing the various message types. They describe the XML structures and validation rules in detail.

The **Swiss Usage Guide** provides field rules and examples to explain the most frequent use cases (payment types) and explains how ISO 20022 messages (customer-to-bank or bank-to-customer) should be structured according to the Swiss recommendations, so providing an end-to-end overview of the whole process.

1.1 Amendment control

The Swiss Business Rules and Implementation Guidelines documents are subject to the amendment authority of

SIX Interbank Clearing Ltd
Hardturmstr. 201
CH-8021 Zurich

and reflect the regulations of Swiss financial institutions. Any future amendments and additions will be made by SIX Interbank Clearing.

The latest version of this document can be downloaded from the SIX Interbank Clearing website at the following address: www.iso-payments.ch

1.2 Reference documents

Ref	Document	Title	Source
[1]	Payments_Standards-Initiation_updated	ISO 20022 Message Definition Report: Payments – Maintenance 2009, Edition April 2009 (Approved 30.03.2009)	ISO
[2]	pain.008.001.02	XML Schema Customer Direct Debit Initiation V02	ISO
[3]	pain.002.001.03	XML Schema Customer Payment Status Report V03	ISO
[4]	Swiss Business Rules	ISO 20022 Payments – Swiss Business Rules for Payments and Cash Management for Customer-to-Bank Messages	SIX Interbank Clearing
[5]	Payments External Code Lists	Inventory of External Payment Code Lists	ISO
[6]	EPC142-08	EPC Guidance on the use of the future ISO Standard for the Structured Creditor Reference	EPC

Table 1: Reference documents

Organisation	Link
ISO	www.iso20022.org
EPC	www.europeanpaymentscouncil.eu
SIX Interbank Clearing	www.iso-payments.ch www.six-interbank-clearing.com

Table 2: Links to the relevant Internet pages

1.3 Summary of message standards

1.3.1 ISO 20022

The ISO 20022 message standard gives details for the following Payment Initiation Messages:

- Customer Credit Transfer Initiation (pain.001) and
- Customer Direct Debit Initiation (pain.008)

Other related messages include, for example:

- Customer Payment Status Report (pain.002)

All these messages are described in the document "ISO 20022 Message Definition Report Payments Standards – Maintenance 2009" [1]. The "pain.007" message is not currently used in Switzerland and is therefore not further discussed here. The "pain.001" message and the "pain.008" message for use in the SEPA direct debit procedure in Switzerland are discussed in a separate document.

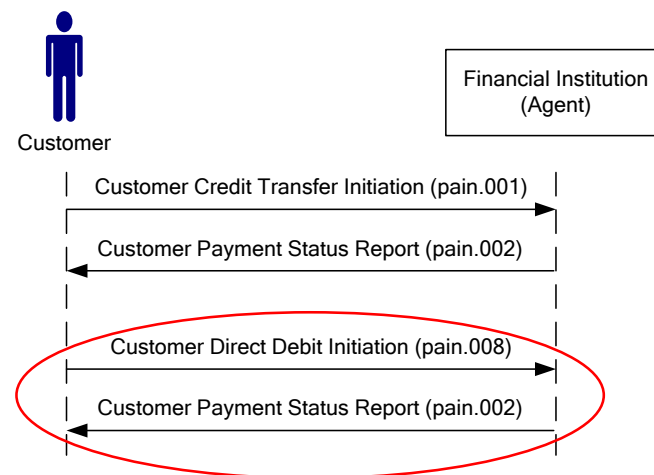


Figure 1: Payment Initiation message flow – summary

The flow of messages is shown in the above Figure 1. The "pain.002" message is sent back to the sender by the recipient of "pain.001" and "pain.008" messages in order to report back the results of validation.

The messages specified in the ISO 20022 standard can be used universally, apply to all currencies and encompass all possible options. The messages are adapted for special areas of use and country-specific circumstances, i.e. not all the options under the standard are used.

1.3.2 Swiss ISO 20022 Payments Standard

The message standard recommended by Swiss financial institutions is based on the ISO 20022 standard. Furthermore, SEPA Credit Transfer and SEPA Direct Debit are based on the SEPA recommendations approved by the EPC.

The Swiss Implementation Guidelines for the Swiss Direct Debit procedure (Swiss DD) – this document – contains technical specifications and instructions for the technical and specialised implementation of customer-to-bank messages, including the Payment Status Report (Bank-to-Customer) for use in the context of the Swiss Direct Debit procedure in accordance with the Swiss ISO 20022 payment standard.

Figure 2 below shows the degree of concordance between the Swiss ISO 20022 Payments Standard, especially for the Swiss Direct Debit, and ISO 20022.

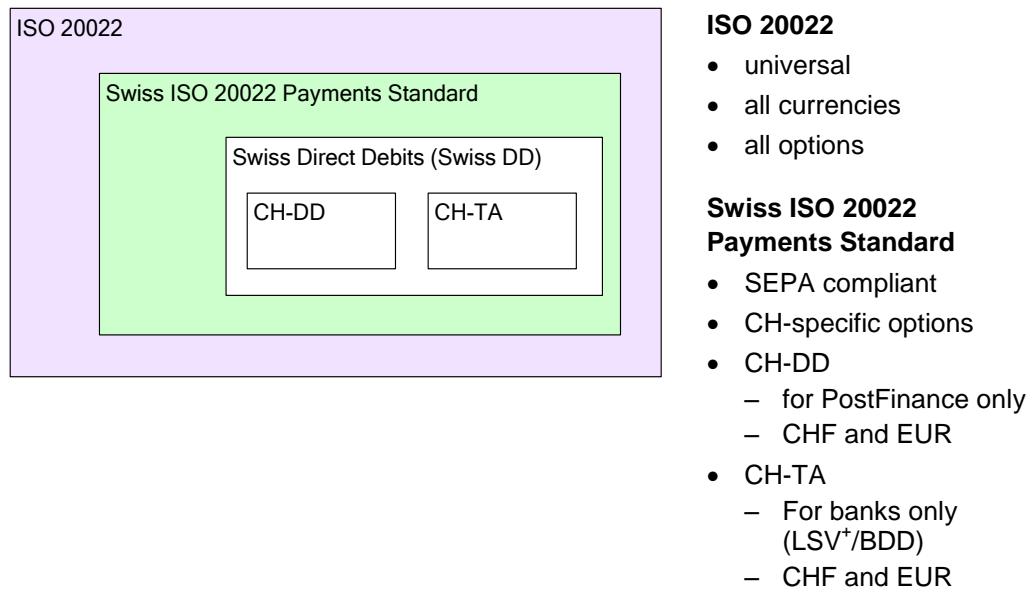


Figure 2: Degree of concordance between the Swiss ISO 20022 Payments Standard and ISO 20022

Note: The colours pale purple and pale green that are used for the ISO 20022 standard and the Swiss ISO 20022 Payments Standard are also used in the column headings of tables in this document.

1.3.3 Swiss DD message standard

For collections from PostFinance, the collection type "CH-DD" (based on the PostFinance "CH-DD direct debit (Swiss Direct Debit)" procedure) under the Swiss ISO 20022 payment standard applies.

For collections from banks, the collection type "CH-TA" (based on the banks' "LSV⁺/BDD" procedure) under the Swiss ISO 20022 payment standard applies.

The versions of the "pain.008" message described in this document enable

- for "CH-DD": the collection of direct debits under the ISO 20022 standard using the "CH-DD direct debit (Swiss Direct Debit)" procedure.
- for "CH-TA": the collection of direct debits under the ISO 20022 standard using the current "LSV⁺/BDD" procedure.

Note: When the new, joint direct debit procedure is introduced (at the beginning of 2019), the two versions of the "pain.008" ("CH-DD" for PostFinance and "CH-TA" for banks) will be joined by a single, common version. This is based on a new referencing system for direct debits that will enable the issuers of invoices to take advantage of many process improvements. In the ultimate solution, only the common version based on the new referencing system will be offered. Some financial institutions already offer collection of direct debits under the ISO 20022 standard using this common version.

1.4 Representation of XML messages

The logic structure of XML messages is a tree structure. This can be represented in various ways: in diagrams, tables or text. Representation in text is very suitable for actual examples of messages, while tables and diagrams are mainly suitable for giving an overview of XML schemas. The illustrations in this document are based on the schema in the Swiss recommendations.

XML editors which have the option of graphical representation use symbols which may look slightly different depending on the type of editor (the illustrations in this document were produced using the editor XMLSpy from Altova GmbH). The main symbols are briefly introduced in Appendix B. More detailed information can be found in the user manual or the online help for the XML editor that is being used.

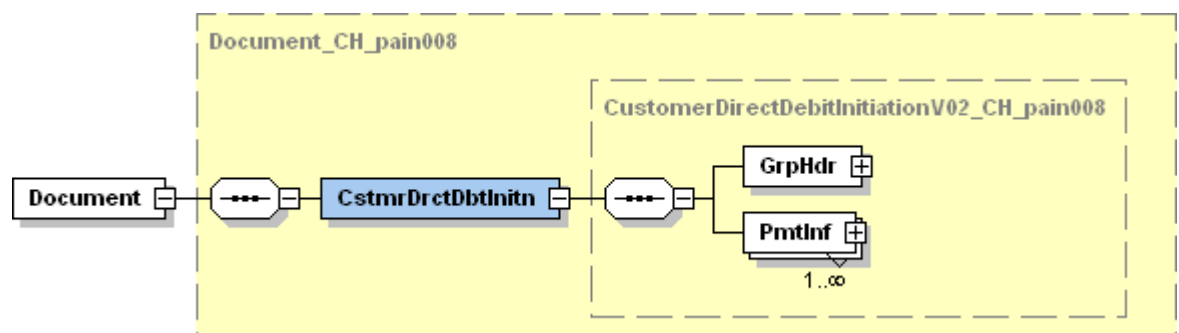


Figure 3: Example of graphical representation of an XML message

1.5 XML message conventions

A basic knowledge of XML is assumed for the purposes of this document, so only certain special points are explained.

Permitted characters

The characters permitted in XML messages according to the Swiss ISO 20022 Payments Standard are listed in section 2.3.1 "Character set".

Note: The use of blank elements is not permitted.

Statuses

The following statuses (information about usage) are permitted for individual XML elements according to the Swiss ISO 20022 Payments Standard:

- **M** = Mandatory
- **R** = Recommended (should be used)
- **D** = Dependent (depending on other elements)
- **BD** = Bilaterally Determined (only permitted by agreement with the financial institution)
- **O** = Optional
- **N** = Not used (must not be used)

Status	Designation	Description
M	Mandatory	The element is mandatory. If the element is not used, a Swiss bank will refuse to process the message.
R	Recommended	The use of the element is recommended. If the element is not used, the message will normally still be processed by a Swiss bank.
O	Optional	The element is optional.
D	Dependent	The use of the element depends on other elements. Depending on the content or presence of another element, this element may be mandatory or optional.
BD	Bilaterally Determined	The element may only be used by agreement with the instructed financial institution.
N	Not used	The element is not supported.

XML schema validation

The technical validation of the various XML messages is carried out using XML schemas. These define the elements that can be used, their status (mandatory, optional, dependent), the format of their content and the content itself (in certain cases the permitted codes are listed in the XML schema).

The names of data types given in the tables of this document correspond to the data types defined in XML schemas.

For the Swiss ISO 20022 Payments Standard, its own XML schemas are published as variants of the ISO 20022 XML schemas, in which, for example, unnecessary elements have been omitted or statuses changed. These XML schemas define all the data that is valid for Switzerland. Data types which have been taken over unchanged from the ISO standard retain the same names. For those data types that have been changed, the

names have been given appropriate extensions showing the differences between them and the original ISO data types.

Example 1: ISO data type: GroupHeader39
Swiss data type: GroupHeader39_CH_pain008

Example 2: ISO data type: PartyIdentification32_
Swiss data type: PartyIdentification32_CH_pain008_2

No comments are inserted in the XML schemas. Information about the various data elements can be found in these Implementation Guidelines.

The names of the Swiss ISO 20022 Payments Standard XML schemas and links to the original XSD files are listed in Appendix A.

Indication of schema location and namespace in XML messages

The Schema Location in XML messages indicates the XML schema which should be used to carry out the technical validation and where that schema is to be found. The Schema Location also includes the namespace (xmlns="..."). If a different Schema Location is entered from the one bilaterally agreed, the whole message is rejected.

Using the Swiss XML schema

The definitions in the Swiss XML schema are the same as the descriptions in these Implementation Guidelines and should primarily be used to validate XML files that have been produced. Submissions can be made either using this Swiss XML schema or the official ISO 20022 XML schema. The XML schema which is to be used must be agreed with the relevant financial institutions.

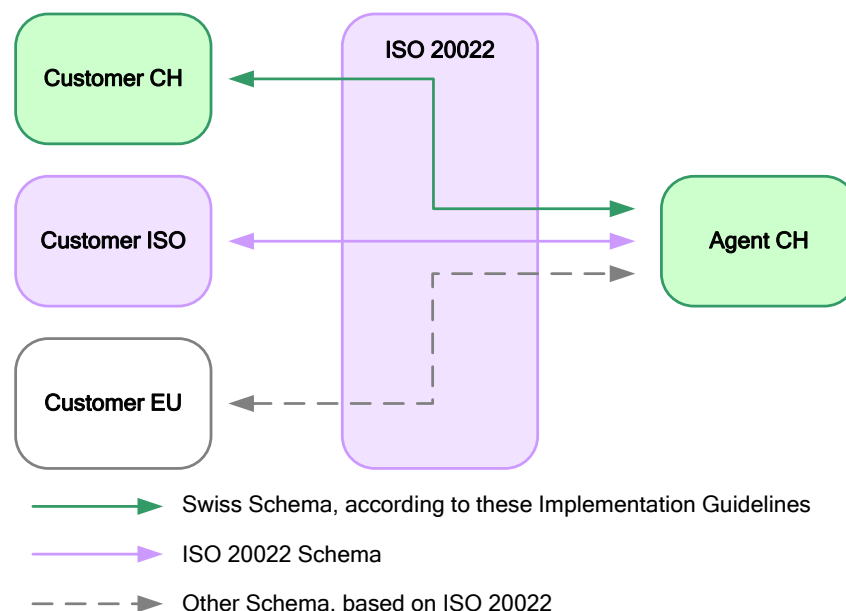


Figure 4: Using the Swiss XML schema

1.6 Conventions for presentation

In this document, the following conventions apply to presentation.

Description of XML elements

In some publications, the names of XML elements are written as a single concept with no spaces, for example DirectDebitTransactionInformation. In the interests of legibility, spaces are generally used in this document.

Data in tables

The tables contain information from ISO 20022 (Index, Multiplicity, Message Item, XML-Tag). The following information can also be found in the tables:

- Status of the element (as defined in section 1.5 "XML message conventions")
- General definition
- Direct debit type-specific definition (CH-DD, CH-TA)
- Error code that is sent back if there are any errors in the Customer Payment Status Report (pain.002)

Note: If during schema validation an error is detected in any element, the whole message is always rejected (error code FF01). Since this response generally applies to all elements in the table, a comment to that effect is not entered for every element.

Colours used in the tables

The column headings are shaded **pale purple** for the information about ISO 20022 and **pale green** for information about the Swiss ISO 20022 Payments Standard.

Elements containing at least one sub-element are marked in **pale blue** in the ISO 20022 columns.

Representation of the tree structure in the tables

So that it is possible to tell where in the tree structure an element comes, the hierarchy level is indicated by preceding "+" signs in the Message Item. For example, the message identification (element identification) in the Group Header is represented as shown:

```
Group Header
+Initiating Party
++Identification
+++Organisation Identification
++++Other
+++++Identification
```

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

Example:

Payment Information +Payment Type Information ++Category Purpose	CtgyPurp	0..1	BD
Payment Information +Payment Type Information ++Category Purpose +++Code	Cd {Or	1..1	M
Payment Information +Payment Type Information ++Category Purpose +++Proprietary	Prtry Or}	1..1	M

1.7

Scope

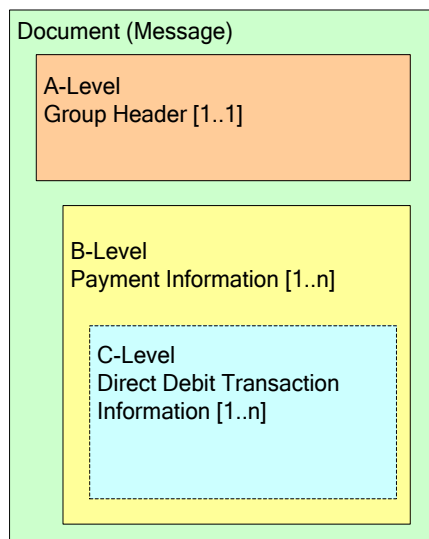
These Implementation Guidelines only give the specifications for the customer-to-bank messages Customer Direct Debit Initiation and Customer Payment Status Report for the Swiss ISO 20022 Payments Standard for Swiss Direct Debit.

No aspects relating to the communication channels used for the sending of messages between customer and financial institution, and their security features, are discussed in this document. These are entirely the responsibility of the financial institutions involved and their customers.

2 Customer Direct Debit Initiation (pain.008)

2.1 General

The Customer Direct Debit Initiation (pain.008) XML message is used for the electronic commissioning of collection orders for the Swiss Direct Debit procedure by customers to the financial institution. It is used on the basis of the ISO 20022 XML schema "pain.008.001.02".



The "pain.008" XML message is essentially structured as follows:

- **A-Level:** message level, Group Header. This block must occur exactly once.
- **B-Level:** creditor side, Payment Information. This block must occur at least once and generally comprises several C-levels.
- **C-Level:** debtor side, Direct Debit Transaction Information. This block must occur at least once for each B-level. It comprises all the C-levels (transactions) belonging to the B-level (credit).

Figure 5: Basic message structure for the "pain.008" XML message

In the following **technical specifications** for the XML message Customer Direct Debit Initiation (pain.008), each of these message levels is discussed in a separate subsection:

- 2.2.1 "Group Header (GrpHdr, A-Level)"
- 2.2.2 "Payment Information (PmtInf, B-Level)"
- 2.2.3 "Direct Debit Transaction Information (DrctDbtTxInf, C-Level)"

The **business specifications** given in section 2.3 cover the following topics:

- character set
- collection types
- duplicate checking

2.2 Technical specifications

2.2.1 Group Header (GrpHdr, A-Level)

The Group Header (A-Level of the message) contains all the elements that apply to all the transactions in the Customer Direct Debit Initiation (pain.008) XML message. It occurs exactly once in the message.

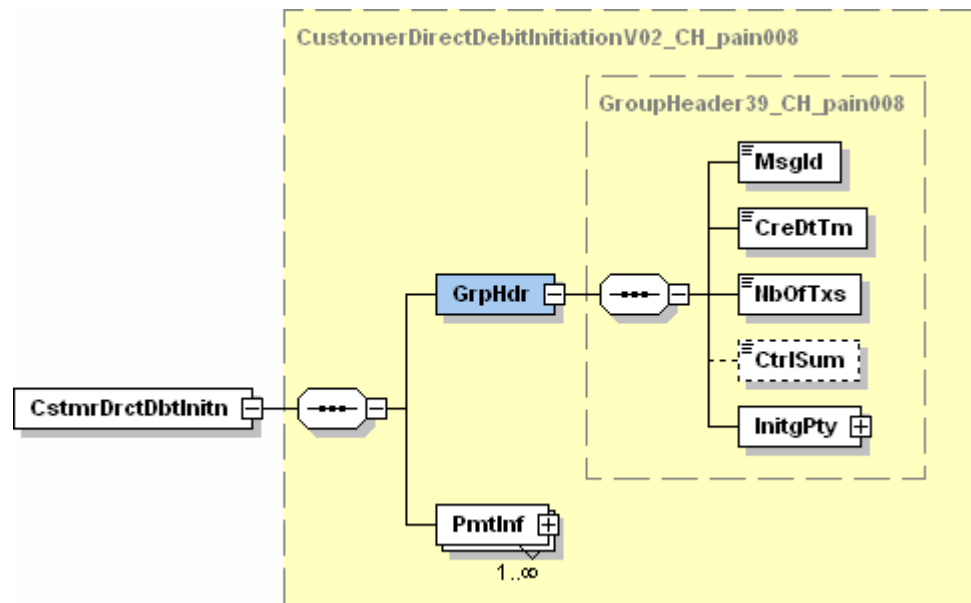


Figure 6: Group Header (GrpHdr)

The following table specifies all the elements of the Group Header for the Swiss Direct Debit procedure that are relevant to the Swiss ISO 20022 Payments Standard.

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
	Document +Customer Direct Debit Initiation V02	CstmrDrctDbtInitn	1..1				
1.0	Group Header	GrpHdr	1..1	M			
1.1	Group Header +Message Identification	MsgId	1..1	M	Checking for duplicates takes place at the Swiss financial institutions at document (message) level and takes account of the following elements: unique "Message Identification" in combination with the "Initiating Party". The uniqueness is checked by the financial institutions over a period of at least 90 days. For producers this means that they must give their messages for transmission identification that is unique at least within a period of 90 days. Messages with the same "Message Identification" will be rejected. It is recommended that the "Message Identification" is generally kept unique for as long as possible, partly so as to simplify any subsequent long-term enquiries. In some cases at particular financial institutions, checking for duplicates can also be implemented for other elements (B- or C-Level). Only the SWIFT character set is permitted for this element. If there is an error, the whole message is rejected.		DU01
1.2	Group Header +Creation Date Time	CreDtTm	1..1	M	Recommendation: Should be the same as the actual date/time of creation.		DT01
1.6	Group Header +Number Of Transactions	NbOfTxs	1..1	M	Number of transactions for all C-Levels (Direct Debit Transaction Information) in the whole message. Recommendation: At present, the customer is recommended not to send any messages (files) to the financial institution exceeding 99,999 collections (C-Level, transactions). If there is an error, the whole message is rejected.	CH-DD: Messages with more than 100,000 transactions will be rejected.	AM18
1.7	Group Header +Control Sum	CtrlSum	0..1	R	Value is the same as the sum of all the "Instructed Amount" elements. If there is an error, the whole message is rejected.		AM10
1.8	Group Header +Initiating Party	InitgPty	1..1	M	Is part of duplicate checking and must contain a unique sender ID agreed with the recipient (usually the RS-PID of the creditor). The identification must be entered in the following sub-element: "Organisation Identification/Other/Identification". The sub-element "Private Identification" is not supported in Switzerland and must not be used.		CH16
1.8	Group Header +Initiating Party ++Name	Nm	0..1	O	Name of the message sender, maximum 70 characters.		CH16
1.8	Group Header +Initiating Party ++Identification	Id	0..1	M			

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
1.8	Group Header +Initiating Party ++Identification +++Organisation Identification	OrgId	1..1	M			
1.8	Group Header +Initiating Party ++Identification +++Organisation Identification ++++Other	Othr	0..n	M	Must be sent exactly once.		
1.8	Group Header +Initiating Party ++Identification +++Organisation Identification ++++Other +++++Identification	Id	1..1	M	Must contain a unique sender ID agreed with the recipient. If there is an error, the whole message is rejected.	CH-DD: RS-PID CH-TA: LSV+/BDD identification	RR12
1.8	Group Header +Initiating Party ++Contact Details	CtctDtls	0..1	O	Details of the software used and the particular version.		
1.8	Group Header +Initiating Party ++Contact Details +++Name	Nm	0..1	O	Recommendation: Should contain the name of the software used to create this message, maximum 70 characters.		CH16
1.8	Group Header +Initiating Party ++Contact Details +++Other	Othr	0..1	O	Recommendation: Should contain the version of the software used to create this message.		

Table 3: Group Header (GrpHdr, A-Level)

2.2.2 Payment Information (PmtInf, B-Level)

The Payment Information (B-Level of the message) contains information about the creditor and other key elements such as the payment method or requested collection date which apply to all transactions (C-Levels) for this B-Level.

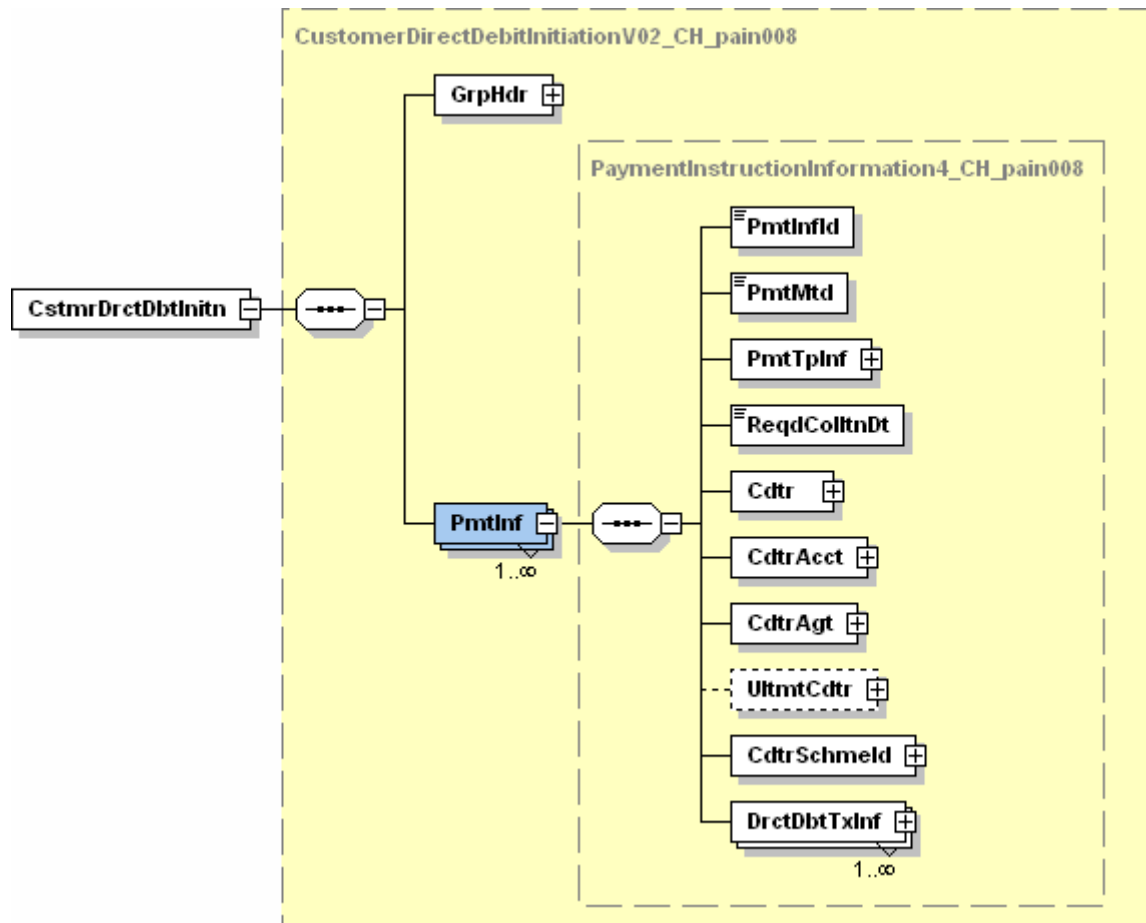


Figure 7: Payment Information (PmtInf)

The following table specifies all the elements of the Payment Information for the Swiss Direct Debit procedure that are relevant to the Swiss ISO 20022 Payments Standard.

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.0	Payment Information	PmtInf	1..n	M			
2.1	Payment Information +Payment Information Identification	PmtInfId	1..1	M	Value must be unique within the message. If there is an error, the whole message is rejected and the A-Level is referenced in the "pain.002". Only the SWIFT character set is permitted for this element.		DU02
2.2	Payment Information +Payment Method	PmtMtd	1..1	M	Permitted value according to ISO 20022: DD		CH16
2.6	Payment Information +Payment Type Information	PmtTpInf	0..1	M			
2.8	Payment Information +Payment Type Information ++Service Level	SvcLvl	0..1	M			
2.10	Payment Information +Payment Type Information ++Service Level +++Proprietary	Prtry	1..1	M		CH-DD: The code "CHDD" must be sent. CH-TA: The code "CHTA" must be sent.	CH16
2.11	Payment Information +Payment Type Information ++Local Instrument	LclInstrm	0..1	M	Only the same kind of direct debits may be submitted within one message, i.e. different codes may not be sent in the same message. In the event of errors, the entire message will be rejected and the A-Level will be referenced in the "pain.002".		CH16
2.13	Payment Information +Payment Type Information ++Local Instrument +++Proprietary	Prtry	1..1	D		CH-DD: Only code "DDCOR1" and "DDB2B" permitted. CH-TA: Only code "LSV+" and "BDD" permitted.	CH16
2.15	Payment Information +Payment Type Information ++Category Purpose	CtgyPurp	0..1	BD	Purpose of payment Only to be used after consultation with the creditor's financial institution.	CH-TA: Must not be used. If sent, the entire B-Level will be rejected.	CH17
2.16	Payment Information +Payment Type Information ++Category Purpose +++Code	Cd {Or	1..1	M	Codes according to external ISO code list. If there is an error, the B-Level (incl. all associated C-Levels) is rejected.		CH16
2.17	Payment Information +Payment Type Information ++Category Purpose +++Proprietary	Prtry Or}	1..1	M	Proprietary purpose of payment		

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.18	Payment Information +Requested Collection Date	ReqdColltnDt	1..1	M	<p>If the delivery deadlines are not adhered to, either</p> <p>a) the "Requested Collection Date" (or "Interbank Settlement Date") can be set to the next possible Target day / interbank settlement day) or</p> <p>b) the order (B-Level, incl. all associated C-Levels) can be rejected.</p> <p>In both cases (amendment or rejection), the creditor is notified accordingly in a "pain.002".</p> <p>If a delivery or authorisation is received too late, then the preferred processing date for the direct debits is automatically amended to the next possible processing date.</p>	<p>CH-DD: Submissions will be accepted no earlier than 2 years before and no later than 90 calendar days after the specified preferred processing date.</p> <p>CH-TA: Submissions will be accepted no earlier than 30 calendar days before and no later than 10 calendar days after the specified preferred processing date.</p>	DT01 DT06 CH03 CH04
2.19	Payment Information +Creditor	Cdtr	1..1	M	Provided «Creditor» information will be ignored. The «Creditor» information stored in the master data will be used instead.	CH-DD: The provided data in the <PstlAdr>element will be used.	
2.19	Payment Information +Creditor ++Name	Nm	0..1	M	Maximum 70 characters		CH16
2.19	Payment Information +Creditor ++Postal Address	PstlAdr	0..1	O	<p>The address is either</p> <p>- structured using the sub-elements <StrtNm>, <PstCd>, <TwnNm>, <Ctry></p> <p>or is</p> <p>- unstructured using the sub-elements <Ctry> and <AdrLine>.</p>		CH16
2.19	Payment Information +Creditor ++Postal Address +++Street Name	StrtNm	0..1	O			
2.19	Payment Information +Creditor ++Postal Address +++Post Code	PstCd	0..1	O			
2.19	Payment Information +Creditor ++Postal Address +++Town Name	TwnNm	0..1	O			
2.19	Payment Information +Creditor ++Postal Address +++Country	Ctry	0..1	O	<p>Country where creditor is domiciled.</p> <p>Must contain a valid Country Code (ISO 3166).</p> <p>If there is an error, the B-Level (incl. all associated C-Levels) is rejected.</p>		BE09
2.19	Payment Information +Creditor ++Postal Address +++Address Line	AdrLine	0..7	O	No more than two lines may be used.		CH16

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.20	Payment Information +Creditor Account	CdtrAcct	1..1	M			
2.20	Payment Information +Creditor Account ++Identification	Id	1..1	M	This element is to be used as follows: - IBAN or - proprietary account number in <Othr>/<Id>		
2.20	Payment Information +Creditor Account ++Identification +++IBAN	IBAN {Or	1..1	D	Must include a valid Country Code in Pos. 1-2 (ISO 3166) and valid check digits in Pos. 3-4 (ISO 7064). If there is an error, the B-Level (incl. all associated C-Levels) is rejected.	CH-DD: Must be a valid account at PostFinance. CH-TA: Must be sent where the 20-character IPI purpose of payment is used. Can be sent where the ISR reference is used.	BE09 CH16 AC01
2.20	Payment Information +Creditor Account ++Identification +++Other	Othr Or}	1..1	D	If there is an error, the B-Level (incl. all associated C-Levels) is rejected.	CH-TA: Must not be used.	CH17
2.20	Payment Information +Creditor Account ++Identification +++Other ++++Identification	Id	1..1	M	Must be used if "Other" is used. If there is an error, the B-Level (incl. all associated C-Levels) is rejected.	CH-DD: Must contain a valid Post Office account number (format fixed 9-digit numerical, last position is check digit Modulo 10 recursive).	CH16 CH17 AC01
2.21	Payment Information +Creditor Agent	CdtrAgt	1..1	M			
2.21	Payment Information +Creditor Agent ++Financial Institution Identification	FinInstnId	1..1	M			
2.21	Payment Information +Creditor Agent ++Financial Institution Identification +++Clearing System Member Identification	ClrSysMmbld	0..1	M			
2.21	Payment Information +Creditor Agent ++Financial Institution Identification +++Clearing System Member Identification ++++Member Identification	Mmbld	1..1	M	Bank clearing number of the creditor agent If there is an error, the B-Level (incl. all associated C-Levels) is rejected.	CH-DD: Fix value: 09000	RC01
2.21	Payment Information +Creditor Agent ++Financial Institution Identification +++Other	Othr	0..1	D		CH-DD: Must not be used.	
2.21	Payment Information +Creditor Agent ++Financial Institution Identification +++Other ++++Identification	Id	1..1	D	ISR participant number of the creditor agent	CH-TA: Must be used, if the ISR reference number is used.	AC01

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.23	Payment Information +Ultimate Creditor	UltmtCdtr	0..1	O	Can be used at B-Level or C-Level but not at both at the same time. If used here at B-Level, this "Ultimate Creditor" applies to all C-Levels.	CH-TA: Is not currently passed on.	CH07 CH17
2.23	Payment Information +Ultimate Creditor ++Name	Nm	0..1	O	Maximum 70 characters		CH16
2.23	Payment Information +Ultimate Creditor ++Postal Address	PstlAdr	0..1	O	The address is either - structured using the sub-elements <StrtNm>, <PstCd>, <TwnNm>, <Ctry> or is - unstructured using the sub-elements <Ctry> and <AdrLine>.		CH16
2.23	Payment Information +Ultimate Creditor ++Postal Address +++Street Name	StrtNm	0..1	O			
2.23	Payment Information +Ultimate Creditor ++Postal Address +++Post Code	PstCd	0..1	O			
2.23	Payment Information +Ultimate Creditor ++Postal Address +++Town Name	TwnNm	0..1	O			
2.23	Payment Information +Ultimate Creditor ++Postal Address +++Country	Ctry	0..1	O	Must contain a valid Country Code (ISO 3166). If there is an error, the B-Level (incl. all associated C-Levels) is rejected.		BE09
2.23	Payment Information +Ultimate Creditor ++Postal Address +++Address Line	AdrLine	0..7	O	No more than two lines may be used.		CH16
2.23	Payment Information +Ultimate Creditor ++Identification	Id	0..1	O			
2.23	Payment Information +Ultimate Creditor ++Identification +++Organisation Identification	OrgId {Or	1..1	D	Identification for legal entities. Only "BIC Or BEI" permitted, or "Other" must be used. If used, the "Private Identification" must not be present.		CH21 CH17
2.23	Payment Information +Ultimate Creditor ++Identification +++Private Identification	PrvtId Or}	1..1	D	Identification for private individuals. Only "Date And Place Of Birth" permitted, or "Other" must be used. If used, the "Organisation Identification" must not be present.		CH21 CH17

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.27	Payment Information +Creditor Scheme Identification	CdtrSchmeld	0..1	M			
2.27	Payment Information +Creditor Scheme Identification ++Identification	Id	0..1	M	The sub-element "Private Identification" must be used.		
2.27	Payment Information +Creditor Scheme Identification ++Identification +++Private Identification	PrvtId	1..1	M			
2.27	Payment Information +Creditor Scheme Identification ++Identification +++Private Identification ++++Other	Othr	0..n	M	Only one occurrence of "Other" is permitted, no other sub-elements allowed.		
2.27	Payment Information +Creditor Scheme Identification ++Identification +++Private Identification ++++Other +++++Identification	Id	1..1	M	If there is an error, the B-Level (incl. all associated C-Levels) is rejected. Only the SWIFT character set is permitted for this element.	CH-DD: RS-PID, last two digits: check digits Modulo 97-10 (ISO 7064) CH-TA: LSV+ identification of the creditor	CH11
2.27	Payment Information +Creditor Scheme Identification ++Identification +++Private Identification ++++Other +++++Scheme Name	SchmeNm	0..1	M	The sub-element "Proprietary" must be used.		CH21
2.27	Payment Information +Creditor Scheme Identification ++Identification +++Private Identification ++++Other +++++Scheme Name +++++Proprietary	Prtry	1..1	M		CH-DD: The code "CHDD" must be sent. CH-TA: The code "CHLS" must be sent.	CH16

Table 4: Payment Information (PmtInf, B-Level)

2.2.3 Direct Debit Transaction Information (DrctDbtTxInf, C-Level)

The Direct Debit Transaction Information (C-Level of the message) contains all the details about the debtor and other information about the transaction (sending information, purpose of payment etc.).

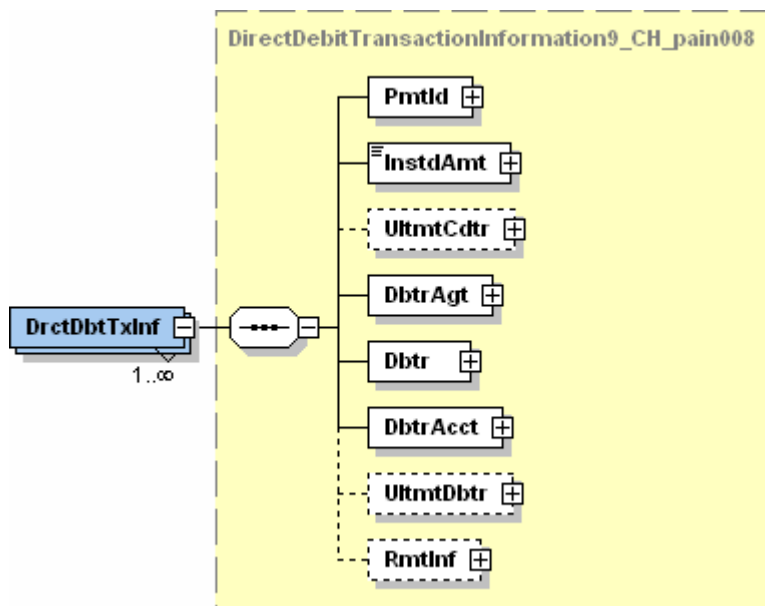


Figure 8: Direct Debit Transaction Information (DrctDbtTxInf)

The following table specifies all the elements of the Direct Debit Transaction Information for the Swiss Direct Debit procedure that are relevant to the Swiss ISO 20022 Payments Standard.

ISO 2022 Standard				Swiss ISO 2022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.28	Direct Debit Transaction Information	DrctDbtTxInf	1..n	M			
2.29	Direct Debit Transaction Information +Payment Identification	PmtId	1..1	M			
2.30	Direct Debit Transaction Information +Payment Identification ++Instruction Identification	InstId	0..1	M	Point-to-point reference which allows unique identification of the transaction in the event of an error. Value must be unique within the B-Level. If there is an error, the whole B-Level is rejected and referenced in the "pain.002". Only the SWIFT character set is permitted for this element.		DU05
2.31	Direct Debit Transaction Information +Payment Identification ++End To End Identification	EndToEndId	1..1	M	Only the SWIFT character set is permitted for this element. In Switzerland it is recommended that no more than 16 positions are used. If not present, the value "NOTPROVIDED" must be sent.	CH-DD: For an automated accounts receivable, the use of a unique end-to-end ID is strongly recommended.	CH16
2.44	Direct Debit Transaction Information +Instructed Amount	InstAmt	1..1	M	Amount must be 0.01 or more and 999,999,999.99 or less.		AM01 AM02 CH20
		@ Ccy		M	Only "CHF" and "EUR" permitted.		AM03
2.69	Direct Debit Transaction Information +Ultimate Creditor	UltmtCdtr	0..1	D	Can be used at B-Level or C-Level but not at both at the same time. If there is an error, the C-Level is rejected.	CH-TA: Is not currently passed on.	CH07
2.69	Direct Debit Transaction Information +Ultimate Creditor ++Name	Nm	0..1	O	Maximum 70 characters		CH16
2.69	Direct Debit Transaction Information +Ultimate Creditor ++Postal Address	PstlAdr	0..1	O	The address is either - structured using the sub-elements <StrtNm>, <PstCd>, <TwnNm>, <Ctry> or is - unstructured using the sub-elements <Ctry> and <AdrLine>.		CH16
2.69	Direct Debit Transaction Information +Ultimate Creditor ++Postal Address +++Street Name	StrtNm	0..1	O			
2.69	Direct Debit Transaction Information +Ultimate Creditor ++Postal Address +++Post Code	PstCd	0..1	O			
2.69	Direct Debit Transaction Information +Ultimate Creditor ++Postal Address +++Town Name	TwnNm	0..1	O			
2.69	Direct Debit Transaction Information +Ultimate Creditor ++Postal Address +++Country	Ctry	0..1	O	Must contain a valid Country Code (ISO 3166). If there is an error, the C-Level is rejected.		BE09

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.69	Direct Debit Transaction Information +Ultimate Creditor ++Postal Address +++Address Line	AdrLine	0..7	O	No more than two lines may be used.		CH16
2.70	Direct Debit Transaction Information +Debtor Agent	DbtrAgt	1..1	M			
2.70	Direct Debit Transaction Information +Debtor Agent ++Financial Institution Identification	FinInstnId	1..1	M		CH-DD: The sub-element <ClrSysMmbld> must be sent. CH-TA: The sub-element <ClrSysMmbld> must be sent.	
2.70	Direct Debit Transaction Information +Debtor Agent ++Financial Institution Identification +++Clearing System Member Identification	ClrSysMmbld	0..1	D		CH-DD: Must be used. CH-TA: Must be used.	CH21
2.70	Direct Debit Transaction Information +Debtor Agent ++Financial Institution Identification +++Clearing System Member Identification ++++Member Identification	Mmbld	1..1	M	Bank clearing number of the debtor agent If there is an error, the C-Level is rejected.	CH-DD: Fix value: 09000	RC01
2.72	Direct Debit Transaction Information +Debtor	Dbtr	1..1	M			
2.72	Direct Debit Transaction Information +Debtor ++Name	Nm	0..1	M	Maximum 70 characters		CH16, CH21
2.72	Direct Debit Transaction Information +Debtor ++Postal Address	PstAdr	0..1	O	The address is either - structured using the sub-elements <StrtNm>, <PstCd>, <TwnNm>, <Ctry> or is - unstructured using the sub-elements <Ctry> and <AdrLine>.	CH-TA: Only the sub-elements <Ctry> and <AdrLine> are permitted.	CH16
2.72	Direct Debit Transaction Information +Debtor ++Postal Address +++Street Name	StrtNm	0..1	O		CH-TA: Must not be used.	CH17
2.72	Direct Debit Transaction Information +Debtor ++Postal Address +++Post Code	PstCd	0..1	O		CH-TA: Must not be used.	CH17
2.72	Direct Debit Transaction Information +Debtor ++Postal Address +++Town Name	TwnNm	0..1	O		CH-TA: Must not be used.	CH17

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.72	Direct Debit Transaction Information +Debtor ++Postal Address +++Country	Ctry	0..1	O	Country where debtor is domiciled. Must contain a valid Country Code (ISO 3166). If there is an error, the C-Level is rejected.		BE09
2.72	Direct Debit Transaction Information +Debtor ++Postal Address +++Address Line	AdrLine	0..7	O	No more than two lines may be used.		CH16
2.73	Direct Debit Transaction Information +Debtor Account	DbtrAcct	1..1	M			
2.73	Direct Debit Transaction Information +Debtor Account ++Identification	Id	1..1	M	This element is to be used as follows: - IBAN or - proprietary account number in <Othr>/<Id>		
2.73	Direct Debit Transaction Information +Debtor Account ++Identification +++IBAN	IBAN {Or	1..1	D	If this is used, "Other" cannot be present. Must include a valid Country Code in Pos. 1-2 (ISO 3166) and valid check digits in Pos. 3-4 (ISO 7064). If there is an error, the C-Level is rejected.	CH-DD: Must be a valid account at PostFinance. CH-TA: CH- or LI-IBAN	BE09 CH16 MD01 AC01
2.73	Direct Debit Transaction Information +Debtor Account ++Identification +++Other	Othr Or}	1..1	D	If this is used, "IBAN" cannot be present. If there is an error, the C-Level is rejected.		CH17
2.73	Direct Debit Transaction Information +Debtor Account ++Identification +++Other ++++Identification	Id	1..1	D	Proprietary account identification If there is an error, the C-Level is rejected.	CH-DD: Must contain a valid Post Office account number (format fixed 9-digit numerical, last position is check digit Modulo 10 recursive).	CH16 CH17 MD01 AC01
2.74	Direct Debit Transaction Information +Ultimate Debtor	UltmtDbtr	0..1	O	If there is an error, the C-Level is rejected.	CH-TA: Is not currently passed on.	CH07
2.74	Direct Debit Transaction Information +Ultimate Debtor ++Name	Nm	0..1	O	Maximum 70 characters		CH16
2.74	Direct Debit Transaction Information +Ultimate Debtor ++Postal Address	PstlAdr	0..1	O	The address is either - structured using the sub-elements <StrtNm>, <PstCd>, <TwnNm>, <Ctry> or is - unstructured using the sub-elements <Ctry> and <AdrLine>.		CH16
2.74	Direct Debit Transaction Information +Ultimate Debtor ++Postal Address +++Street Name	StrtNm	0..1	O			

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.74	Direct Debit Transaction Information +Ultimate Debtor ++Postal Address +++Post Code	PstCd	0..1	O			
2.74	Direct Debit Transaction Information +Ultimate Debtor ++Postal Address +++Town Name	TwnNm	0..1	O			
2.74	Direct Debit Transaction Information +Ultimate Debtor ++Postal Address +++Country	Ctry	0..1	O	Must contain a valid Country Code (ISO 3166). If there is an error, the C-Level is rejected.		BE09
2.74	Direct Debit Transaction Information +Ultimate Debtor ++Postal Address +++Address Line	AdrLine	0..7	O	No more than two lines may be used.		CH16
2.88	Direct Debit Transaction Information +Remittance Information	RmtInf	0..1	O		CH-DD: May only be used unstructured. CH-TA: Must be structured and can optionally be used unstructured in addition.	CH16
2.89	Direct Debit Transaction Information +Remittance Information ++Unstructured	Ustrd	0..n	D	Notification to the debtor. Maximum 1 instance may be provided.		CH17
2.90	Direct Debit Transaction Information +Remittance Information ++Structured	Strd	0..n	D	If there is an error, the C-Level is rejected. Maximum 1 instance may be provided.	CH-DD: Must not be used. CH-TA: Must be used.	CH15 CH17
2.110	Direct Debit Transaction Information +Remittance Information ++Structured +++Creditor Reference Information	CdtrRefInf	0..1	M			
2.111	Direct Debit Transaction Information +Remittance Information ++Structured +++Creditor Reference Information ++++Type	Tp	0..1	M			
2.112	Direct Debit Transaction Information +Remittance Information ++Structured +++Creditor Reference Information ++++Type +++++Code Or Proprietary	CdOrPrtry	1..1	M			

ISO 20022 Standard				Swiss ISO 20022 Payments Standard			
Index	Message Item	XML Tag	Mult.	St.	General Definition	Direct Debit Type-specific Definition	Error
2.114	Direct Debit Transaction Information +Remittance Information ++Structured +++Creditor Reference Information ++++Type +++++Code Or Proprietary +++++Proprietary	Prtry	1..1	D	Indicates the type of reference number. Permitted values are: • ESR: ISR reference number • IPI: IPI reference number		CH16
2.116	Direct Debit Transaction Information +Remittance Information ++Structured +++Creditor Reference Information ++++Reference	Ref	0..1	M	DD reference in the form of ISR reference number or IPI purpose of payment		CH16

Table 5: Direct Debit Transaction Information (DrctDbtTxInf, C-Level)

2.3 Business specifications

2.3.1 Character set

In ISO 20022 XML messages, characters from the Unicode character set UTF-8 (8-Bit Unicode Transformation Format) must always be used (message has to be UTF-8 encoded). In XML messages under the Swiss ISO 20022 Payments Standard, only the "Latin Character Set" from this is permitted.

Characters without conversion (SWIFT character set)

The following characters, corresponding to the SWIFT character set, are accepted without conversion, as in the EPC Guidelines:

a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z

A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

. (full stop)

, (comma)

: (colon)

' (apostrophe, also accepted as escaped character ')

+ (plus)

- (minus)

/ (slash)

((open round bracket)

) (closed round bracket)

? (question mark)

space

Characters with conversion

In addition, certain other characters are also permitted in Switzerland (specified in Appendix C). These characters can be converted if necessary for subsequent further processing. If characters are sent that are not specified in Appendix C, the message is rejected.

Character set for references

For certain references, only characters from the SWIFT character set are permitted:

- Message Identification (A-Level)
- Payment Information Identification (B-Level)
- Creditor Scheme Identification (Creditor Identifier, B-Level)
- Instruction Identification (C-Level)
- End To End Identification (C-Level)

Furthermore, these references must not begin with "/" and must not contain "//".

Formatting conventions for fields showing amounts

In the XML context, different formats are permitted in fields showing amounts. To ensure that the payment is processed without problem, the following formatting is recommended:

- Do not use leading or final filler characters (space, white space, zero, plus signs).
- Always use a decimal point.
- Even where the amount is a whole number, always send decimal places (the number of decimal places depends on the currency).

Regardless of the format that is used, financial institutions are allowed to convert all fields showing amounts into a standard format for further processing.

2.3.2 Collection types in the Swiss Direct Debit procedure

The direct debit procedures that are used in Switzerland today by the banks (LSV⁺/BDD) and by PostFinance (Debit Direct) support a procedure with right of objection (customer direct debit) and without right of objection (business-to-business direct debit). These are identified as follows in the "Payment Type Information/Local Instrument/Proprietary" element:

- LSV⁺/BDD procedure: Customer direct debit contains "LSV⁺", business-to-business direct debit contains "BDD"
- Debit Direct procedure: Customer direct debit contains "DDCOR1", business-to-business direct debit contains "DDB2B".

2.3.3 Duplicate checking

Duplicate checking at Swiss financial institutions takes place at the Document (Message) level, and takes account of the following elements: unique "Message Identification" combined with "Initiating Party". The financial institutions check for uniqueness over a period of 90 days. For producers, this means that they must ensure that their messages for transmission are identified uniquely within a period of at least 90 days. Messages with the same "Message Identification" will be rejected. It is recommended that the "Message Identification" is normally kept unique for as long as possible, to facilitate follow-up investigations in the long term. In some cases at certain financial institutions, duplicate checking may also be carried out for other elements (B- or C-Level).

2.4 Example of a collection as "pain.008" message

2.4.1 Business situation in the example

For the details of the example in XML, the following assumptions were made:

The creditor "Muster AG, Seldwyla, CH" creates a "pain.008" message dated 23.03.2015 with two payment groups. Payment group 1 contains a single transaction for a collection on 30.03.2015. Payment group 2 contains two transactions for 25.03.2015.

For XML versions of the example, see Appendix A.

Note: Various sample files for CH-DD direct debits can be found via the following path: <https://isotest.postfinance.ch/corporates/> (under "Best Practice test cases").

2.4.2 Data in the example

Payment group 1 with one collection on 30.03.2015

Data for payment group 1:

Field designation	Content
Identifier for the group	PMTINF-01
Schema name	CHLS
Service level	CHTA
Requested collection date	30.03.2015
Name/address of the creditor	MUSTER AG, SELDWYLA, CH
IBAN of the creditor	CH7081232000001998736
LSV ⁺ identification of the creditor	ABC1W
BC number of the creditor agent	81232
ISR participant number of the creditor agent	010001456

Data for the transaction:

Field designation	Content
Transaction reference	INSTRID-01-01
Currency/Amount	CHF 3421.00
Name/address of the debtor	Herr Peter Haller Rosenweg 4 CH-8004 Zürich
BC number of the debtor agent	230
IBAN of the debtor	CH2210230000123456789
Structured purpose (as ISR reference)	200002000000004443332000061

Payment group 2 with one collection on 25.03.2015

Data for payment group 2:

Field designation	Content
Identifier for the group	PMTINF-02
Schema name	CHLS
Service level	CHTA
Requested collection date	25.03.2015
Name/address of the creditor	MUSTER AG, SELDWYLA, CH
IBAN of the creditor	CH7081232000001998736
LSV ⁺ identification of the creditor	ABC1W
BC number of the creditor agent	81232
ISR participant number of the creditor agent	010001456

Data for the first transaction in this payment group:

Field designation	Content
Transaction reference	INSTRID-02-01
Currency/Amount	CHF 885.50
Name/address of the debtor	Hans Tester Probeweg 88 9998 Irgendwo
BC number of the debtor agent	4835
IBAN of the debtor	CH9804835011062385295
Unstructured purpose	Gemäss Rechnung 4712
Structured purpose (as ISR reference)	185744810000000000200800628

Data for the second transaction in this payment group:

Field designation	Content
Transaction reference	INSTRID-02-02
Currency/Amount	CHF 66.00
Name/address of the debtor	Peter Error Rudolfsweg 11 Sion
BC number of the debtor agent	700
IBAN of the debtor	CH2007000031023502601
Structured purpose (as ISR reference)	215703000075200334559000126

	GrpHdr	MsgId	MSG-01			
		CreDtTm	2015-03-23T07:30:00			
		NbOfTxS	3			
		CtrlSum	4372.5			
	InitgPty	Nm	MUSTER AG			
		Id	OrgId	Othr	Id	CH1312300000012345
CstmrDrctDbtInitn	PmtInf	PmtInfId	PMTINF-01			
		PmtMtd	DD			
		PmtTpInf	SvcLvl	Prtry	CHTA	
			LclInstrm	Prtry	LSV+	
		ReqdColltnDt	2015-03-30			
		Cdtr	Nm	MUSTER AG		
			PstlAdr	Ctry	CH	
				AdrLine	SELDWYLA	
		CdtrAcct	Id	IBAN	CH7081232000001998736	
		CdtrAgt	FinInstnId	ClrSysMmbld	Mmbld	81232
				Othr	Id	010001456
		CdtrSchmId	Id	PrvtId	Othr	Id
				SchmeNm	Prtry	CHLS

CstmrDrctDbtInittn	PmtInf	DrctDbtTxInf	PmtId	InstId	INSTRID-01-01			
				EndToEndId	NOTPROVIDED			
			InstdAmt	3421 CHF				
			DbtrAgt	FinInstnId	ClrSysMmbld	Mmbld	230	
			Dbtr	Nm	HERR PETER HALLER			
				PstlAdr	Ctry	CH		
					AdrLine	ROSENAUWEG 4		
					AdrLine	8004 ZÜRICH		
			DbtrAcct	Id	IBAN	CH2210230000123456789		
RmtInf	Strd	CdtrRefInf	Tp	CdOrPrtry	Prtry	ESR		
				Ref	200002000000004443332000061			

PmtInfId	PMTINF-02				
PmtMtd	DD				
PmtTpInf	SvcLvl	Prtry	CHTA		
LclInstrm	Prtry	LSV+			
ReqdColltnDt	2015-03-25				
Cdtr	Nm	MUSTER AG			
	PstlAdr	Ctry	CH		
		AdrLine	SELDWYLA		

CstmrDrctDbtInitn PmtInf

CdtrAcct	Id <div> IBAN CH7081232000001998736 </div>	
CdtrAgt	FinInstnId	ClrSysMmbld <div> Mmbld 81232 </div>
		Othr <div> Id 010001456 </div>
CdtrSchmId	Id	<div> PrvtId </div> <div> Othr <div> Id ABC1W </div> <div> SchmeNm <div> Prtry CHLS </div> </div> </div>

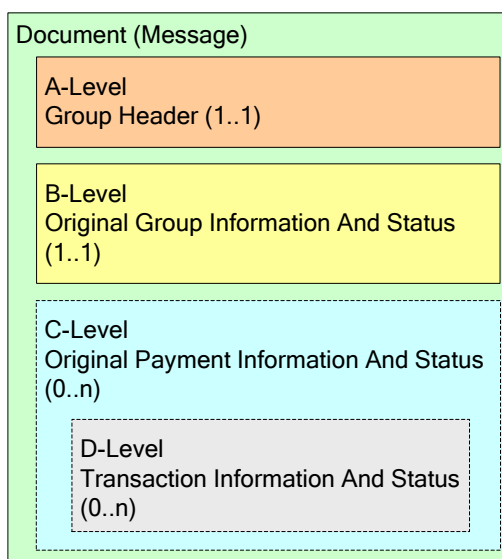
CstmrDrctDbtInitn	PmtInf	DrctDbtTxInf	PmtId	InstrId	INSTRID-02-02			
				EndToEndId	NOTPROVIDED			
			InstAmt	66 CHF				
			DbtrAgt	FinInstnId	ClrSysMmbld	Mmbld	700	
			Dbtr	Nm	PETER ERROR			
		PstlAdr	Ctry	CH				
			AdrLine	Rudolfsweg 11				
			AdrLine	Sion				
		DbtrAcct	Id	IBAN	CH2007000031023502601			
		RmtInf	Strd	CdtrRefInf	Tp	CdOrPrtry	Prtry	ESR
					Ref	215703000075200334559000126		

3 Customer Payment Status Report (pain.002)

3.1 General

The XML message Customer Payment Status Report (pain.002) is used by the financial institution to inform customers about the status of "pain.001" transfer orders or "pain.008" collection orders that have been sent. It is used on the basis of the ISO 20022 XML schema "pain.002.001.03".

Note: The business specifications for the Customer Payment Status Report (pain.002) are described in detail in section 6 of the Swiss Business Rules.



The "pain.002" XML message is essentially structured as follows:

- **A-Level:** message level, Group Header. This block must occur exactly once.
- **B-Level:** information about the original message level, Original Group Information And Status. This block must be present exactly once.
- **C-Level:** Information about the original order information, Original Payment Information And Status. This block can be present up to n times.
- **D-Level:** Information about the original transactions, Transaction Information And Status. This block can be present up to n times.

Figure 9: Basic message structure for the "pain.002" XML message

In the following **technical specifications** for the XML message Customer Payment Status Report (pain.002), each of these message levels is discussed in a separate sub-section:

- 3.2.1 "Group Header (GrpHdr, A-Level)"
- 3.2.2 "Original Group Information And Status (OrgnlGrpInfAndSts, B-Level)"
- 3.2.3 "Original Payment Information And Status (OrgnlPmtInfAndSts, C-Level)"
- 3.2.4 "Transaction Information And Status (TxInfAndSts, D-Level)"

All the possible error messages are listed in section 3.2.5 "Status Reason Codes".

Note: If, in the original message, a mandatory field was not sent, or was blank, or a "pattern" was broken, then that element is not returned in the Payment Status Report. In these cases the error message is either FF01 (schema error) or CH21 (mandatory field missing). Normally, the details of the field that was not sent are referred to as an error text in the "Additional Information" <AddtlInf> element (example: "Mandatory element <IBAN> not sent or blank").

3.2 Technical specifications

3.2.1 Group Header (GrpHdr, A-Level)

The Group Header (A-Level of the message) contains all the elements that apply to all the transactions in the Customer Payment Status Report (pain.002) XML message. It occurs exactly once in the message.

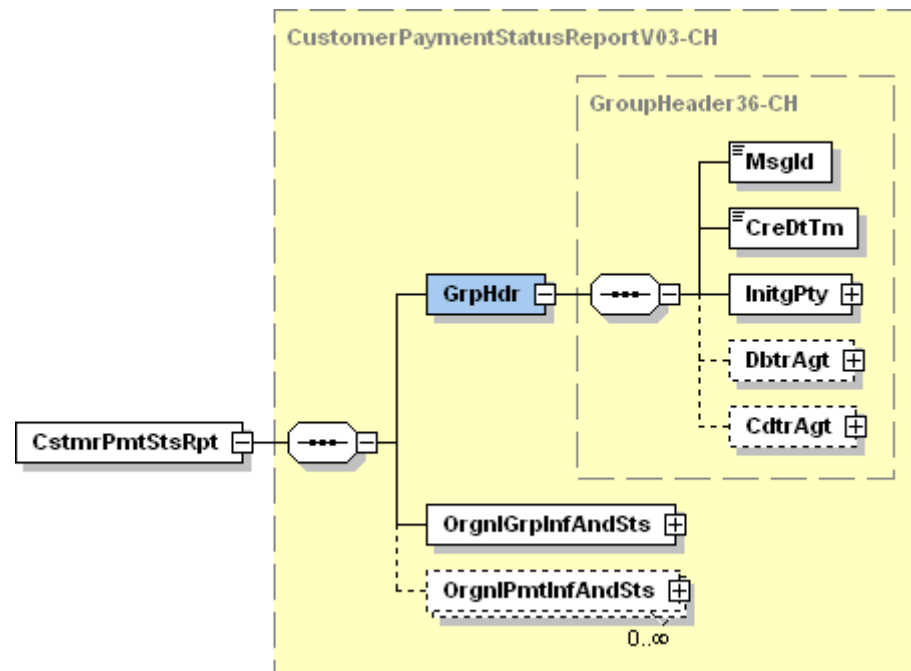


Figure 10: Group Header (GrpHdr)

The following table specifies all the elements of the Group Header that are relevant to the Swiss ISO 20022 Payments Standard.

Note: The Customer Payment Status Report (pain.002) is used both to report back statuses for payment orders (pain.001) and also for Swiss DD collection orders (pain.008) that have been submitted.

ISO 20022 Standard				Swiss ISO 20022 Payments Standard	
Index	Message Item	XML Tag	Mult.	St.	General Definition
	Document +Customer Payment Status Report V03	CstmrPmtStsRpt	1..1		
1.0	Group Header	GrpHdr	1..1	M	
1.1	Group Header +Message Identification	MsgId	1..1	M	Unique message reference, assigned to the message by the sender.
1.2	Group Header +Creation Date Time	CreDtTm	1..1	M	Must be in a valid format. Recommendation: Should be the same as the actual date of creation.
1.3	Group Header +Initiating Party	InitgPty	0..1	D	Sender of the message One or more sub-elements can be used to give details of the sender.
1.3	Group Header +Initiating Party ++Name	Nm	0..1	O	Name of the sender of the message, maximum 70 characters
1.3	Group Header +Initiating Party ++Identification	Id	0..1	O	Identification of the sender of the message
1.3	Group Header +Initiating Party ++Identification +++Organisation Identification	OrgId {Or	1..1	D	Only "BIC Or BEI" or an element of "Other" permitted. If used, the "Private Identification" must not be present.
1.3	Group Header +Initiating Party ++Identification +++Private Identification	PrvtId Or}	1..1	D	Only "Date And Place Of Birth" or an element of "Other" permitted. If used, the "Organisation Identification" must not be present.
1.5	Group Header +Debtor Agent	DbtrAgt	0..1	D	Sender of the message Can be used if the "Debtor Agent" is the sender of the message. Only BIC or the BC number are permitted under "Clearing System Member Identification/Member Identification". Note: Element is only used for Credit Transfer (original message "pain.001").
1.6	Group Header +Creditor Agent	CdtrAgt	0..1	D	Sender of the message Can be used if the "Creditor Agent" is the sender of the message. Only BIC or the BC number are permitted under "Clearing System Member Identification/Member Identification". Note: Element is only used for Direct Debit (original message "pain.008").

Table 6: Group Header (GrpHdr, A-Level)

3.2.2 Original Group Information And Status (OrgnlGrplnfAndSts, B-Level)

The Original Group Information And Status (B-Level of the message) occurs in the "pain.002" exactly once.

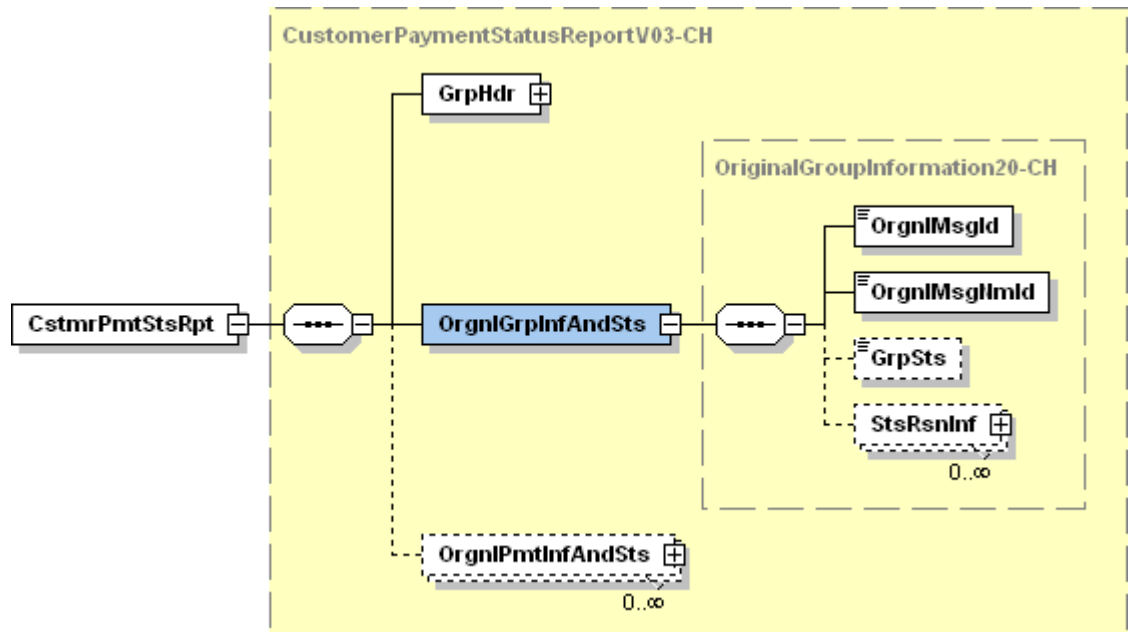


Figure 11: Original Group Information And Status (OrgnlGrplnfAndSts)

The following table specifies all the elements of the Original Group Information And Status that are relevant to the Swiss ISO 20022 Payments Standard.

ISO 20022 Standard				Swiss ISO 20022 Payments Standard	
Index	Message Item	XML Tag	Mult.	St.	General Definition
2.0	Original Group Information And Status	OrgnlGrpInfAndSts	1..1	M	
2.1	Original Group Information And Status +Original Message Identification	OrgnlMsgId	1..1	M	"Message Identification" from the original "pain.001" or "pain.008" message. If the message identification could not be identified, then "UNKNOWN" is sent back here.
2.2	Original Group Information And Status +Original Message Name Identification	OrgnlMsgNmId	1..1	M	Name of message "pain.001..." or "pain.008..." If the message could not be identified, then "UNKNOWN" is sent back here.
2.6	Original Group Information And Status +Group Status	GrpSts	0..1	D	The values "ACCP", "ACWC", "PART" and "RJCT" are sent in the status report. Responses of a technical kind may also contain the status "ACTC". Depending on the financial institution and the delivery channel, the "Group Status" may not be required. Deviating from the SEPA recommendations, in Switzerland positive "Group Status" messages are also sent back.
2.7	Original Group Information And Status +Status Reason Information	StsRsnInf	0..n	D	Sent if there are errors/warnings at A-Level. Note: • "Status Reason Information" is used at no more than one level within a message, either in - "Original Group Information And Status" or - "Original Payment Information And Status" or - "Transaction Information And Status". • If "Group Status" = "ACCP" the "Status Reason Information" is not used. • If "Group Status" = "PART" the "Status Reason Information" is used either at the level "Original Payment Information And Status" or "Transaction Information And Status". • If "Group Status" = "RJCT" because all B-Levels have been rejected, the "Status Reason Information" is used at the level "Original Payment Information And Status". • If "Group Status" = "RJCT" because all C-Levels have been rejected, the "Status Reason Information" is used at the level "Transaction Information And Status".
2.8	Original Group Information And Status +Status Reason Information ++Originator	Orgtr	0..1	D	Originator of the status information Can be used if the originator of the status information is not the sender of the message ("Group Header/Initiating Party" or "Group Header/Creditor Agent").
2.8	Original Group Information And Status +Status Reason Information ++Originator +++Name	Nm	0..1	D	Name of the originator To be used if no BIC is available.
2.8	Original Group Information And Status +Status Reason Information ++Originator +++Identification	Id	0..1	D	If this is used, the "Name" must not be present.
2.8	Original Group Information And Status +Status Reason Information ++Originator +++Identification ++++Organisation Identification	OrgId {Or	1..1	M	Must be used if "Identification" is used.

ISO 20022 Standard				Swiss ISO 20022 Payments Standard	
Index	Message Item	XML Tag	Mult.	St.	General Definition
2.8	Original Group Information And Status +Status Reason Information ++Originator +++Identification ++++Organisation Identification +++++BICOr BEI	BICOrBEI	0..1	M	BIC of the originator
2.8	Original Group Information And Status +Status Reason Information ++Originator +++Identification ++++Private Identification	PrvtId Or}	1..1	N	
2.9	Original Group Information And Status +Status Reason Information ++Reason	Rsn	0..1	M	Reason for the status
2.10	Original Group Information And Status +Status Reason Information ++Reason +++Code	Cd {Or	1..1	D	Code as described in section "Status Reason Codes" If used, then "Proprietary" must not be present.
2.11	Original Group Information And Status +Status Reason Information ++Reason +++Proprietary	Prtry Or}	1..1	D	Swiss financial institutions will, wherever possible, abide by ISO standards ("Code" element). If used, then "Code" must not be present.
2.12	Original Group Information And Status +Status Reason Information ++Additional Information	AddtInf	0..n	O	Can be used optionally to provide additional information about the "Reason".

Table 7: Original Group Information And Status (OrgnlGrplnfAndSts, B-Level)

3.2.3 Original Payment Information And Status (OrgnPmtInfAndSts, C-Level)

The Original Payment Information And Status (C-Level of the message) can occur once or more than once in the "pain.002" message.

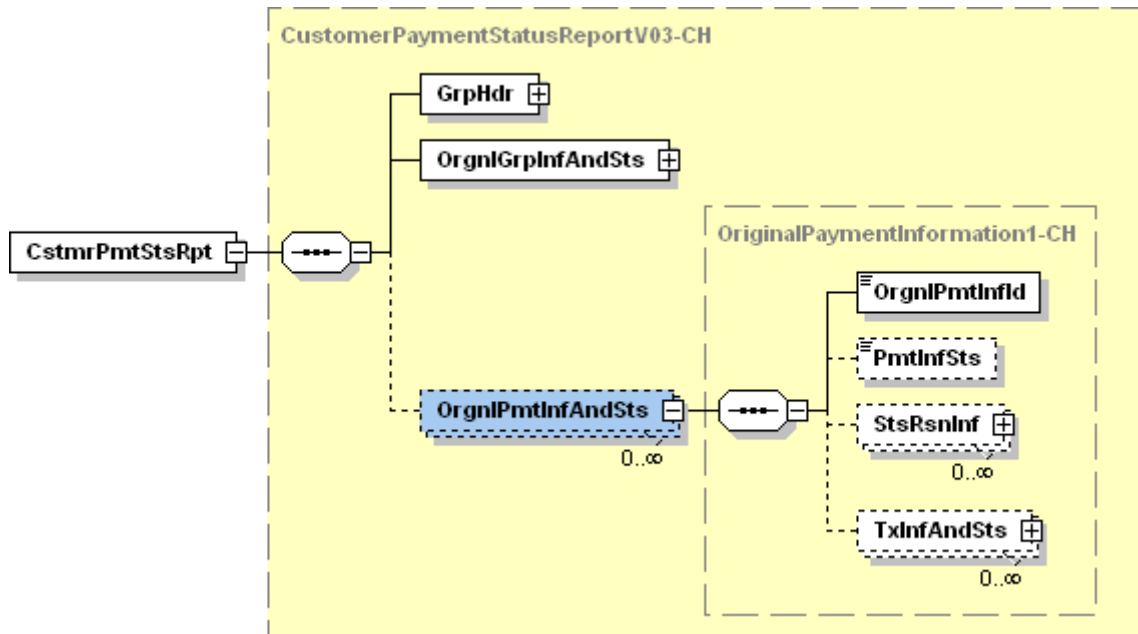


Figure 12: Original Payment Information And Status (OrgnPmtInfAndSts)

The following table specifies all the elements of the Original Payment Information And Status that are relevant to the Swiss ISO 20022 Payments Standard.

ISO 20022 Standard				Swiss ISO 20022 Payments Standard	
Index	Message Item	XML Tag	Mult.	St.	General Definition
3.0	Original Payment Information And Status	OrgnlPmtInfAndSts	0..n	D	Is sent if there are errors/warnings at B-/C-Level of the original "pain.001" or "pain.008" message.
3.1	Original Payment Information And Status +Original Payment Information Identification	OrgnlPmtInfId	1..1	M	"Payment Information Identification" (B-Level) from the original "pain.001" or "pain.008" message (or "NOTPROVIDED"). Is always sent if there are errors/warnings at B- or C-Level.
3.4	Original Payment Information And Status +Payment Information Status	PmtInfSts	0..1	D	This element is sent if there are errors/warnings at B-Level of the order (pain.001). Only "ACWC", "PART", "RJCT" are sent, no other interim status. Deviating from SEPA, positive "Payment Information-Status" messages are also sent back. Additional status messages may include other values, such as "ACTC" for instance (after a purely technical validation of the received message) or "ACCP" (status message due to a status change of an order or as a response to individual B-Levels).
3.5	Original Payment Information And Status +Status Reason Information	StsRsnInf	0..n	D	Is sent if there are errors/warnings at B-Level. Note: • "Status Reason Information is used at no more than one level within a message, either in - "Original Group Information And Status" or - "Original Payment Information And Status" or - "Transaction Information And Status". • If "PmtInfSts" = "ACWC" because warnings at C-Level have occurred, the "Status Reason Information" is used at the level "Transaction Information And Status". • If "PmtInfSts" = "PART" the "Status Reason Information" is used at the level "Transaction Information And Status". • If "PmtInfSts" = "RJCT" because all C-Levels have been rejected, the "Status Reason Information" is used at the level "Transaction Information And Status".
3.6	Original Payment Information And Status +Status Reason Information ++Originator	Orgtr	0..1	D	Originator of the status information Can be used if the originator of the status information is not the sender of the message ("Group Header/Initiating Party" or "Group Header/Creditor Agent").
3.6	Original Payment Information And Status +Status Reason Information ++Originator +++Name	Nm	0..1	D	Name of the originator To be used if no "BIC/BEI" is available. If this is used, the "Identification" must not be present.
3.6	Original Payment Information And Status +Status Reason Information ++Originator +++Identification	Id	0..1	D	If this is used, the "Name" must not be present.
3.6	Original Payment Information And Status +Status Reason Information ++Originator +++Identification ++++Organisation Identification	OrgId {Or	1..1	M	Must be used if "Identification" is used.
3.6	Original Payment Information And Status +Status Reason Information ++Originator +++Identification ++++Organisation Identification +++++BICor BEI	BICorBEI	0..1	M	BIC/BEI of the originator Must be used if "Identification" is used.

ISO 20022 Standard				Swiss ISO 20022 Payments Standard	
Index	Message Item	XML Tag	Mult.	St.	General Definition
3.6	Original Payment Information And Status +Status Reason Information ++Originator +++Identification ++++Private Identification	PrvtId Or}	1..1	N	
3.7	Original Payment Information And Status +Status Reason Information ++Reason	Rsn	0..1	M	Reason for the status Must be used if "Status Reason Information" is used.
3.8	Original Payment Information And Status +Status Reason Information ++Reason +++Code	Cd {Or	1..1	D	Code as described in section "Status Reason Codes" If this is used, "Proprietary" must not be present.
3.9	Original Payment Information And Status +Status Reason Information ++Reason +++Proprietary	Prtry Or}	1..1	D	Swiss financial institutions will, wherever possible, abide by ISO standards ("Code" element). If used, then "Code" must not be present.
3.10	Original Payment Information And Status +Status Reason Information ++Additional Information	AddtlInf	0..n	O	Can be used optionally to provide additional information about the "Reason".

Table 8: Original Payment Information and Status (OrgnIPmtInfAndSts, C-Level)

3.2.4 Transaction Information And Status (TxInfAndSts, D-Level)

The Transaction Information And Status (D-Level of the message) can occur once or more than once in the "pain.002" message.

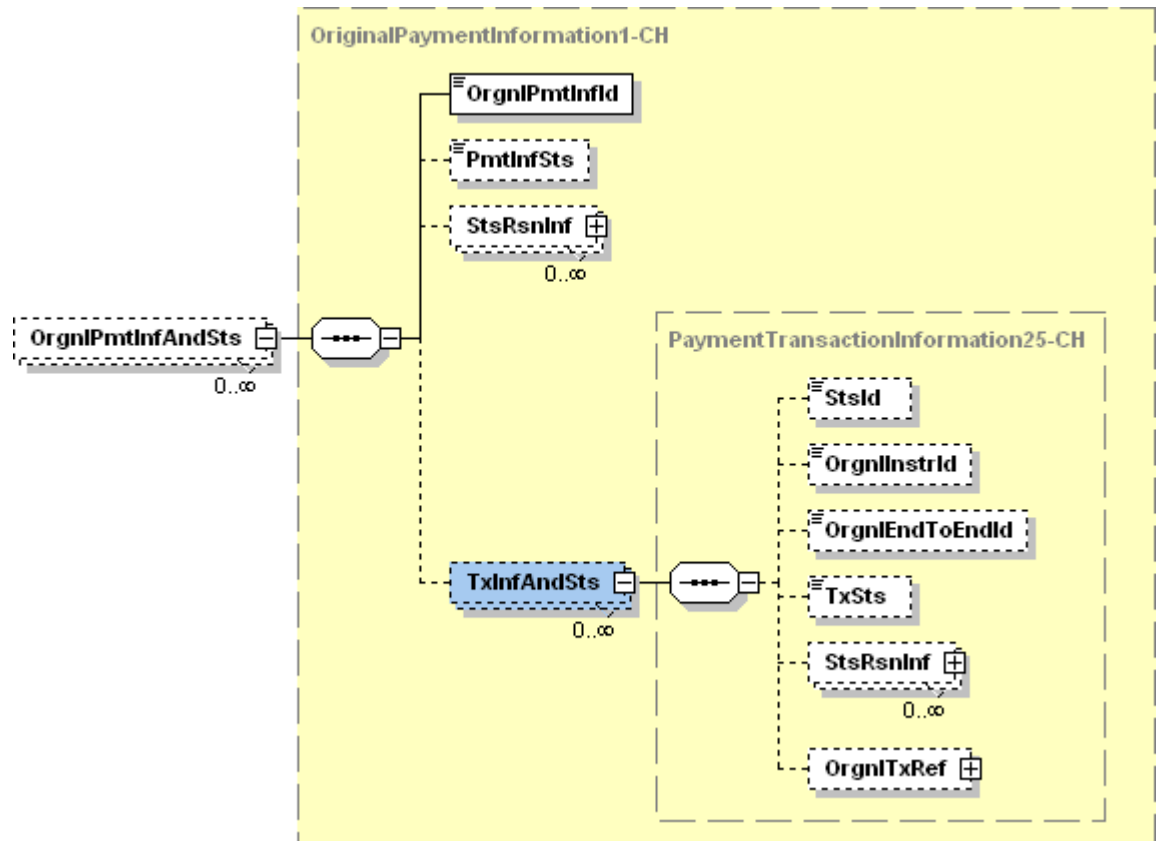


Figure 13: Transaction Information And Status (TxInfAndSts)

The following table specifies all the elements of the Transaction Information And Status that are relevant to the Swiss ISO 20022 Payments Standard.

ISO 20022 Standard				Swiss ISO 20022 Payments Standard	
Index	Message Item	XML Tag	Mult.	St.	General Definition
3.15	Transaction Information And Status	TxInfAndSts	0..n	D	Is sent if there are errors/warnings at C-Level of the original "pain.001" or "pain.008" message.
3.16	Transaction Information And Status +Status Identification	StsId	0..1	O	Unique identification, set by the originator of this message.
3.17	Transaction Information And Status +Original Instruction Identification	OrgnlInstrId	0..1	D	"Instruction Identification" (C-Level) from the original message. Is always sent if there are errors/warnings at C-Level (if not available, then "NOTPROVIDED" is sent).
3.18	Transaction Information And Status +Original End To End Identification	OrgnlEndToEndId	0..1	D	"End To End Identification" (C-Level) from the original message. Is always sent if there are errors/warnings at C-Level (if not available or empty, then "NOTPROVIDED" is sent).
3.19	Transaction Information And Status +Transaction Status	TxSts	0..1	D	Is sent if there are errors/warnings at C-Level. Only "ACWC" and "RJCT" are sent, no other interim status. "ACCP" is not sent explicitly.
3.20	Transaction Information And Status +Status Reason Information	StsRsnInf	0..n	D	Is sent if there are errors/warnings at C-Level. Note: "Status Reason Information" is used at no more than one level within a message, either in - "Original Group Information And Status" or - "Original Payment Information And Status" or - "Transaction Information And Status".
3.21	Transaction Information And Status +Status Reason Information ++Originator	Orgtr	0..1	D	Originator of the status information Can be used if the originator of the status information is not the sender of the message ("Group Header/Initiating Party" or "Group Header/Creditor Agent").
3.21	Transaction Information And Status +Status Reason Information ++Originator +++Name	Nm	0..1	D	Name of the originator To be used if no "BIC/BEI" is available. If this is used, the "Identification" must not be present.
3.21	Transaction Information And Status +Status Reason Information ++Originator +++Identification	Id	0..1	D	If this is used, the "Name" must not be present.
3.21	Transaction Information And Status +Status Reason Information ++Originator +++Identification ++++Organisation Identification	OrgId {Or	1..1	M	Must be used if "Identification" is used.
3.21	Transaction Information And Status +Status Reason Information ++Originator +++Identification ++++Organisation Identification +++++BICOr BEI	BICOrBEI	0..1	M	BIC/BEI of the originator Must be used if "Identification" is used.
3.21	Transaction Information And Status +Status Reason Information ++Originator +++Identification ++++Private Identification	PrvtId Or}	1..1	N	

ISO 20022 Standard				Swiss ISO 20022 Payments Standard	
Index	Message Item	XML Tag	Mult.	St.	General Definition
3.22	Transaction Information And Status +Status Reason Information ++Reason	Rsn	0..1	M	Reason for the status Must be used if "Status Reason Information" is used.
3.23	Transaction Information And Status +Status Reason Information ++Reason +++Code	Cd {Or	1..1	D	Code as described in section "Status Reason Codes" If this is used, "Proprietary" must not be present.
3.24	Transaction Information And Status +Status Reason Information ++Reason +++Proprietary	Prtry Or}	1..1	D	Swiss financial institutions will, wherever possible, abide by ISO standards ("Code" element). If used, then "Code" must not be present.
3.25	Transaction Information And Status +Status Reason Information ++Additional Information	AddtlInf	0..n	O	Can be used optionally to provide additional information about the "Status Reason".
3.32	Transaction Information And Status +Original Transaction Reference	OrgnTxRef	0..1	D	Original elements from the original message Generally only those elements are sent back which caused warnings or errors. Optionally, other fields can be sent back, including complete transactions that have been submitted.
3.34	Transaction Information And Status +Original Transaction Reference ++Amount	Amt	0..1	O	Information from the original message
3.39	Transaction Information And Status +Original Transaction Reference ++Interbank Settlement Date	IntrBkSttlmDt	0..1	D	Effective settlement date Sent if the required settlement date has been set for the next banking business/Post Office working day.
3.40	Transaction Information And Status +Original Transaction Reference ++Requested Collection Date	ReqdColltnDt	0..1	O	Information from the original message Element is only used for Direct Debit (original message "pain.008").
3.41	Transaction Information And Status +Original Transaction Reference ++Requested Execution Date	ReqdExctnDt	0..1	O	Information from the original message Element is only used for Credit Transfer (original message "pain.001").
3.42	Transaction Information And Status +Original Transaction Reference ++Creditor Scheme Identification	CdtrSchmeld	0..1	O	Information from the original message Element is only used for Direct Debit (original message "pain.008").
3.55	Transaction Information And Status +Original Transaction Reference ++Payment Type Information	PmtTplnf	0..1	O	Information from the original message
3.68	Transaction Information And Status +Original Transaction Reference ++Payment Method	PmtMtd	0..1	O	Information from the original message
3.69	Transaction Information And Status +Original Transaction Reference ++Mandate Related Information	MndtRltdInf	0..1	O	Information from the original message Element is only used for Direct Debit (original message "pain.008").

ISO 20022 Standard				Swiss ISO 20022 Payments Standard	
Index	Message Item	XML Tag	Mult.	St.	General Definition
3.88	Transaction Information And Status +Original Transaction Reference ++Remittance Information	RmtInf	0..1	O	Information from the original message
3.120	Transaction Information And Status +Original Transaction Reference ++Ultimate Debtor	UltmtDbtr	0..1	O	Information from the original message
3.121	Transaction Information And Status +Original Transaction Reference ++Debtor	Dbtr	0..1	O	Information from the original message
3.122	Transaction Information And Status +Original Transaction Reference ++Debtor Account	DbtrAcct	0..1	O	Information from the original message
3.123	Transaction Information And Status +Original Transaction Reference ++Debtor Agent	DbtrAgt	0..1	O	Information from the original message
3.125	Transaction Information And Status +Original Transaction Reference ++Creditor Agent	CdtrAgt	0..1	O	Information from the original message
3.127	Transaction Information And Status +Original Transaction Reference ++Creditor	Cdtr	0..1	O	Information from the original message
3.128	Transaction Information And Status +Original Transaction Reference ++Creditor Account	CdtrAcct	0..1	O	Information from the original message
3.129	Transaction Information And Status +Original Transaction Reference ++Ultimate Creditor	UltmtCdtr	0..1	O	Information from the original message

Table 9: Transaction Information And Status (TxInfAndSts, D-Level)

3.2.5 Status Reason Codes

The reason for the rejection or information about modifications to data are given in the Status Reason Code element. For this purpose, financial institutions use, wherever possible, the ISO Code.

ISO Code

In principle, all values from the Payments External Code Lists [5] (see "ExternalStatusReason1Code") can be used.

The ISO code values used in these Swiss Implementation Guidelines for which there are also Swiss code values are listed in the following table and are used in the "Code" element (codes shaded in dark colours are only used for Credit Transfer)

ISO Code	Error
AC01	Incorrect account number
AGNT	Wrong agent
AM01	Amount must be greater than zero
AM02	Not allowed amount
AM03	Not allowed currency
AM10	Invalid control sum
AM18	Value in Number Of Transactions does not match the number of transactions
BE01	Identification of customer is not consistent with associated account number
BE09	Value in Country Code is not valid
CH03	Value in Requested Execution Date or Requested Collection Date is too far in the future
CH04	Value in Requested Execution Date or Requested Collection Date is too far in the past
CH07	Element is not to be used at B- and C-Level
CH11	Value in Creditor Identifier is incorrect
CH15	Content of element includes more than 140 characters
CH16	Content is formally incorrect
CH17	Element is not admitted
CH20	Number of decimal points not compatible with the currency
CH21	Required compulsory element missing
CURR	Incorrect currency
DT01	Invalid date
DT06	Date of settlement is set for the next possible banking business/Post Office working day (this code does not lead to a rejection; it is only there for information)
DU01	Value of Message Identification is not unique
DU02	Value in Payment Information Identification is not unambiguously in the message
DU05	Element Instruction Identification is not unique in the B-Level
MD01	No mandate (payment authorization)
RC01	Bank identifier incorrect
RR12	Invalid identification

Table 10: Status Reason Codes used in Switzerland

Financial institutions are also allowed to send individual status information. In that case, the ISO-Code NARR is sent in the Code element and the relevant information entered in the Additional Information element.

CH Code

In addition to the ISO codes, in exceptional cases in Switzerland the status can be shown using specific Swiss or institute-specific codes.

3.3 Business specifications

The business specifications for the Customer Payment Status Report (pain.002) are described in detail in section 6 of the Swiss Business Rules.

3.4 Examples of Status Reports as "pain.002" messages

For the details of the examples in XML, the following assumptions were made:

First example: OK case

The first example shows a positive response message (Customer Payment Status Report "pain.002") to a collection message that has been received (Customer Direct Debit Initiation "pain.008") as described in section 2.4.

Second example: NOK case

The second example shows a negative response message (Customer Payment Status Report "pain.002") to a collection order that has been received. Here the following assumption was made: in the collection message that was received (Customer Direct Debit Initiation "pain.008") as described in section 2.4, one of the transactions includes an invalid IBAN for the debtor (example: QQ2007000031023502601).

Data for the NOK case:

Field designation	Content
Identification of the original message	MSG-01
Identification of the original group	PMTINF-02
Identification of the original transaction	INSTR-02-02
Original end-to-end identification	NOTPROVIDED
Error code (Group Status)	PART
Error code (Payment Information Status)	PART
Error code (Transaction Status)	RJCT
Error reason (Reason)	BE09
Contents of the incorrect element (Debtor Account)	QQ2007000031023502601

For XML versions of the examples see Appendix A.

Appendix A: XML schemas and examples

XML schemas

The original XML schemas

- ***pain.008.001.02.ch.03.xsd*** and
- ***pain.002.001.03.ch.02.xsd***

are published on the www.iso-payments.ch website.

They should preferably be opened using specific XML software.

Examples

On the www.iso-payments.ch website, the examples described in this document are published as XML files:

- ***pain_008_Swiss-DD_Beispiel_1.xml*** (Example from section 2.4)
- ***pain_002_Swiss-DD_Beispiel_OK.xml*** (First example from section 3.4)
- ***pain_002_Swiss-DD_Beispiel_NOK.xml*** (Second example from section 3.4)

Appendix B: Symbols for graphical XML representation

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

Elements

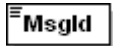
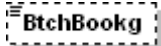
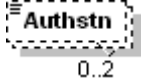
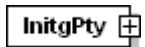

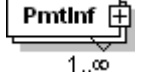

Elements are shown as rectangles containing the name of the element. For mandatory elements, the rectangle is shown with a continuous line, for optional elements the line is dotted.

For complex elements, which, unlike simple elements could contain attributes or other elements (so-called 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 2 superimposed rectangles. Bottom right, you can see the minimum and maximum number of occurrences.

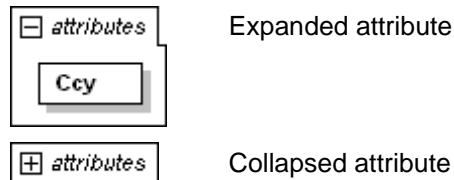
Examples:

	Mandatory simple element
	Optional simple element
	Optional simple element which can 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
	Mandatory complex element (with child elements) which can occur any number of times
	Mandatory complex element (with attributes)

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, 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

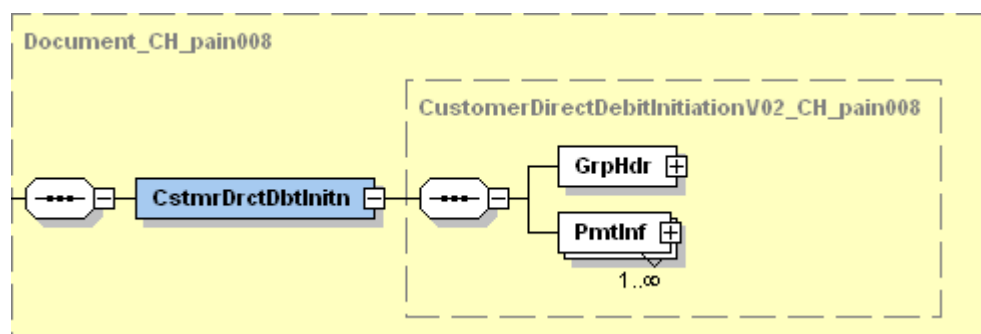
To the right of a sequence symbol, the connecting lines branch off to the elements which are to be used in the XML message in the order shown (optional elements and attributes can of course also be omitted).



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:



Appendix C: Character conversion table

The characters shown in the following Table 11 are also permitted in Switzerland, as explained in section 2.3.1 "Character set".

The "Conversion to" column shows a possible conversion to other characters.

Character	Designation	Conversion to
!	EXCLAMATION MARK	.
" oder "	QUOTATION MARK	.
#	NUMBER SIGN	.
%	PERCENT SIGN	.
& ¹	AMPERSAND	+
*	ASTERISK	.
;	SEMICOLON	.
< ¹	LESS-THAN SIGN	.
> oder >	GREATER-THAN SIGN	.
÷	DIVISION SIGN	.
=	EQUALS SIGN	.
@	COMMERCIAL AT	.
_	LOW LINE	.
\$	DOLLAR SIGN	.
£	POUND SIGN	.
[LEFT SQUARE BRACKET	.
]	RIGHT SQUARE BRACKET	.
{	LEFT CURLY BRACKET	.
}	RIGHT CURLY BRACKET	.
\	REVERSE SOLIDUS	.
`	GRAVE ACCENT	.
'	ACUTE ACCENT	.
~	TILDE	.
à	LATIN SMALL LETTER A WITH GRAVE	a
á	LATIN SMALL LETTER A WITH ACUTE	a
â	LATIN SMALL LETTER A WITH CIRCUMFLEX	a
ä	LATIN SMALL LETTER A WITH DIAERESIS	ae or a
ç	LATIN SMALL LETTER C WITH CEDILLA	c
è	LATIN SMALL LETTER E WITH GRAVE	e
é	LATIN SMALL LETTER E WITH ACUTE	e
ê	LATIN SMALL LETTER E WITH CIRCUMFLEX	e

¹ Die Zeichen & (AMPERSAND) und < (LESS-THAN SIGN) dürfen als Text in XML-Elementen nur "escaped" dargestellt werden.

Character	Designation	Conversion to
ë	LATIN SMALL LETTER E WITH DIAERESIS	e
ì	LATIN SMALL LETTER I WITH GRAVE	i
í	LATIN SMALL LETTER I WITH ACUTE	i
î	LATIN SMALL LETTER I WITH CIRCUMFLEX	i
ï	LATIN SMALL LETTER I WITH DIAERESIS	i
ñ	LATIN SMALL LETTER N WITH TILDE	n
ò	LATIN SMALL LETTER O WITH GRAVE	o
ó	LATIN SMALL LETTER O WITH ACUTE	o
ô	LATIN SMALL LETTER O WITH CIRCUMFLEX	o
ö	LATIN SMALL LETTER O WITH DIAERESIS	oe or o
ù	LATIN SMALL LETTER U WITH GRAVE	u
ú	LATIN SMALL LETTER U WITH ACUTE	u
û	LATIN SMALL LETTER U WITH CIRCUMFLEX	u
ü	LATIN SMALL LETTER U WITH DIAERESIS	ue or u
ý	LATIN SMALL LETTER Y WITH ACUTE	Y
ß	LATIN SMALL LETTER SHARP S	ss or s
À	LATIN CAPITAL LETTER A WITH GRAVE	A
Á	LATIN CAPITAL LETTER A WITH ACUTE	A
Â	LATIN CAPITAL LETTER A WITH CIRCUMFLEX	A
Ä	LATIN CAPITAL LETTER A WITH DIAERESIS	AE or A
Ç	LATIN CAPITAL LETTER C WITH CEDILLA	C
È	LATIN CAPITAL LETTER E WITH GRAVE	E
É	LATIN CAPITAL LETTER E WITH ACUTE	E
Ê	LATIN CAPITAL LETTER E WITH CIRCUMFLEX	E
Ë	LATIN CAPITAL LETTER E WITH DIAERESIS	E
Ì	LATIN CAPITAL LETTER I WITH GRAVE	I
Í	LATIN CAPITAL LETTER I WITH ACUTE	I
Î	LATIN CAPITAL LETTER I WITH CIRCUMFLEX	I
Ï	LATIN CAPITAL LETTER I WITH DIAERESIS	I
Ò	LATIN CAPITAL LETTER O WITH GRAVE	O
Ó	LATIN CAPITAL LETTER O WITH ACUTE	O
Ô	LATIN CAPITAL LETTER O WITH CIRCUMFLEX	O
Ö	LATIN CAPITAL LETTER O WITH DIAERESIS	OE or O
Ù	LATIN CAPITAL LETTER U WITH GRAVE	U
Ú	LATIN CAPITAL LETTER U WITH ACUTE	U
Û	LATIN CAPITAL LETTER U WITH CIRCUMFLEX	U
Ü	LATIN CAPITAL LETTER U WITH DIAERESIS	UE or U
Ñ	LATIN CAPITAL LETTER N WITH TILDE	N

Table 11: Character conversion

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