



## ID2002 - Protocol Description - Switch Interface Description

PowerCARD-Switch

**Client:** Product  
**PowerCARD version:** V3 / V3.5  
**Document version:** V3.8

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# 1 Introduction

PowerCARD uses the exchange format based on the ISO 8583/1993-12-15 standard.

This standard allows formats of content messages with variable length depending on the messages exchanged.

This document describes the format of the messages exchanged between PowerCARD and the servers from the Bank and defines the data elements embedded in these messages.

## 2 Structure and content of the messages

Message Length	Protocol identification	PowerCARD Header	Message type	Bitmap	Data element
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### 2.1 Message length

This element contains the length of the rest of the message. It is coded on four characters right-justified and completed with zeros in ASCII format.

This element is mandatory. It is used by the communication API.

### 2.2 Protocol identification

This element is used to identify the protocol of the message. It must contain the 3 ISO characters. The identification of the protocol is always available.

### 2.3 PowerCARD Header

The header is required in all messages. Its format :

Position	Content
2	Specifies to which product the message is referring to. Possible values : <ul style="list-style-type: none"> <li>'6' = Issuer member interface only</li> <li>'7' = Issuer and Acquirer members interface</li> <li>'8' = Acquirer member interface only</li> </ul>
2-5	Protocol version = '0100'
6-8	When PowerCARD rejects a message due to an error format, this element contains the number of the first invalid data element. Otherwise, this element contains '000'.

### 2.4 Message type

The message type is an element of 4 positions to identify the general function of the message. This element is mandatory for all messages.

Following messages are exchanged between PowerCARD and the Center.

- 1100 : Authorisation request,
- 1110 : Authorisation request response,
- 1120 : Authorisation advice,
- 1121 : Authorisation advice repeat,
- 1130 : Authorisation advice response,
- 1200 : Financial transaction request,
- 1210 : Financial transaction request response,
- 1220 : Financial transaction advice,
- 1221 : Financial transaction repeat,
- 1230 : Financial transaction response,
- 1400 : Acquirer reversal request,
- 1410 : Acquirer reversal response,

- 1420 : Acquirer reversal advice,
- 1421 : Acquirer reversal advice repeat,
- 1430 : Acquirer reversal advice response.
- 1422 : Issuer reversal advice,
- 1423 : Issuer reversal advice repeat,
- 1432 : Acquirer reversal advice response.
- 1520 : Acquirer reconciliation advice,
- 1521 : Acquirer reconciliation advice repeat,
- 1530 : Acquirer reconciliation advice response.
- 1522 : Issuer reconciliation advice,
- 1523 : Issuer reconciliation advice repeat,
- 1532 : Issuer reconciliation advice response.
- 1304: File management request,
- 1314: File management request response.
- 1324: File management advice,
- 1334: File management advice response.
- 1604 : Administrative message
- 1614 : Administrative message response
- 1720 : Fees collection request (acquirer)
- 1722 : Fees collection request (issuer)
- 1730 : Fees collection request response (acquirer)
- 1732 : Fees collection request response (issuer)
- 1804 : Network management request,
- 1814 : Network management request response.

## 2.5 Bit maps

The ISO 8583/1993-12-15 standard uses a messages scheme by bits vector or « bit map ». The bit map structure indicates the presence or absence of data element ('1' inside the bitmap indicates the element is present, while '0' indicates the element is absent). The bits in the bitmap are numbered from left to right.

2 bit maps having a 64 bits length can be used in the messages exchanged with PowerCARD :

- A primary bit map indicates the presence/absence of elements from 1 to 64.
- A secondary bit map indicates the presence/absence of elements from 65 to 128.

The primary bit map is mandatory in all messages.

The secondary bit map is included in the message if at least one element from the interval 65 to 128 is present.

The presence of the secondary bit map is indicated by the bit 1 of the primary bit map (the leftmost bit).

## 2.6 Naming convention for the data elements attributes

The conventions below are used to represent the data elements attributes based on the ISO 8583/1993 standard :

a	alphabetic characters (ASCII)
n	numeric characters
an	alphanumeric characters
b	binaries fields
s	special characters
z	field containing the magnetic track data

Fixed length fields are represented by the attribute followed by the length (i.e. n3 : 3 numeric characters - fixed length).

Variable length fields are represented by the attribute followed by two points then by the maximum of positions. (i.e. an..25 : an alphanumeric character that can contains up to 25 characters – variable length).

Variable length fields contains 2 sub-fields :

- the first sub-field showing the length encoded on 2 or 3 positions,
- the second sub-field which contains the data.

The fields with length less than 99 positions have a sub-element of length encoded under 2 positions.

The fields between 100 and 999 positions have a sub-element of length encoded under 3 positions.

For example a field representing track 3 is encoded as follows:

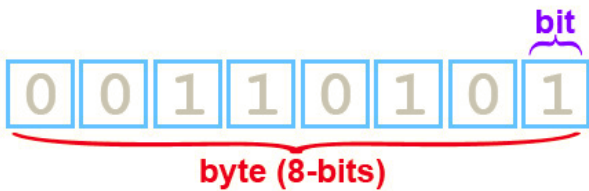
LLL	TTTTTTTTTT.....TTTTTTTTTT
length	Data

### Element No. 1

This chapter provides detailed descriptions of all data elements used by the messages of the switch.

For each field, the following information is provided:

Attribute :	<p>logical representation of the data element. The following conventions are used:</p> <p>a: alphabetical characters</p> <p>n: numeric digits</p> <p>s: special characters</p> <p>an: alphabetic &amp; numeric characters</p> <p>as: alphabetic &amp; special characters</p> <p>ns: numeric &amp; special characters</p> <p>ans: alphabetic, numeric &amp; special characters</p> <p>MM: month</p> <p>DD: day</p> <p>YY: year</p> <p>hh: hour</p> <p>mi: minute</p>
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	<p>ss: seconds</p> <p>LL,LLL: length of variable</p> <p>3 fixed length of three characters</p> <p>..17: variable length, up to 17 characters</p> <p>x "C" for credit, "D" for debit</p> <p>b: binary representation of data in the field. See example below:</p> <div style="text-align: center;">  </div> <p>z: tracks 2 &amp; 3 code set as defined in ISO 7811 and ISO 7813</p>
Description :	describes the purpose of the field.
Valid values :	if applicable provides the list of possible values the field can take.
Usage :	lists the message types where the field is used.

### Field No 1 - Secondary Bit map

Attribute :	b 64.
Description :	<p>The secondary bit map is used to indicate the presence ('1') or the absence ('0') of the fields between 65 and 128.</p> <p>If the message contains at least one field between 65 and 128, the secondary bit map is present.</p> <p>The value '1' on the leftmost bit of the primary bit map indicates the presence of the secondary bit map.</p>
Usage :	All messages containing index elements greater than 127

### Field No 2 - Primary Account number

Attribute :	LLVAR n..19.
Description :	<p>A serial number used to identify the card.</p> <p>The primary account number is derived from Track 2 or the chip. Also, it can be read on the card for manual transactions.</p>
Usage :	11XX, 12XX, 13XX, 14XX.

### Field No 3 - Processing code

Attribute :	n 6.
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Description :	Code used to describe the impact of a transaction on the client and related accounts.
Valid Values :	<p>Positions 1-2: Transaction Type</p> <p>00: Purchases &amp; Services</p> <p>01: Withdrawal</p> <p>02: Adjustment-Debit</p> <p>09: Cashback</p> <p>10: Account funding</p> <p>11: Quasi cash</p> <p>17: Cash Advance</p> <p>19: Fees</p> <p>21: Deposit</p> <p>20: Credit Voucher</p> <p>22: Adjustment-Credit</p> <p>28: Payment</p> <p>29: Funds</p> <p>31: Balance request</p> <p>32: Dcc inquiry</p> <p>38: Short statement request</p> <p>40: Account transfer</p> <p>91: PIN change request</p> <p>98: PIN Unblock</p> <p>Positions 3-4: Source Account Type</p> <p>00: Not specified</p> <p>10: Savings account</p> <p>20: Checking account</p> <p>30: Credit card account</p> <p>38: Loan account</p> <p>40: Universal account</p> <p>Positions 5-6: Destination Account Type</p> <p>00: Not specified</p> <p>10: Savings account</p> <p>20: Checking account</p> <p>30: Credit card account</p> <p>38: Loan account</p> <p>40: Universal account</p>
Usage :	11XX, 12XX, 14XX.



**Field No 4 - Transaction amount**

Attribute :	n 12.
Description :	The amounts requested by the card owner expressed in the transaction currency as described in Data Element 49.  The amount is indicated with two exponents. For example, an amount of 1000\$ is represented as « 000000100000 ».
Usage :	11XX, 12XX, 14XX.

**Field No 5 - Settlement amount**

Attribute :	n 12.
Description :	The amounts to transfer between the acquirer and card issuer equal to the transaction amount in the reconciliation currency as described in Data Element 50.  The amount is indicated with two exponents. For example, an amount of 1000\$ is represented as « 000000100000 ».
Usage:	12XX, 14XX, 15XX.

**Field No 6 - Billing amount**

Attribute :	n 12.
Description :	The amount billed on the card owner expressed in the owner card account currency as described in Data Element 51.  The amount is indicated with two exponents. For example, an amount of 1000\$ is represented as « 000000100000 ».
Usage:	11XX, 12XX, 14XX.

**Field No 7 - Transmission date and time**

Attribute :	n 10.
Description :	Date and time expressed in UTC (GMT) of the message sent by the initiator (Format : YYMMDDhhmm).
Usage:	All messages

**Field No 9 - Settlement conversion rate**

Attribute :	n 8.
Description :	Factor used for conversion between transaction amount and reconciliation amount. The transaction amount is multiplied by the conversion rate of reconciliation in order to set the reconciliation amount.
Usage:	Present in all messages containing "reconciliation amount" element.
Format	The first character indicates the number of exponents (e.g. 51020030 corresponds to 10.02030)

**Field No 10 - Card owner billing conversion rate**

Attribute :	n 8.
Description :	Factor used for conversion between transaction amount and amount billed to the card owner. The transaction amount is multiplied by the billing conversion rate in order to set the owner billing amount.
Usage:	Present in all messages containing "billing amount" element.
Format :	The first character indicates the number of exponents (e.g. 51020030 corresponds to 10.02030)

**Field No 11 - System Trace Audit Number**

Attribute :	n 6.
Description :	This number is generated by the sender. It is a unique identification of the transaction. This number should remain unchanged in all messages related to this transaction.
Usage:	All messages.

**Field No 12 - Transaction local date and time**

Attribute :	n 12.
Description :	Local date and time of the transaction.
Usage :	All messages.
Format :	YYMMDDhhmmss.

**Field No 13 - Start expiry date**

Attribute :	n 4.
Description :	Effective date of the card.
Usage :	11XX, 12XX.
Format :	YYMM.

**Field No 14 - Expiry date**

Attribute :	n 4.
Description :	The card expiry date.
Usage :	11XX, 12XX.
Format	YYMM

**Field No 15 - Reconciliation date**

Attribute :	n 6.
Description :	Reconciliation date of the transaction between the card acquirer and issuer.

Usage :	11XX, 12XX, 14XX, 15XX.
Format	YYMMDD.

**Field No 16 - Exchange date**

Attribute :	n 4.
Description :	Month and day on which the exchange rate is effective to convert the transaction amount from transaction currency to reconciliation currency and/or the card owner billing currency.
Usage:	All messages where exchange rate is present.
Format :	MMDD.

**Field No 18 - Merchant type**

Attribute :	n 4.
Description :	Code of the merchant type of activity.
Usage :	11XX, 12XX

**Field No 19 - Acquiring institution country code**

Attribute :	n 3.
Description :	Country code where the acquiring institution is located.
Usage :	1100, 1200, 1120, 1220

**Field No 21 - Forwarding Institution Country Code**

Attribute :	n 3.
Description :	Country code where the forwarding institution is located.
Usage:	11XX, 12XX, 14XX

**Field No 22 - Point of service data code**

Attribute :	an 12.
Description :	Series of codes used to identify the capability and environment of the terminal and the presentation security data. These data are used to indicate the specific conditions that are (or were) present at the time of transaction and/or when the transaction was initiated in the point of service.
Valid Values :	Position 01 : Data entry capability 0: Not specified 1: Manual, no terminal 2: Magnetic stripe read 3: Bar code read

4: Optical read  
5: Chip read and magnetic stripe read  
6: Manual entry  
7: Manual entry & magnetic stripe  
8: Manual entry & magnetic stripe & chip read  
9: Chip read  
M: Magnetic stripe, & ICC contact reader, ICC contactless reader.

Position 02 : Cardholder Authentication Capability

0 : No authentication  
1 : PIN  
2 : Manual signature

Position 03 : Card Retention Capability

0 : No  
1 : Yes  
2 : Unknown

Position 04 : Operating Environment

0 : No terminal used  
1: Inside card acceptor premises, Attended  
2: Inside card acceptor premises, Unattended  
3: Outside card acceptor premises, Attended  
4: Outside of card acceptor premises, Unattended  
5: Inside card owner premises, Unattended  
9: Undetermined  
S: CAT level1, unattended  
T: CAT level2, unattended  
U: CAT level3, unattended  
V: CAT level4, unattended

Position 05 : Cardholder Presence Indicator

0: Cardholder present  
1: Cardholder not present  
2: Cardholder not present, mail order  
3: Cardholder not present, phone order  
4: Cardholder not present, authorized  
5: Electronic order

Position 06 : Card Presence Indicator

0 : Card not present  
1 : Card present

Position 07 : Card Data Input Mode

0 : Not specified

1 : Manual, no terminal  
2 : Magnetic strip read (Track 2)  
5 : Chipe read  
6 : Manual entry  
7 : Magnetic strip read (Track 1)  
8 : Fallback  
9 : E-Commerce  
F: Credentials on file  
J : Chip read and CVV reliable  
K: PAN auto-entry via mobile application  
P : PAN Auto Entry via Server  
S : E-commerce, Non-Authenticated, attempt.  
T : E-commerce, Authenticated  
U : E-commerce, no security  
V : E-commerce, channel encryption  
W : Unaltered track provided  
A : PAN auto-entry via contactless magnetic stripe  
M : PAN auto-entry via contactless M/Chip  
R : PAN entry via electronic commerce, including remote chip  
X : PAN auto entry via server (issuer, acquirer, or third party vendor system)  
Position 08 : Cardholder Authentication Method  
0 : Not authenticated  
1 : PIN  
2 : Electronic signature  
5 : Manual signature  
Position 09 : Cardholder Authentication Entity  
0 : Not authenticated  
1 : Chip  
2 : Terminal,  
3 : Acquiring center  
4 : Merchant  
5 : Other  
9 : Not specified  
Position 10 : Rewrite Capability  
0 : Not specified  
1 : No rewrite capability  
2 : Track 3 rewrite possible  
3 : Track rewrite  
4: ICC Contactless rewrite capability

	Position 11: Terminal Output Capability 1 : None 2 : Printing 3 : Display 4 : Printing and display Position 12 : PIN length 3: mPOS Software-based PIN Entry Capability 4 : Four characters 5 : Five characters. C : Twelve characters
Usage	11XX, 12XX.

**Field No 23 - Card Sequence Number**

Attribute :	n 3
Description :	Allows distinguishing between separate cards related to the same primary account number.
Usage:	11XX, 12XX.14XX Mandatory for EMV authorization requests in case the data is present in the card application.

**Field No 24 - Function code**

Attribute :	n 3.
Description :	Indicates the specific object of the message in its message class.
Valid values :	If message type = 1100/1120/1121 100 = Initial request, exact amount, 101 = Initial request-estimated, 108 = Balance request, 181 = Account request, 182 = Address verification request, 185 = Deferred Authorization, 190 = Initial request, final amount, If message type = 1200 101 = Initial request-estimated, 190 = Initial request, final amount, 200 = Initial request, exact amount, 281 = Balance request. If message type = 1220/1221 190 = Initial request, final amount,

	<p>200 = Offline processing,</p> <p>201 = Authorized previously,</p> <p>202 = Authorized previously - Amount differs</p> <p>205 = 1st presentment,</p> <p>206 = 2nd presentment.</p> <p>If message type = 1304/1324</p> <p>301 = Add record,</p> <p>303 = Delete record,</p> <p>304 = Replace record,</p> <p>305 = Inquiry.</p> <p>If message type = 1400/1420/1421</p> <p>400 = Full reversal,</p> <p>401 = Reversal status undefined,</p> <p>402 = Partial reversal.</p> <p>If message type = 1422/1423</p> <p>450 = 1st chargeback,</p> <p>451 = 2nd chargeback.</p> <p>452 = Annulation chargeback</p> <p>If message type = 1520, 1521, 1522, 1523</p> <p>500 = Final reconciliation,</p> <p>501 = Intermediate reconciliation,</p> <p>502 = Final reconciliation in a specific currency,</p> <p>503 = Intermediate reconciliation in a specific currency.</p> <p>If message type = 1804</p> <p>801 = Session logon,</p> <p>802 = Session logout,</p> <p>803 = Test message,</p> <p>804 = Sign on SAF,</p> <p>805 = Sign off SAF,</p> <p>811 = Transport key change request,</p> <p>899 = MAC key change request.</p> <p>821 = Final reconciliation request,</p> <p>822 = Intermediate reconciliation request.</p>
Usage	1100, 1120, 1200, 1220, 1221, 1320, 1324, 1400, 1420, 1421, 1520, 1521, 1522, 1523.

**Field No 25 - Message reason code**

Attribute :	n 4.
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Description :	Indicates to the recipient of a request message, advice or notification the reason/object of the message.
Valeurs valides:	<p>If message type = 1120 ou 1220</p> <p>1002 = Issuer Timeout</p> <p>1003 = Issuer system malfunction</p> <p>1004 = Issuer unavailable</p> <p>1005 = Pending message in SAF with the same card during authorisation request. Request processed by stand-in.</p> <p>If message type = 1304</p> <p>3000 = Card lost, Card capture</p> <p>3001 = Card stolen, Card capture</p> <p>3002 = Card inactive, Rejected</p> <p>3003 = Counterfeit, Card capture</p> <p>3701 = Fraudulent card use, Card capture</p> <p>3702 = Other reasons, Rejected</p> <p>3721 = Card expired, Card capture</p> <p>3722 = Security violation, Card capture</p> <p>3723 = Dispute, Card capture</p> <p>3724 = Abusive usage, Rejected</p> <p>3725 = Abusive usage, Card capture</p> <p>3726 = Contact issuer</p> <p>3728 = Rejected</p> <p>3729 = Card capture</p> <p>3732 = Cardholder deceased</p> <p>If message type = 1400/1420</p> <p>4000 = Cancellation by cardholder</p> <p>4001 = Not specified</p> <p>4002 = Malfunction suspected</p> <p>4004 = Partially processed</p> <p>4006 = Late response</p> <p>4007 = Card acceptor device unable to perform transaction</p> <p>4013 = Cannot deliver message to POS</p> <p>4014 = Malfunction suspected / Card retained</p> <p>4015 = Malfunction suspected / Card returned</p> <p>4016 = Malfunction suspected / Track 3 not updated</p> <p>4017 = Malfunction suspected / Cash not dispensed</p> <p>4018 = Card returned / Cardholder time out / Cash not dispensed</p> <p>4019 = Card retained / Cardholder time out / Cash not dispensed</p> <p>If message type = 1422/1423/1220 UC='2'</p>



	4022 = Transaction potentially duplicated, 4023 = Transaction duplicated, 4513 = Credit not received, 4525 = 4022 4514 = Fraudulent transaction. VISA reasons codes must be used when sending representation / fees / adjustments.
Usage :	112X, 122X, 13XX, 142X.

**Field No 27 - Authorization code length**

Attribute :	n 1.
Description :	The maximum length of the authorization code that the acquirer can accommodate. The issuer (or the agent) is expected to limit response to this length.
Usage:	1110, 1130, 1210, 1230, 1314, 1324, 1530, 1532, 1814

**Field No 30 - Replacement amounts**

Attribute :	n 24.
Description :	Data element regarding the replacement amount in case of a partial reversal. This field contains from position 1 to position 12 the new amount of transaction expressed in the billing currency. From position 13 to position 24 the amount of transaction in transaction currency.
Usage:	1400,1420, 1422.

**Field No 32 - Acquiring institution identification code**

Attribute :	LLVAR an..11.
Description :	Identification code of the acquirer institution.
Usage :	11XX, 12XX, 14XX.

**Field No 33 - Forwarding institution identification code**

Attribute :	LLVAR an..11.
Description :	Identification code of the forwarding institution.
Usage :	11XX, 12XX, 14XX.

**Field No 35 - Track 2**

Attribute :	LLVAR z..37.
Description :	Data encoded on track 2 of the magnetic strip based on ISO7813, excluding the start and end sentinels and the LRC.
Usage :	1100, 1200.

**Field No 37 - Retrieval reference number**

Attribute :	n 12.
Description :	Unique reference used to retrieve the original messages and used to help find these data.
Usage :	All messages.

**Field No 38 - Authorization code**

Attribute :	an 6.
Description :	Code delivered by Authorization institution to confirm the agreement.
Usage :	All response messages.

**Field No 39 - Action code**

Attribute :	n 3.
Description :	Indicates the action taken or to take and the reason. (list of values in appendix).
Usage :	All response messages.

**Field No 41 - Card acceptor terminal identifier**

Attribute :	ans 8.
Description :	Unique code identifying the terminal on the card acceptor side.
Usage :	11XX, 12XX, 14XX.

**Field No 42 - Card acceptor identification code**

Attribute :	ans 15.
Description :	Unique code identifying the card acceptor.
Usage :	11XX, 12XX, 14XX.
Format :	Left-justified with spaces on right positions.

**Field No 43 - Card acceptor name and address**

Attribute :	LLVAR ans. 40
Description :	Card acceptor name and address. Position 1-24: Merchant acronym Position 25-37: City name Position 38-40: Country code (ISO alpha)
Usage :	1100, 1120, 1200, 1220, 1221.

**Field No 45 - Track 1**

Attribute :	LLVAR z..76.
Description :	Data encoded on magnetic strip track 1 based on ISO7813, including element separators but excluding start and end sentinels and LRC.
Usage :	1100, 1200.

**Field No 46 - Fees amount**

Attribute :	ans..204
Description :	<p>Fees amount associated to the transaction.</p> <p>Positions 1-2: Fees type</p> <p>00: transaction fee</p> <p>01: transaction processing fee</p> <p>02: fee collection fee</p> <p>03: file action fees</p> <p>Positions 3-5: Currency code</p> <p>Position 6:</p> <p>'C': Credit</p> <p>'D': Debit</p> <p>Positions 7-18: Amount</p> <p>Positions 19-24: Conversion rate</p> <p>Position 25:</p> <p>'C': Credit</p> <p>'D': Debit</p> <p>Positions 26-37: Amount, reconciliation</p> <p>Positions 38-40: Currency code, reconciliation</p> <p>This field can contain up to 6 different fees</p>
Usage :	1100, 1200,17XX.

**Field No 48 - Additional private data**

Attribute :	LLLVAR ans..999	
Description :	Reserved for private data.	
Valeurs valides:	(cf table below)	
Usage	11XX, 12XX.	
Type (3 digits)	length (3 digits)	Value
'P01'	2	File Update Error Code
'P02'	up to 256	Message text

'P10'	..32	ZPK /TAK
'P11'	15	Original transaction id
'P16'	..18	New PIN Data : Position 01-02 : PIN format : PV: PVV value OV: Offset value 01: Format 01 Positin 03-18; New PIN Data
'P17'	18	Reference number / Invoice number
'P18'	29	Payment Account Reference
'P19'	010	VISA Merchant Verification Value
'P20'	1	External iCVV result
'P21'	..63	Merchant additional data TLV encoded subfields: TTLLLL Subfield 001: Paymen facilitator ID Subfield 002: Independent sales organization ID Subfield 003: Sub merchant ID Subfield 004: Market place ID Subfield 005: Merchant ID (The ID of the merchant, in case he doesn't belong to a payment facilitator) Subfield 006: Merchant country of origine (The ISO numeric country code for the home country of the government that owns or controls the merchant that initiated the transaction) Subfield 007: Transfer Service Provider Name (Type: ANS .. 25) Subfield 008: Payment Facilitator Name (Type: ANS .. 25)
'P25'	001	Result of card authentication. ‘ ‘ : ARQC not checked 1 : ARQC incorrect 2 : ARQC correct
'P27'	1	External PIN verification result
'P30'	Up to 255	Chip authorization additional information :

		Position 01: Application selection indicator '0': Unspecified '1': Cardholder choice '2': Default choice Position 02-03: Application Brand 00: LOCAL NETWORK 01: VISA 02: MASTERCARD 03: VPAY 04: AMEX 05: DINERS 06: JCB 08: CUP 09: CB 10: Maestro 99: Unspecified Position 04: Chip Transaction indicator 0: Unspecified 1: Card chip data included 2: Card chip data dropped 3: Generated chip data
'P32'	15	Merchant ID assigned by Mastercard
'P34'	.. 40	On-behalf Service Contains On-behalf Service performed on the transaction and the results by MasterCard
'P35'	15	Mastercard trace ID
'P41'	Up to 38	Merchant acronym
'P43'	28	MasterCARD UCAF
'P47'	1	Routing network code : D: Debit C: Credit
'P49'	3	DUKPT KSN description
'P50'	12-20	KSN
'P51'	40	Account authentication value

'P52'	... 999	Digital payment data
'P54'	1	External e-com crypto result (*)
'P55'	...151	Token data (*)
'P56'	..52	DCC Data Position 01: DCC result 0: No DCC performed 1: DCC request approved by cardholder 2: DCC request declined by cardholder Position 02-52: RFU
'P57'	..32	AFD Reference number.
'P58'	3	Acceptor point card product id
'P60'	3	Watch list scoring result
'P61'	..21	Additional POS Data Position 1: Partial Approval Terminal Support Indicator '0': partial approval not supported '1': partial approval supported Position 2: Purchase Amount Only Terminal Support Indicator '0': Purchase Amount Only not supported '1': Purchase Amount Only supported Position 3-19: RFU Position 20: Single-tap pin terminal support indicator '0': Single-tap pin not supported '1': Single-tap pin supported Position 21: mPOS Acceptance Device Type '1' : Dedicated mPOS Terminal with PCI compliant dongle [with or without keypad]. '2' : Off the Shelf Mobile Device.
'P64'	10	Position 01: TCC Position 02: Final auth indicator '0': Normal auth/Unspecified '1': Final authorization

Position 03: Special Condition Indicator

'0': unspecified

'1': Purchase of cryptocurrency

'2': High-risk Securities

Position 04: Initiating-Party

'0': Unspecified

'1': M.I.T (Merchant-initiated transaction)

'2': C.I.T (Cardholder-initiated transaction)

Position 05: Pin request in a single-tap mode indicator:

'0': Not requested

'1': Requested

Position 06: Response to pin request indicator:

'0': Unspecified

'1': Response to pin request

Position 07: Credential-on-file reason code

- 'N': Unspecified/Credentials not stored
- 'C': Unscheduled Credential on File
- 'I': Installment
- 'F': Cardholder Credential-on-file
- 'R': Recurring
- 'S': Standing Order

Position 08: Token based transaction:

'0': No

'1': Yes

Position 09: Refer to original authorization:

'0': No

'1': Yes

Position 10: Transaction purpose:

- '0': No
- '1': Refund to original card
- '2': Refund to new card

Position 11: Transaction purpose:

- '0': Unspecified
- '1': Obtain new information before the next transaction

		<ul style="list-style-type: none"> <li>'2': Try again later</li> <li>'3': Never try again</li> </ul> <p>Position 12: Payment Credential Merchant Relationship Indicator (N1):</p> <ul style="list-style-type: none"> <li>0 (No link)</li> <li>1 (Linked)</li> </ul>
'P66'	19	Ecommerce authorization information (*)
'P67'	Up to 32	Authorization ID
'P68'	..32	Transaction identifier
'P70'	1..45	<p>Terminal information :</p> <p>Position 01: format, '1'</p> <p>Position 02-07: Institution ID</p> <p>Position 08-13: Branch ID</p> <p>Position 14-16: Country code</p> <p>Position 17-19: State code</p> <p>Position 20-29: Zip code</p> <p>Position 30-41: City name</p> <p>Position 42-45: MCC</p>
'P71'	001	<p>Credential on file type:</p> <p>'R': (Recurring) Indicates that the cardholder and merchant have agreed to periodic billing for goods and services, such as utility bills and magazines</p> <p>The first authorization should contain the following information:</p> <p>Authorization without fees :</p> <ul style="list-style-type: none"> <li>F004 = 0</li> <li>F022.7 != F</li> <li>F024 = 181</li> <li>F048.P71 = R</li> <li>F048.P92 (CVV2) (optional)</li> <li>F048.P64.Position4 = '2' (CIT)</li> <li>F048.P64.Position7 = 'R'</li> </ul> <p>Authorization with fees :</p> <ul style="list-style-type: none"> <li>F004 != 0</li> <li>F022.7 != F</li> <li>F024 = 100</li> <li>F048.P71 = R</li> <li>F048.P92 (CVV2) (optional)</li> <li>F048.P64.Position4 = '2' (CIT)</li> <li>F048.P64.Position7 = 'R'</li> </ul>



And the sub-sequent recurring authorization should contain the following information:

- F004 != 0
- F022.7 = F
- F024 = 100
- F048.P71 = R
- F048.P92 (CVV2) (not allowed)
- F048.P64.Position4 = '1' (MIT)

'S': (Standing order) Indicates that the cardholder and merchant have agreed to periodic billing with variable amount and fixed frequency (ex: monthly utility payments).

The first authorization should contain the following information:

- F048.P71 = S
- F048.P64.Position4 = '2' (CIT)
- F048.P64.Position7 = 'S'

And the sub-sequent standing authorization should contain the following information:

- F048.P71 = S
- F048.P64.Position4 = '1' (MIT)

'I': (Installment) Indicates that the message is for an installment payment

The first authorization should contain the following information:

- F048.P71 = 'I'
- F048.P64.Position4 = '2' (CIT)
- F048.P64.Position7 = 'I'

And the sub-sequent installment authorization should contain the following information:

- F048.P71 = 'I'
- F048.P64.Position4 = '1' (MIT)

'C': (Credential on file) Indicates one of the following scenarios:

- The merchant is storing the payment credential for the first time for subsequent use in unscheduled credential-on-file transactions;

- The merchant is submitting an unscheduled credential-on-file transaction that is

initiated based on standing instructions with the cardholder.

		<p>N.B: Transactions initiated by the cardholder with stored credentials are considered stored credential transactions, but are not unscheduled credential-on-file transactions, and must therefore only use the value of F in F022 and not the value C in F048.P71.</p> <p>The first authorization should contain the following information:</p> <p>Credentials "will be stored" for unscheduled credential-on-file transactions</p> <ul style="list-style-type: none"> <li>• F004 != 0</li> <li>• F022.7 != F</li> <li>• F024 = 100</li> <li>• F048.P71 = C</li> <li>• F048.P92 (CVV2) (optional)</li> <li>• F048.P64.Position4 = '2' (CIT)</li> <li>• F048.P64.Position7 = 'C'</li> </ul> <p>Credentials "will be stored" for cardholder initiated transactions</p> <ul style="list-style-type: none"> <li>• F004 != 0</li> <li>• F022.7 != F</li> <li>• F024 = 100</li> <li>• F048.P71 not present</li> <li>• F048.P92 (CVV2) (optional)</li> <li>• F048.P64.Position4 = '2' (CIT)</li> <li>• F048.P64.Position7 = 'F'</li> </ul> <p>And the sub-subsequent authorizations should contain the following information:</p> <p>If the authorization is initiated by the merchant:</p> <ul style="list-style-type: none"> <li>• F004 != 0</li> <li>• F022.7 = F</li> <li>• F024 = 100</li> <li>• F048.P71 = C</li> <li>• F048.P92 (CVV2) (not allowed)</li> <li>• F048.P64.Position4 = '1' (MIT)</li> </ul> <p>If the authorization is initiated by the cardholder:</p> <ul style="list-style-type: none"> <li>• F004 != 0</li> <li>• F022.7 = F</li> <li>• F024 = 100</li> <li>• F048.P71 not present</li> <li>• F048.P92 (CVV2) (optional)</li> <li>• F048.P64.Position4 = '2' (CIT)</li> </ul>
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'P77'	40	Transaction ID (XID)
'P80'	15	Diners network reference ID
'P82'	001	R: Address Verification Request
'P83'	001	<p>Address Verification Response</p> <p>A: Address matches, postal code does not.</p> <p>N: Neither address nor postal code matches.</p> <p>R: Retry, system unable to process.</p> <p>S: AVS currently not supported.</p> <p>U: No data from issuer/Authorization Platform</p> <p>W: For U.S. addresses, nine-digit postal code matches, address does not; for address outside the U.S., postal code matches, address does not.</p> <p>X: For U.S. addresses, nine-digit postal code and address matches; for addresses outside the U.S., postal code and address match.</p> <p>Y: For U.S. addresses, five-digit postal code and address matches.</p> <p>Z: For U.S. addresses, five-digit postal code matches, address does not.</p> <p>L: CM Name and Postal Code match</p> <p>M: CM Name, Address and Postal Code match</p> <p>O: CM Name and Address match</p> <p>K: CM Name matches</p> <p>D: CM Name incorrect, Postal Code matches</p> <p>E: CM Name incorrect, Address and Postal Code match</p> <p>F: CM Name incorrect, Address matches</p> <p>W: No, CM Name, Address and Postal Code are all incorrect</p>
'P87'	001	<p>Result of external check regarding CVV/CVV2.</p> <p>' ' : CVV/CVV2 not checked</p> <p>1 : CVV/CVV2 incorrect</p>

		2 : CVV/CVV2 correct
'P88'	1	External response source
'P90'	3	Fraud score
'P91'	..48	Amex transaction id
'P92'	3..4	CVC2 Element containing the CVC2 for manual authorisation requests
'P95'	002	Network code '01'=Visa '02'=MasterCard '04'=American Express '05'=Diners Club '06'=JCB '07'=Discover
'S20'	...999	Money transfer data (*)
'S21'	..60	Address Data Position 1: Format(always 1) Positions 2–11: Postal Code Positions 12–51: Street address, right padded with spaces
S22	...474	Sale information (*)
S23	...196	Sale items info data (*)
S24	...99	Payment Agreement
S26	...999	Ecom authentication data (*)
S27	...999	PSD2 data (*)
'S29'	...195	3DS Data (*)
'K01'	..58	SMS chargeback data : Position 01: Code usage 0: No documentation provided 1: Supporting documentation to follow Invalid acquirer's reference number used in prior chargeback record; no supporting documentation was required or received. 2: Invalid acquirer's reference number used in prior chargeback record; no supporting documentation was required or received.

		<p>3: Invalid acquirer's reference number used in prior chargeback record and supporting documentation was received.</p> <p>4: No supporting documentation received for prior chargeback.</p> <p>Position 02: Code indicator</p> <p>Space: Not applicable</p> <p>0: No documentation provided</p> <p>1: Supporting documentation to follow</p> <p>2: Invalid acquirer's reference number used in prior chargeback record; no supporting documentation was required or received.</p> <p>3: Invalid acquirer's reference number used in prior chargeback record and supporting documentation was received.</p> <p>4: No supporting documentation received for prior chargeback.</p> <p>Position 03-08: Chargeback Reference Number (6 digits)</p> <p>Position 09-58: Sms message text</p>
'K06'	36	Directory Server Transaction ID
'K08'	36	ACS Transaction ID
'K09'	16	Authorization exemption indicator
'K10'	3	<p>Mobile payment solution identifier</p> <p>000: Apple Pay</p> <p>001: Samsung Pay</p> <p>002: Google Pay</p> <p>004: Merchant program</p> <p>111: Other wallets</p>
'N21'	8	Network VISA Merchant ID
'N23'	10	<p>VISA Ecommerce Data:</p> <ul style="list-style-type: none"> <li>Position 01-02: CAVV Version Number</li> <li>Position 03-04: CAVV Type</li> <li>Position 05-06: IP Address Velocity Count</li> <li>Position 07-08: Device ID Velocity Count</li> <li>Position 09-10: Visa Risk-based Authentication Score</li> </ul>

'N24'	3	Watch List Results Code(n3)
'N25'	AN 2	Overall Assessment Secure E-commerce: this field will contain a value of 00–ZZ.
'N26'	26	Purchase Identifier: <ul style="list-style-type: none"> <li>Position1: Purchase Identifier Format               <ul style="list-style-type: none"> <li>1: Order Number</li> <li>5: Invoice Number</li> </ul> </li> <li>Position 2-26: Purchase Identifier</li> </ul>
'N52'	006	Security Services Additional Data for Issuers  Position 1-3: AIQ (Digital Transaction Insights)  Position 4: Risk level  Position 5: Matsercard-determined reason code  Position 6: Merchant-determined reason code
'N55'	AN 2	Merchant advice code
'N56'	AN 1	Additional Token Response Information: identifies transactions eligible for Token services. <ul style="list-style-type: none"> <li>'1': Token Program</li> <li>' ' (space) : N/A</li> </ul>
'N57'	ANS 15	MCI Trace ID
'N58'	AN 4	MasterCard Cardholder-initiated transaction (CIT) or Merchant-initiated transaction(MIT) Indicator: <ul style="list-style-type: none"> <li>C101: Credential-on-file (adhoc)</li> <li>C102: Standing Order (variable amount and fixed frequency)</li> <li>C103: Subscription (fixed amount and frequency)</li> <li>C104: Installment</li> <li>M101: Unscheduled Credential on File</li> <li>M102: Standing Order (variable amount and fixed frequency)</li> <li>M103: Subscription (fixed amount and frequency)</li> <li>M104: Installment</li> <li>M205: Partial Shipment</li> <li>M206: Related/Delayed Charge</li> <li>M207: No Show Charge</li> </ul>

## Field No 48 - Tags description

Tag 'P54'	EXTERNAL E-COM CRYPTO RESULT
Generated row for table with only header rows. DITA requires a body which requires a row.	

Length :	1
Description :	Indicates the result of the e-com cryptogramme
Valid values :	<p>0: CAVV invalid or F022.P7 is 'S' or 'T' and CAVV is not present</p> <p>1: CAVV failed validation-authentication</p> <p>2: CAVV passed validation-authentication</p> <p>3: CAVV passed validation-attempt</p> <p>4: CAVV failed validation-attempt</p> <p>7: CAVV Failed - Attempt, Issuer not participating, Network Key</p> <p>8: CAVV Passed - Attempt, Issuer not participating, Network Key</p> <p>9: CAVV Failed - Attempt, Participating, Access Control Server (ACS) not available, Network Key</p> <p>A: CAVV Passed - Attempt, Participating, Access Control Server (ACS) not available, Network Key</p> <p>B: CAVV passed validation—information only, no liability shift (Only from VISA network)</p> <p>N: CAVV not verified-authenticated. Unable to verify or issuer did not provide the CAVV result. F022.P7 is 'T' and AAV is present</p> <p>O: CAVV not verified-attempt. Unable to verify or issuer did not provide the CAVV result. F022.P7 is 'S' and AAV is present</p> <p>P: CAVV not verified, issuer not participating in CAVV verification</p> <p>V: CAVV not verified. Non-secure submissions</p>

Tag 'P55'	TOKEN DATA
Length :	...151
Description :	Contains the Token informations
Subfields :	

Subfield	Name	Length	Description
T01	Token	13..19	Token that is used to replace the cardholder PAN
T02	Token reference ID	..32	The reference id of the token
T03	Token requestor ID	...11	The requestor id of the token
T04	Token assurance level	2	The assurance level of the token

T05	Token status	1	A: Active for payment I: Inactive for payment (not yet active) S: Temporarily suspended for payments D: Permanently deactivated for payments
T06	Token expiry date	4	Format ('YYMM')
T07	Token type	2	01: Card-on-file 02: Secure Element 03: HCE 04: TEE 05: Remote Secure location
T08	Token device type	2	Same value as F55.9F6E
T10	Token PAN	..19	PAN or last 4 digits
T11	Token PAN sequence number	3	The sequence number of the PAN
T12	Token PAN status	1	The status of the PAN : N : Normal S : Suspended C : Canceled R: Replaced
T13	Token PAN Expiry date	4	The expiry date of the PAN (YYMM)
T14	Token PAN reference ID	..32	The reference id of the PAN
T30	Token PAN issuer ID	..6	ID assigned by the TSP to the PAN issuer
T31	Auto Fill Indicator	1	Auto Fill Indicator: • A: Auto fill

Tag 'P66'	ECOMMERCE AUTHORIZATION INFORMATION
Generated row for table with only header rows. DITA requires a body which requires a row.	

Length :	19
Description :	Ecommerce information related to the current authorization
Valid values :	Position 01: RFU Position 02: Program Protocol: '1': 3DS 1.0 '2': 3DS 2.0 '0': Unspecified Position 03: CAVV algorithm:



'0': HMAC (SET™ TransStain)

'1': CVV

'2': CVV with ATN

'3': AAV MasterCard

'W': Cryptogram generated by a Wallet solution

Position 04: RFU

Position 05: Downgrade reason:

'0': Missing AAV

'1': Invalid AAV

Position 06-07: Payment scenario:

01: Unique payment

02: Recurring subscription - Fixed amount and limited duration subscription

03: Installment

04: Split/delayed shipment

05: Recurring subscription - Other subscription

06: Reservation and rental payment

07: Pre-authorisation (Other than Reservation and Rental)

Position 08-09: Authentication method:

Represents "authenticationMethod" 3DS Data Element in EMV 3DS specs<sup>(1)</sup>

01: Static Passcode

02: SMS OTP

03: Key fob or EMV card reader OTP

04: App OTP

05: OTP Other

06: KBA

07: OOB Biometrics

08: OOB Login

09: OOB Other

10: Other

11: Push Confirmation

12–79: Reserved for future EMVCo use (values invalid until defined by EMVCo)

80–99: Reserved for DS use

Position 10: Authentication type:

1: Challenge

2: Frictionless

Position 11-12: Requestor challenge indicator:

Represents "threeDSRequestorChallengeInd" 3DS Data Element in EMV 3DS specs(1)

<sup>1</sup> See « EMVCo\_3DS\_Spec\_v220\_122018.pdf »

01: No preference  
02: No challenge requested  
03: Challenge requested (3DS Requestor preference)  
04: Challenge requested (Mandate)  
05: No challenge requested (transactional risk analysis is already performed)  
06: No challenge requested (Data share only)  
07: No challenge requested (strong consumer authentication is already performed)  
08: No challenge requested (utilise whitelist exemption if no challenge required)  
09: Challenge requested (whitelist prompt requested if challenge required)  
10–79: Reserved for EMVCo future use (values invalid until defined by EMVCo)  
80–99: Reserved for DS use

Position 13-14: Transaction Status Reason:  
Represents “transStatusReason” 3DS Data Element in EMV 3DS specs(1)

01: Card authentication failed  
02: Unknown Device  
03: Unsupported Device  
04: Exceeds authentication frequency limit  
05: Expired card  
06: Invalid card number  
07: Invalid transaction  
08: No Card record  
09: Security failure  
10: Stolen card  
11: Suspected fraud  
12: Transaction not permitted to cardholder  
13: Cardholder not enrolled in service  
14: Transaction timed out at the ACS  
15: Low confidence  
16: Medium confidence  
17: High confidence  
18: Very High confidence  
19: Exceeds ACS maximum challenges  
20: Non-Payment transaction not supported  
21: 3RI transaction not supported  
22: ACS technical issue  
23: Decoupled Authentication required by ACS but not requested by 3DS Requestor  
24: 3DS Requestor Decoupled Max Expiry Time exceeded  
25: Decoupled Authentication was provided insufficient time to authenticate cardholder.  
ACS will not make attempt

26: Authentication attempted but not performed by the cardholder

27–79: Reserved for EMVCo future use (values invalid until defined by EMVCo)

80–99: Reserved for DS use

Position 15-16: Challenge Cancelation Indicator:

Represents “challengeCancel” 3DS Data Element in EMV 3DS specs<sup>(2)</sup>

01: Cardholder selected “Cancel”

02: Reserved for future EMVCo use (values invalid until defined by EMVCo).

03: Transaction Timed Out—Decoupled Authentication

04: Transaction Timed Out at ACS—other timeouts

05: Transaction Timed Out at ACS—First CReq not received by ACS

06: Transaction Error

07: Unknown

08: Transaction Timed Out at SDK

09-79: Reserved for future EMVCo use (values invalid until defined by EMVCo)

80–99: Reserved for future DS use

Position 17-18: Score

Position 19: RFU

Tag 'S20'	MONEY TRANSFER DATA		
Length :	...999		
Description :	Money transfer information		
Subfields :			
Subfield	Name	Length	Description
001	Payment type	2	AA : Account to account PP : Person to person PL : Prepaid initial load PR : Prepaid reload GR : Gambling repay BP : Bill payment PD : Payroll/pension disbursement OC : Government/Non-Government Organization Disbursement MR : Merchant rebate GC : Consumer to government

<sup>2</sup> See « EMVCo\_3DS\_Spec\_v220\_122018.pdf »

Tag 'S20'	MONEY TRANSFER DATA		
			BD : Business Disbursement MS : Acquirer to merchant settlement OP : Other Payment PU: Prepaid unload CI: Agent Cash in CO: Agent Cash out RF: Refund EP: Earning payment CP: Payment for goods and services(C2B) SP: Payment for goods and services(B2B) MT: Mobile phone topup UP: Utility payment TR: Tax rebate
002	Funds source	2	00 : Unspecified 01 : Credit 02 : Debit 03 : Prepaid 04 : Deposit Account 05 : Mobile Money Account 06 : Cash
003	Sender Reference Number	..32	Transaction reference number that is provided by the originator or acquirer and can be used to uniquely identify the entity funding the transaction.
004	Sender Account Number	..36	The account number of the entity funding the transaction.
005	Sender name	..48	The name of the entity funding the transaction.
006	Sender street address	..60	The address of the entity funding the transaction.
007	Sender city name	..32	The city of the entity funding the transaction.

Tag 'S20'	MONEY TRANSFER DATA		
008	Sender state	3	The geographical state or province of the entity funding the transaction.
009	Sender country	3	The country of the entity funding the transaction.
010	Sender phone number	..20	The phone number of the sender
011	Sender DOB	8	The date of birth of the sender
012	Message	..64	The message sent
013	Recipient name	..48	The name of the entity receiving the funds.
014	Sender first name	..35	The first name of the sender
015	Sender middle name	1..35	The middle name initial of the sender
016	Sender last name	..35	The last name of the sender
017	Sender postal code	..10	The postal code of the sender
018	Recipient first name	..35	This tag contains the name of the entity receiving the funds.
019	Recipient middle name	1..35	The middle name initial of the Recipient/Receiver
020	Recipient last name	..35	The last name of the Recipient/Receiver
021	Recipient street address	..50	The Street Address of the Recipient/Receiver
022	Recipient city name	..25	The city of the Receiver/Recipient
023	Recipient state	3	The state of the Receiver/Recipient
024	Recipient country	3	The country of the Receiver/Recipient
025	Recipient postal code	..10	The postal code of the Receiver/Recipient
026	Recipient phone number	..20	The phone number of the Receiver/Recipient

Tag 'S20'	MONEY TRANSFER DATA		
027	Recipient DOB	8	The date of birth of the Receiver/Recipient
028	Recipient account number	..20	The account number of the Receiver/Recipient
029	Sender ID	..30	The identification number of the Sender
030	Language ID	3	The information about the language selected by the customer.
031	Additional sender data	...322	The sender name, address, phone number, date of birth, and account details.
032	Peer entity PAN	..19	The Peer entity PAN
033	IBAN	..34	The International Bank Account Number of the sender
034	BIC sender	1..11	The bank identifier code of the sender
035	BIC receiver	1..11	The bank identifier code of the receiver
036	Receiver account type	1	The account type of the receiver
037	Sender account type	1	The account type of the sender
038	Payment purpose	AN .. 12	The purpose of payment
040	Sender ID type code	A .. 4	<p>Type of sender identification.</p> <p>The valid values are:</p> <ul style="list-style-type: none"> <li>• BTHD (Date of birth)</li> <li>• CUID (Customer identification (unspecified))</li> <li>• NTID (National identification)</li> <li>• PASN (Passport number)</li> <li>• DRLN (Driver license)</li> <li>• TXIN (Tax identification)</li> <li>• CPNY (Company registration number)</li> <li>• PRXY (Proxy identification)</li> </ul>

Tag 'S20'	MONEY TRANSFER DATA		
			<ul style="list-style-type: none"> <li>• SSNB (Social security number)</li> <li>• ARNB (Alien registration number)</li> <li>• LAWE (Law enforcement identification)</li> <li>• MILI (Military identification)</li> <li>• TRVL (Travel identification (non-passport))</li> <li>• EMAL (Email)</li> <li>• PHON (Phone number)</li> </ul>
041	Sender ID subtype code	AN .. 2	<p>This tag will denote whether the tax ID is a business or individual tax ID when Tag 040 contains the value of TXIN (Tax Identification).</p> <p>The valid values are:</p> <ul style="list-style-type: none"> <li>• 0B (Business)</li> <li>• 0I (Individual)</li> </ul>
042	Sender identification issuing country code	N .. 3	<p>This tag will contain the 3-digit ISO country code of the issuing country when Tag 040 contains an applicable value.</p>
043	Receiver ID type code		<p>Type of Receiver identification.</p> <p>Values (same as Tag 040).</p>
044	Receiver ID subtype code	AN .. 2	<p>This tag will denote whether the tax ID is a business or individual tax ID when Tag 040 contains the value of TXIN.</p> <p>The valid values are:</p> <ul style="list-style-type: none"> <li>• 0B (Business)</li> <li>• 0I (Individual)</li> </ul>
045	Receiver ID	ANS..35	<p>The identification number of the Receiver.</p> <p>When Tag 043 contains the value of BTHD (Date of birth), this tag must contain a date of birth in in ccyyymmdd format where:</p> <ul style="list-style-type: none"> <li>• cc = century</li> </ul>

Tag 'S20'	MONEY TRANSFER DATA		
			<ul style="list-style-type: none"> <li>• yy = year</li> <li>• mm = month</li> <li>• dd = day</li> </ul>
046	Receiver identification issuing country code	N .. 3	This tag will contain the 3-digit ISO country code of the issuing country when Tag 043 contains an applicable value.

Tag 'S22'	SALE INFORMATION		
Length :	...474		
Description :	Contains sale Information data		
Subfields :			
Subfield	Name	Length	Description
001	Billing Postal Code	..10	The postal code of the cardmember
002	Billing address	..40	The address of the cardmember
003	Billing first name	..32	The first name of the cardmember
004	Billing last name	..32	The last name of the cardmember
005	Billing phone number	..10	The phone number of the cardmember
006	Billing country code	3	The country code of the cardmember
007	Shipping method	2	01: Same Day 02: Overnight / Next Day 03: Priority, 2-3 days 04: Ground, 4 or more days 05: Electronic Delivery 06: Ship-to Store
008	Shipping to postal code	..10	The postal code of the shipping
009	Shipping to address	..50	The address of the shipping



Tag 'S22'	SALE INFORMATION		
010	Shipping to first name	..32	The first name of the person receiving the shipping
011	Shipping to last name	..32	The last name of the person receiving the shipping
012	Shipping phone number	..10	The phone number of the person receiving the shipping
013	Shipping to country code	3	The country code of the shipping
014	Customer email	..60	The email of the customer
015	Customer ip	..15	The ip address of the customer
016	Customer http browser type	..60	The http browser type of the customer
020	Merchant hostname	..60	The hostname to which the customer is connected to make the purchase order
021	Merchant ANI	..10	ANI (Automatic Number Identification) specified the phone number that customer used to place order with merchant
022	Merchant II Digits	2..3	Telephone company-provided ANI Information Identifier (II) digits associated with CUSTOMER ANI. II digits indicate call type. For example, cellular (61-63), payphone (27), toll free (24, 25)

Tag 'S23'	SALE ITEMS INFO DATA		
Length :	...196		
Description :	Contains items Information data		
Subfields :			
Subfield	Name	Length	Description
001	Item identification	..32	The identification of the item

Tag 'S23'	SALE ITEMS INFO DATA		
002	Product code	..16	The code of the product
003	Additional product code	..16	Additional product code related to the product
004	Internal product code	5	Internal product code 01000: Gift card 02001: Music track
005	Unit of measure	..4	The unit of measure
006	Product quantity	..6	The quantity of the product
007	Unit price	..12	The unit price
009	Product amount	..12	The amount of the product
011	Value added tax	..12	The tax value
012	Tax type	..32	The tax type
013	Product description	..32	The description of the product
014	Delivery location	..16	The location of the delivery
015	Delivery service	1	The delivery service

Tag 'S24'	PAYMENT AGREEMENT		
Length :	...99		
Description :	Contains payment agreement data		
Subfields :			
Subfield	Name	Length	Description
001	Monthly repayment amount		The amount that should be paid per month
002	Interest rate		
003	First repayment date		First date when the payment should be done Format: YYYYMMDD
004	Total number of installments		
005	Payment validity date		Validity date for a multiple payment
006	Extra/Intra Loan Flag		Extra/Intra Loan Flag:

Tag 'S24'	PAYMENT AGREEMENT		
			<ul style="list-style-type: none"> <li>I: Intra</li> <li>E: Extra</li> </ul>
007	Frequency of Recurring Payment		Frequency of Recurring Payment: <ul style="list-style-type: none"> <li>01 (Daily)</li> <li>02 (Twice weekly)</li> <li>03 (Weekly)</li> <li>04 (Ten days)</li> <li>05 (Fortnightly)</li> <li>06 (Monthly)</li> <li>07 (Every two months)</li> <li>08 (Trimester)</li> <li>09 (Quarterly)</li> <li>10 (Twice yearly)</li> <li>11 (Annually)</li> <li>12 (Unscheduled)</li> </ul>
008	Registration Reference Number	AN(35)	This tag will contain a unique reference number for the recurring payment transaction.

Tag 'S26'	ECOM AUTHENTICATION DATA		
Length :	...999		
Description :	Contains authentication data used in SCA (Strong Customer Authentication)		
Subfields :			
Subfield	Name	Length	Description
001	Estimated Amount	12	The estimated amount provided within the cryptographic data (P52)
002	Merchant acronym	...150	Remote Commerce Acceptor Identifier as provided by the acquirer
003	Authentication date	14	Format YYYYMMDDHHMMSS
004	Session ID	32	The payment service provider-generated universally unique identifier used to identify the transaction

Tag 'S27'	PSD2 DATA		
Length :	...999		
Description :	Contains PSD2 (Payment Services Directive 2) data		
Subfields :			
Subfield	Name	Length	Description
001	Authorization exemption indicator	16	Indicates the case or cases of exemption from the strong authentication of the cardholder indicated in the transaction.  Has the same structure of F048.K09
002	Authorization exemption result	.. 4	Position 1: TRA result  Position 2: Low value amount result  Position 3: Trusted merchant result  Position 4: Delegation authentication result
003	Reasons For Not Honoring Exemptions	.. 80	Reasons for not honoring SCA exemptions
004	TRA score	2	Transaction risk analysis score

Table 1:

Tag 'S29'	3DS DATA		
Length :	...195		
Description :	Contains 3DS DATA		
Subfields :			
Subfield	Name	Length	Description
001	3DS – Browser IP address	ans...45	
002	3DS APP IP Address	ans...45	
003	Shipping Indicator	ans2	
004	Device ID	ans64	
005	Device Type	n2	
006	SDK App ID	ans37	

Tag 'K09'	AUTHORIZATION EXEMPTION INDICATOR
Length :	16
Description :	Indicates the case or cases of exemption from the strong authentication of the cardholder indicated in the transaction
Subfields :	Position 1: Transaction Risk Analysis Exemption by the issuer Position 2 : Exemption from recurrent transactions of identical amounts and fixed term Position 3: Delegated authentication Position 4: Technically impossible to implement authentication (Outage authentication) Position 5: Low Value Exemption Indicator [Transaction exempt from SCA as the merchant/acquirer has determined it to be a low value payment] Position 6: Transaction Risk Analysis (TRA) Exemption Indicator [Transaction exempt from SCA as the merchant/acquirer has determined it to be low risk in accordance with the criteria defined by PSD2/RTS] Position 7: Trusted Merchant Exemption Indicator [Transaction exempt from SCA as it originated at a merchant trusted by the cardholder] Position 8: Secure Corporate Payment (SCP) Indicator [Transaction exempt from SCA as the merchant/acquirer has determined it as a secure corporate payment] Position 9-12: RUF Position 13: Automated payment of transport and parking fees Position 14: Authentication not required because outside SCA RTS scope Position 15: Other cases of exempted authentication Position 16: Risk Analysis - Merchant in the Low Risk Merchant CB Program

**Field No 49 - Transaction currency code**

Attribute :	n 3.
Description :	Either the code for the Local currency of the Acquirer or for the original transaction location. Currency used in the transaction amount.
Usage :	11XX, 12XX, 14XX.

**Field No 50 - Reconciliation currency code**

Attribute :	n 3.
Description :	Reconciliation currency code.
Usage :	11XX, 12XX, 14XX, 15XX.

**Field No 51 - Cardholder billing currency code**

Attribute :	n 3.
Description :	Cardholder billing and billing fees currency code.
Usage :	11XX, 12XX, 14XX.

**Fiel No 52 - PIN**

Attribute :	b 8
Description :	Customer Pin Block, encrypted under a transport key. The Pin Block should be in format 01 (ANSI X9.8 or ISO 95641 – format 0)
Usage :	1100, 1200.

**Field No 53 - Security data**

Attribute :	LLVAR n..99
Description :	Security check information.
Valeurs valides :	<p>Positions 1-2: Security format (Pin Block encryption method)</p> <p>00: No encryption</p> <p>02: ZPK</p> <p>Positions 3-4: PIN block format</p> <p>01: Format 01/Ansi Format</p> <p>25: Pre-validated PIN</p> <p>99: Pin not present in message</p> <p>Positions 5-7: PIN encryption key index</p> <p>000: Reserved</p> <p>Positions 8-10: MAC key index</p> <p>000: Reserved</p>
Usage :	All request messages

**Field No 54 - Extra amounts**

Attribute :	LLLVAR an..120.
Description :	Relevant information on the amounts and the account data.
Valid values:	<p>Positions 1-2: Account type</p> <p>10 : Saving account</p> <p>20 : Checking account</p> <p>30 : Credit card account</p> <p>38 : Loan account</p> <p>40 : Universal account</p> <p>50 : Investment account</p> <p>Positions 3-4: Amount type</p> <p>01: Account balance</p> <p>02: Available balance</p> <p>40: Cash back amount</p> <p>43: Total cumulative amount</p>

	44: Amount, Gratuity 57: Original amount 99: Not Applicable / Not Specified Positions 5-7: Currency code Position 8: 'C': Credit 'D': Debit Positions 9-20: Amount in format 9(10)V2 This field can contain up to 6 different accounts.
Usage :	12XX, 14XX, 15XX.

### Field No 55 - Smart Card Information

Attribute :	LLLVAR b..255
Description :	Contains data related to ICC card. The structure of this data element is described in ISO 10202.
Usage :	11XX, 12XX.
Valid values:	(cf table below)

Tag	Name	Format	Comment	Presence
71	Issuer Script Template 1	b..128	It contains proprietary data of the issuer data to be transmitted to the ICC before the second cryptogram is generated.	Optional 1110 1210
72	Issuer Script Template 2	b..128	It contains proprietary data of the issuer to be transmitted to the ICC after the second cryptogram is generated.	Optional 1110 1210
82	Application Interchange Profile	b 2	Indicates the capabilities of the ICC to support specific functions.	Mandatory 1100 1120 1200 1220
84	Dedicated File Name	b..16	Contains the name of the dedicated file as described in ISO/IEC 7816-4	Mandatory 1100 1120 1200 1220
86	Issuer script command	b..21	Script sent by the issuer in response to the authorization request or transaction request.	Optional 1110

Tag	Name	Format	Comment	Presence
				1210
8A	Authorization response code	An..2	Code generated by the issuer.	Mandatory 1110 1210
91	Issuer Authentication Data	b..16	Contains the data to send to the ICC for issuer authentication.	Mandatory 1110 1210
95	Terminal Verification Results	b 5	Contains the status of the terminal functions.	Mandatory 1100 1120 1200 1220
9A	Transaction Date	b 3	Contains the date on which the transaction was authorized (format YYMMDD).	Mandatory 1100 1120 1200 1220
9C	Transaction Type	b 1	Indicates the transaction type.	Mandatory 1100 1120 1200 1220
5F2A	Transaction Currency Code	b 2	Contains the code of the currency in which the authorised transaction amount is expressed. The currency code which must comply with ISO4217 is carried as three hexadecimal digits over two bytes.	Mandatory 1100 1120 1200 1220
5F34	PAN sequence number	b 2	Identifies and differentiates cards with the same PAN	Optional
9F0A	Application selection registered Prop. Data	-	Application Selection Registered Proprietary Data	Optional
9F02	Transaction Amount	b 6	Transaction amount.	Mandatory 1100 1120 1200



Tag	Name	Format	Comment	Presence
				1220
9F03	Other Amount	b 6	Contains a cashback amount associated with the transaction, carried as 12 hexadecimal digits, over six bytes.	Mandatory <sup>3</sup> 1100 1120 1200 1220
9F06	Application selected	b 16	Identifies the selected application	Optional
9F09	Terminal Application Version Number	b 2	Contains the version number assigned by the payment system to the application.	Optional
9F10	Issuer Application Data	b..32	Contains proprietary application data to be transmitted to the issuer in an online mode.	Mandatory <sup>4</sup> 11001120 1200 1220
9F1A	Terminal Country Code	b 2	Contains the country code where the terminal is located.	Mandatory 1100 1120 1200 1220
9F1E	Interface Device (IFD) Serial number	b 8	Interface Device (IFD) Serial number.	Optional
9F6E	Form Factor Indicator (FFI)	b 32	Indicates the form factor of the consumer payment device and the type of contactless interface over which the transaction was conducted.	Optional
9F26	Application cryptogram	b 8	Contains the cryptogram computed by the ICC.	Mandatory 1100 1120 1200 1220
9F27	Cryptogram Information Data	b 1	Indicates the type of cryptogram and the actions to be performed by the terminal.	Mandatory 1100 1120 1200 1220
9F33	Terminal Capabilities	b 3	Indicates the card data input, customer verification method and security capabilities of the terminal.	Optional

<sup>3</sup> Required for cash back transaction.

<sup>4</sup> Required of provided by the ICC

Tag	Name	Format	Comment	Presence
9F34	Cardholder Verification Method Results	b..4	Indicates the result of the last cardholder verification performed.	Optional
9F35	Terminal Type	b 1	Indicates the environment of the terminal, its communications capabilities and its operational controls.	Optional
9F36	Application Transaction Counter (ATC)	b 2	Contains the value of a counter maintained by the ICC, used to generate the cryptogram.	Mandatory 1100 1120 1200 1220
9F37	Unpredictable Number	b 4	Contains a value which is included in the generation of the cryptogram to provide variability and uniqueness.	Mandatory 1100 1120 1200 1220
9F41	Transaction Sequence Number	b..4	It is a counter maintained by the terminal, which is incremented by one for each transaction.	Optional
9F5B	Issuer script result	b 5	Indicates the result of the terminal script processing	Optional
9F53	Transaction Category Code	b 1	Transaction Category Code - TCC	Optional

### Field No 56 - Initial data elements

Attribute :	LLVAR n..60.
Description :	This field contains data used to retrieve a transaction.
Valid values :	<p>Positions 1-4: Initial message type.</p> <p>Positions 5-10 : Initial audit number</p> <p>Positions 11-22 : Transmission date time of original transaction. (Format : YYMMDDhhmmss)</p> <p>Position 23-24: Length of original Acquirer</p> <p>Positions 25-35 : Identification of original Acquirer</p> <p>Position 36-46: Length of original forwarding institution</p> <p>Positions 47-48 : Identification of original forwarding institution</p> <p>Positions 49-60 : Transaction date time of original transaction. (Format : YYMMDDhhmmss)</p>
Usage :	12XX, 142X.

**Field No 57 - Preauthorization time limit**

Attribute :	n 3.
Description :	Preauthorization time limit
Valid values :	Positions 01: Period type '1' : Days '2' : Hours Positions 02-03 : Period value
Usage :	12XX.

**Field No 60 - Reserved for national use**

Attribute :	LLLVAR ans..999
Description :	Additional data required by international networks.
Valid values :	Position 1: Authentication Reliability Indicator 0: Reliable. 1: Acquirer processor indicates that card authentication is not reliable. 2: VisaNet indicates that the acquirer did not authenticate the card. 3: VisaNet indicates that the issuer did not authenticate the card. Position 2: Chip Condition Code 0: Service code does not begin with 2 or 6 1: Service code begins with 2 or 6, last read at the chip capable terminal was successful, or was not a chip transaction, or unknown 2: Service code begins with 2 or 6 last read at the chip capable terminal was an unsuccessful chip read Position 3: VSDC Transaction Indicator 0 : Non VSDC transaction 1 : VSDC transaction
Usage :	11XX, 12XX, 14XX

**Field No 61 - Reserved for private use**

Attribute :	LLLVAR ans..999
Description :	POS Data
Valid values :	Cf table below.
Usage :	11XX, 12XX, 14XX

Type (3 digits)	length (3 digits)	Value
'022'	4	POS entry mode received from international payment scheme
'025'	2	POS Condition Code received from international payment scheme
'039'	002	Response code received from Issuer before being converted in PowerCARD response code.

**Field No 62 - CPS Data**

Attribute :	LLLVAR ans..999
Description :	CPS data
Valid values :	Cf. table below.
Usage	1110, 1210.

Tag (3 digits)	length (3 digits)	Value
'F01'	001	<p>Authorisation Characteristic Indicator (ACI).</p> <p>A - Qualification successful:</p> <p>Card present,</p> <p>Track read done,</p> <p>CVV requested</p> <p>E - Qualification successful:</p> <p>Merchant of class A compliant (name and business location data available)</p> <p>N – Qualification unsuccessful</p> <p>This element is sent in the authorization message response to inform the Acquirer about the qualification of its transaction.</p>
'F02'	015	<p>Transaction identifier.</p> <p>This element contains an unique identifier by transaction in case of pre-authorisation. It allows an Issuer to match many authorization requests with one transaction (incremental authorisation).</p>
'F03'	004	<p>CPS validation Code.</p> <p>This element must be reproduced in the compensation messages.</p>
'F04'	001	<p>Identifier of specific data for a market</p> <p>Allows the Issuer to validate the presence of a duration into the pre-authorization message.</p> <p>A : Car rent</p> <p>H : Hotel</p>

		N : Other
'F05'	002	Duration of pre-authorisation, expressed in number of days. This element is significant if the previous element is set to A or H.
'F06'	001	Indicator of prestige propriety, it allows the Issuer to be informed that the merchant benefits from special limits during card validation requests (with 1USD amount).  D : Limit to 500 USD B : Limit to 1000 USD S : Limit to 1.500 USD

**Field No 72 - Record Data**

Attribute :	LLLVAR ans...999
Description :	For Mini-statement Data Usage : Position 1-2 : Number of records(length 2) Position 3-8 : Transaction Date MMDDRR (length 6) Position 9-28 : Transaction Description (length 20) Position 29-43 : Transaction Amount (length 15). Position 44 : Transaction Amount Sign (length 1) (D : Debit, C: Credit). Position 45-59 : Balance (length 15) Position 60 : Balance Sign(length 1) (D : Debit, C: Credit) Position 61-63 : Transaction Currency Code (length 3) This field is repeated as many as operations number.
Usage :	1110, 1210.

**Field No 73 - Action date**

Attribute :	an 6
Description :	Date for a future action or specific date like a birth date. This date represents the purge date of opposition file. The format is DDMMYY.
Usage :	13XX.

**Field No 74 - Credit number**

Attribute :	n 10
Description :	Number of all the financial transactions where the positions 1-2 of the processing code in the financial transaction indicated a credit.
Usage :	15XX.

**Field No 75 - Credit reversal number**

Attribute :	n 10
Description :	Number of all the reversal transactions where the positions 1-2 of the processing code in the reversal transaction indicated a debit.
Usage :	15XX.

**Field No 76 - Debit number**

Attribute :	n 10
Description :	Number of all the financial transactions where the positions 1-2 of the processing code in the financial transaction indicated a debit.
Usage :	15XX.

**Field No 77 - Debit reversal number**

Attribute :	n 10
Description :	Number of all the reversal transactions where the positions 1-2 of the processing code in the reversal transaction indicated a credit.
Usage :	15XX.

**Field No 83 - Payment number**

Attribute :	n 10
Description :	Number of all the financial transactions where the positions 1-2 of the processing code in the financial transaction indicated a payment.
Usage :	15XX.

**Field No 84 - Payment reversal number**

Attribute :	n 10
Description :	Number of all reversal transactions where the positions 1-2 of the processing code in the reversal transaction indicated a payment.
Usage :	15XX.

**Field No 86 - Credit amount**

Attribute :	n 16
Description :	Total amount of all the financial transactions excluding fees where the positions 1-2 of the processing code in the financial transaction indicated a credit.
Usage :	15XX.

**Field No 87 - Reversal credits amount**

Attribute :	n 16
Description :	Total amount of all the reversal transactions excluding fees where the positions 1-2 of the processing code in the reversal transaction indicated a debit.
Usage :	15XX.

**Field No 88 - Debit amount**

Attribute :	n 16
Description :	Total amount of all the financial transactions excluding fees where the positions 1-2 of the processing code in the financial transaction indicated a debit.
Usage :	15XX.

**Field No 89 - Reveral debits amount**

Attribute :	n 16
Description :	Total amount of all the reversal transactions excluding fees where the positions 1-2 of the processing code in the reversal transaction indicated a credit.
Usage :	15XX.

**Field No 93 - Transaction receiving institution identification code**

Attribute :	LLVAR n..11
Description :	Identification code for the institution which is receiving the transaction.
Usage :	13XX, 18XX.

**Field No 94 - Transaction sending institution identification code**

Attribute :	LLVAR n..11
Description :	Identification code for the institution which is sending the transaction.
Usage :	13XX, 18XX.

**Field No 97 - Reconciliation net amount**

Attribute :	x+n 16
Description :	Net value corresponding to the gross amounts
Usage :	15XX.

**Field No 99 - Settlement Institution Identification Code**

Attribute :	LLVAR n..11
Description :	Identifies the settlement institution or its agent.

Usage :	15XX
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**Field No 100 - Receiving institution**

Attribute :	LLVAR n..11
Description :	Identifies the institution receiving the message.
Usage :	16XX

**Field No 101 - File name**

Attribute :	LLVAR ans..17
Description :	Real or abbreviated name of the selected file.
Usage :	13XX

**Field No 102 - Account identification 1**

Attribute :	LLVAR ans..28
Description :	Series of digits and/or characters to identify an account or a commercial relationship with a customer.
Usage :	11XX, 12XX, 13XX, 14XX.

**Field No 103 - Account identification 2**

Attribute :	LLVAR ans..28
Description :	Series of digits and/or characters to identify an account or a commercial relationship with a customer.
Usage :	11XX, 12XX, 13XX, 14XX.

**Field No 105 - Rejected credits amount**

Attribute :	n 16
Description :	Total amount of rejected transactions excluding fees where positions 1-2 of the processing code in the chargeback transaction indicated a debit.
Usage :	15XX.

**Field No 106 - Rejected debits amount**

Attribute :	n 16
Description :	Total amount of rejected transactions excluding fees where positions 1-2 of the processing code in the chargeback transaction indicated a credit.
Usage :	15XX.



**Field No 107 - Number of rejected credits**

Attribute :	n 16
Description :	Number of all the rejected transactions where positions 1-2 of the processing code in the chargeback transaction indicated a debit.
Usage :	15XX.

**Field No 108 - Number of rejected debits**

Attribute :	n 16
Description :	Number of all the rejected transactions where positions 1-2 of the processing code in the chargeback transaction indicated a credit.
Usage :	15XX.

**Field No 128 - Message Authentication Code**

Attribute :	b 8
Description :	To validate the message source between the issuer and the acquirer. This code is calculated according to « Standard on Computer Data Authentication (FIPS PUB 113)".
Usage :	All messages

### 3 Messages protocol

This section presents a description of all messages handled by the Switch.

It includes a detailed description of all data elements in use in each message.

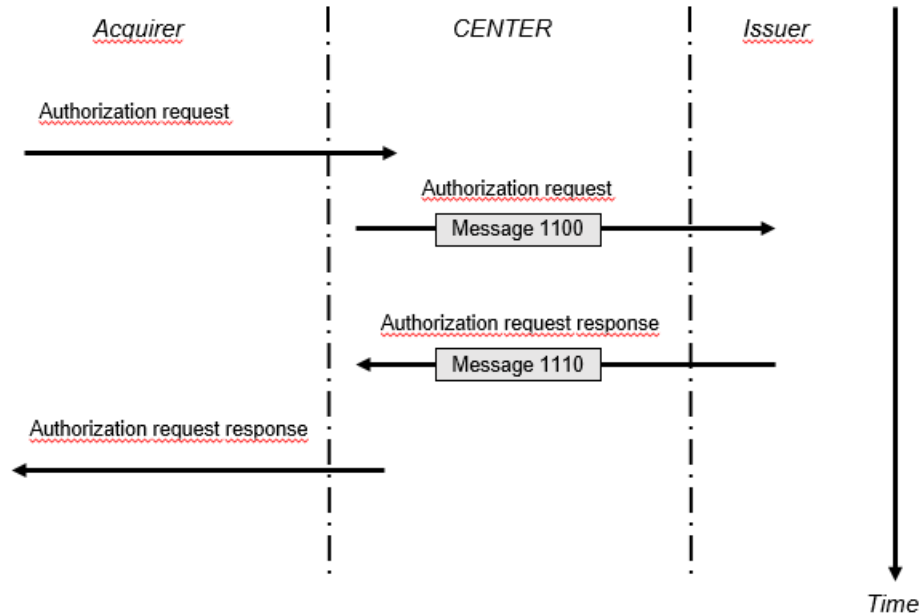
Following messages are detailed :

- 1100 : Authorization request
- 1110 : Authorization request response
- 1120 : Authorization advice
- 1121 : Authorization advice repeat
- 1130 : Authorization advice response
- 1200 : Financial transaction request
- 1210 : Financial transaction request response
- 1220 : Financial transaction advice
- 1221 : Financial transaction advice repeat
- 1230 : Financial transaction advice response.
- 1400 : Acquirer reversal request
- 1410 : Acquirer reversal response
- 1420 : Acquirer reversal advice
- 1421 : Acquirer reversal advice repeat
- 1430 : Acquirer reversal advice response.
- 1422 : Issuer reversal advice,
- 1423 : Issuer reversal advice repeat,
- 1432 : Issuer reversal advice response.
- 1520 : Acquirer reconciliation advice,
- 1521 : Acquirer reversal advice repeat,
- 1530 : Acquirer reconciliation advice response.
- 1522 : Issuer reconciliation advice,
- 1523 : Issuer reconciliation advice repeat,
- 1532 : Issuer reconciliation advice response.
- 1304 : File management request,
- 1314 : File management request response
- 1324: File management advice,
- 1334 : File management advice response.
- 1604 : Administrative message: text message
- 1614 : Administrative message response
- 1720 : Fee collection request (acquirer)
- 1722 : Fee collection request (issuer)
- 1730 : Fee collection request response (acquirer)
- 1732 : Fee collection request response (issuer)
- 1804 : Network management request,
- 1814 : Network management request response.
- M: This element is mandatory in the message.

- C: The presence of this element is conditional in the message.
- R: The value of this element is returned unchanged in the response message

### 3.1 Authorization Request

#### Message synopsis



#### Message content

Type	1100
Flow	From acquirer to issuer.
Description	Request for an authorization transaction.
Response	A response to the authorization request (1110) is mandatory.

Type	1110
Flow	From issuer to acquirer.
Description	Sends the response to an authorization request.

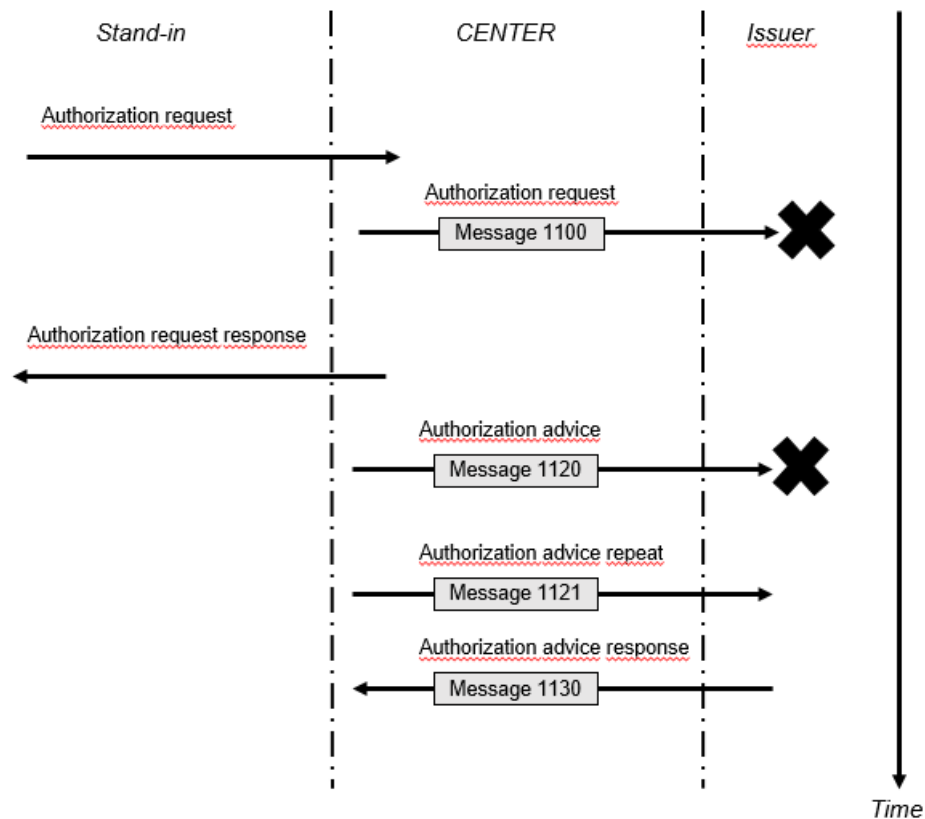
Element	Description	1100	1110	Comment
1	Secondary bitmap	M	M	
2	Primary account number	M	M	
3	Processing code	M	R	
4	Transaction amount	M	R	
5	Settlement amount	C	R	If present in the request initiated by Visa and MasterCard networks

Element	Description	1100	1110	Comment
6	Cardholder billing amount	M	R	
7	Transmission date and time	M	R	
9	Reconciliation exchange rate	C	R	If element 5 is present.
10	Cardholder billing exchange rate	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	Transaction local date and time.
14	Expiry date	M		
15	Settlement date	M	R	
16	Exchange date	M	R	
18	Merchant type	M		
19	Acquirer institution country code	M		
21	Forwarding institution country code	O		
22	POS data	M		
23	Card sequential number	C		
24	Function code	M		
27	Authorisation code length		M	
32	Acquirer institution identification code	M	R	
33	Forwarding institution identification code	M	R	
35	Track 2	C		
37	Reference number	M	R	
38	Authorization number		M	Authorization number in case of reject.
39	Action code		M	See list of action codes
41	Card acceptor terminal identification	M	R	
42	Card acceptor identification	M	R	

Element	Description	1100	1110	Comment
43	Card acceptor name / address	M		
45	Track 1	C		
46	Fees amount	C	R	
48	Additional data	C	C	
49	Transaction currency code	M	R	
50	Reconciliation currency code	C	R	
51	Cardholder billing currency code	M	R	
52	PIN data	C		Mandatory if PIN is captured on the terminal.
53	Security check data	M		
54	Additional amounts		C	Mandatory for the responses to local authorisation requests
55	Chip card related data	C	C	Required for EMV compliant transactions.
60	Reserved for national use	C		
61	Reserved for national use		M	
62	Reserved for national use		C	
72	Record Data		C	For Mini-statement Data Usage
102	Account identification	C	R	Mandatory when the card is linked to several accounts.
128	Message authentication code	M	M	

## 3.2 Authorization advice

### Message synopsis



### Message content

Type	1120
Flow	From stand-in to issuer
Description	Informs that an authorization was given on behalf of the issuer.
Response	An authorization advice response (1130) is mandatory.

Type	1130
Flow	From issuer to stand-in
Description	Sends the response to an authorization advice.

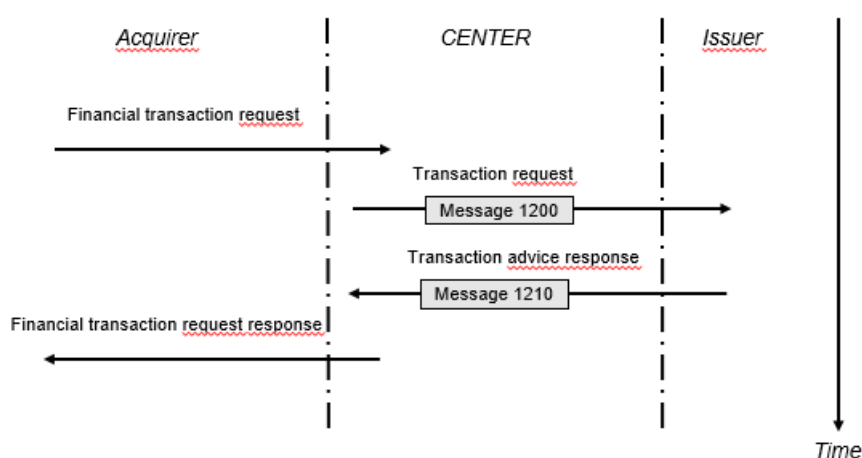
Élément	Description	1120 1121	1130	Comment
1	Secondary bitmap	M	M	
2	Primary account number	M	M	
3	Processing code	M	R	
4	Transaction amount	M	R	

Elément	Description	1120 1121	1130	Comment
5	Settlement amount	C	R	If present in the request initiated by Visa and MasterCard networks
7	Transmission date and time	M	R	
9	Exchange rate, settlement	C	R	if element 5 is present.
10	Cardholder billing exchange rate	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
14	Expiry date	M		
15	Settlement date	M	R	
16	Exchange date	M	R	
19	Acquirer institution country code	M		
21	Forwarding institution country code	O		
22	POS data	M		
23	Card sequential number	C		
24	Function code	M		
25	Message reason code	M		
27	Authorization code lenght		M	
32	Acquirer institution identification code	M	R	
33	Forwarding institution identification code	C	R	
37	Reference number	M	R	
38	Authorization code	M	M	
39	Action code	M	M	See list of action codes
41	Card acceptor terminal identification	C	R	

Elément	Description	1120 1121	1130	Comment
42	Card acceptor identification code	M	R	
43	Card acceptor name / addresss	M		
46	Fees amount	C	R	
48	Additional data	C	C	
49	Transaction currency code	M	R	
50	Reconciliation currency code	C	R	
51	Cardholder billing currency code	M	R	
53	Security check data	M		
55	Chip card related data	C		Required for EMV compliant transactions.
60	Reserved for national use	C		
102	Account identification	C	R	Mandatory when the card is linked to several accounts.
128	Message authentication code	M	M	

### 3.3 Financial Transaction Request

#### Message synopsis



#### Messages content

Type	1200
------	------



Flow	From acquirer to issuer
Description	Request for approval for a financial transaction
Response	A financial transaction request response (1210) is required.

Type	1210
Flow	From issuer to acquirer
Description	Sends the response to a financial transaction request (1200).

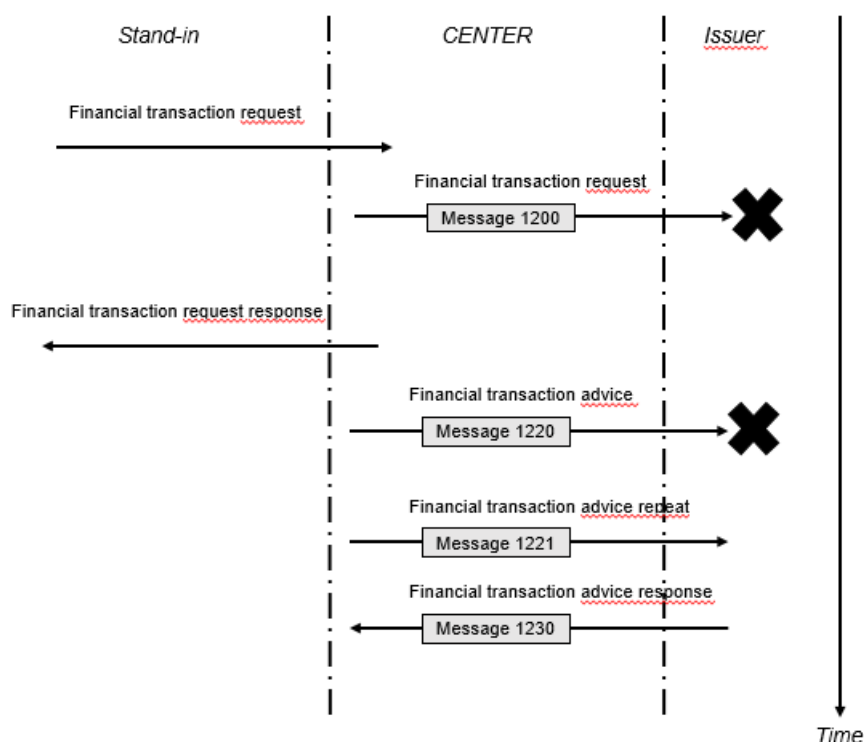
Element	Description	1200	1210	Comment
1	Secondary bitmap	M	M	
2	Primary account number	M	R	
3	Processing code	M	R	
4	Transaction amount	M	R	Equals to '0' in case of a balance request.
5	Settlement amount	M	R	Equals to '0' in case of a balance request.
6	Cardholder billing amount	M	R	Equals to '0' in case of a balance request.
7	Transmission date and time	M	R	
9	Exchange rate, settlement	M	R	
10	Cardholder billing exchange rate	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
14	Expiry date	M		
15	Settlement date	M	R	
16	Exchange date	M	R	
18	Merchant type	M		
19	Acquirer institution country code	M		
21	Forwarding institution country code	O		
22	POS data	M		

Element	Description	1200	1210	Comment
23	Card sequential number	C		
24	Function code	M		
27	Authorization code lenght		M	
32	Acquirer institution identification code	M	R	
33	Forwarding institution identification code	M	R	
35	Track 2	C		
37	Reference number	M	R	
38	Authorization code		M	Mandatory even in case of reject.
39	Action code		M	See list of action codes
41	Card acceptor terminal identification	M	R	
42	Card acceptor identification code	M	R	
43	Card acceptor name / addresss	M		
45	Track 1	C		
46	Fees amount	C	R	This field is defined by the CENTER.
48	Additional data	C	C	
49	Transaction currency code	M	R	
50	Reconciliation currency code	M	R	This field is defined by the CENTER for the SMS and MDS transactions.
51	Cardholder billing currency code	M	R	
52	PIN data	C		
53	Security check data	M		
54	Extra amounts		C	
55	Chip card related data	C	C	Required for EMV compliant transactions.
60	Reserved for national use	C		

Element	Description	1200	1210	Comment
61	Reserved for national use		M	
72	Record Data		C	For Mini-statement Data Usage
62	Reserved for private use		C	CPS data must be sent back to the member in case of SMS transaction.
102	Account I identification	C	R	Mandatory when the card is linked to several accounts.
103	Account II identification	C	R	Used in case of funds transfer.
128	Authentication message code	M	M	

### 3.4 Financial Transaction Advice

#### Message synopsis



#### Message content

Type	1220
Flow	From stand-in to issuer
Description	Informs that a financial transaction was performed on behalf of the issuer

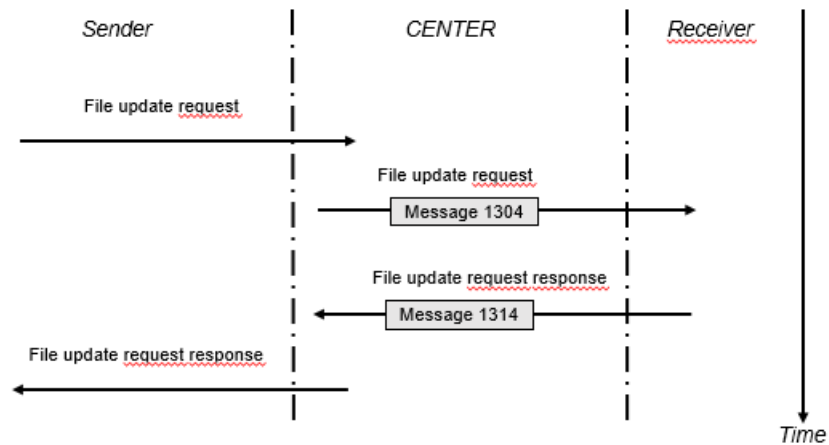
Response	A Financial Transaction Advice Response (1230) is mandatory
Type	1230
Flow	From issuer to stand-in
Description	Sends the response to a Financial Transaction Advice (1220).

Element	Description	1220 1221	1230	Comment
1	Secondary bitmap	M	M	
2	Primary account number	M	R	
3	Processing code	M	R	
4	Transaction amount	M	R	
5	Settlement amount	M	R	
6	Cardholder billing amount	M	R	
7	Transmission date and time	M	R	
9	Exchange rate, settlement	M	R	
10	Cardholder billing exchange rates	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
14	Expiry date	M		
15	Settlement date	M	R	
16	Exchange date	M	R	
18	Merchant type	M		
19	Acquirer institution country code	M		
21	Forwarding institution country code	O		
22	POS data	M		
23	Card sequential number	C		
24	Function code	M		
25	Message reason code	M		
32	Acquirer institution identification code	M	R	
33	Forwarding institution identification code	C	R	
37	Retrieval reference number	M	R	

Element	Description	1220 1221	1230	Comment
38	Authorization code	M	R	
39	Action code	M	R	See list of action codes
41	Card acceptor terminal identification	M	R	Must be the same value as in the initial request message.
42	Card acceptor identification code	M	R	Must be the same value as in the initial request message.
43	Card acceptor name / address	M		
46	Fees amount	C	R	
48	Additional data	C	C	
49	Transaction currency code	M	R	
50	Reconciliation currency code	C		
51	Cardholder billing currency code	M		
53	Security check data	C		
54	Extra amounts	C		
55	Chip card related data	C		Chip card data if available.
56	Original data elements	M		
60	Reserved for national use	C	R	
62	Reserved for private use	C	C	
128	Authentication message code	M	M	

### 3.5 File update request

#### Message synopsis



#### Message content

Type	1304
Flow	From sender to receiver
Description	File update request
Response	A file update request response message (1314) must be sent.

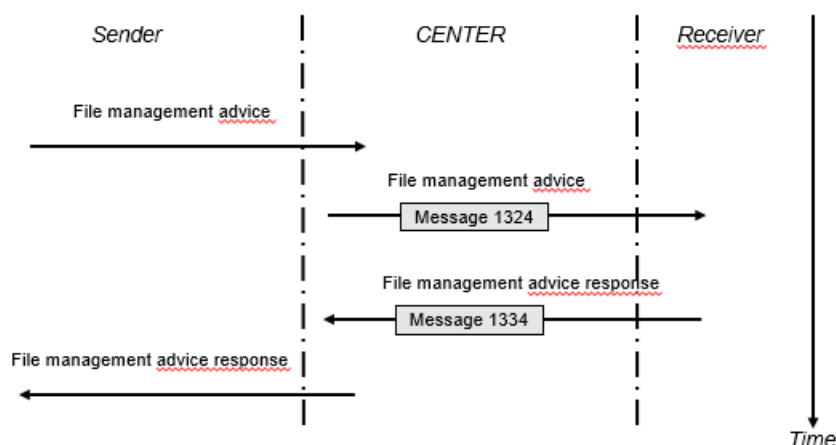
Type	1314
Flow	From receiver to sender
Description	Sent in response to a file update request message (1304)

Element	Description	1304	1314	Comment
1	Secondary bitmap	M	M	
2	Primary account number	M	R	
7	Transmission date and time	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
14	Expiry date	C		
24	Function code	M		
25	Message reason code	M		
27	Authorization code lenght		M	
37	Retrieval reference number	M	R	

Element	Description	1304	1314	Comment
39	Action code		M	See list of action codes
46	Fees amount	C	R	This field is defined by the CENTER.
73	Action date	C	C	
93	Identification code of the Institution receiving the transaction	M	M	
94	Identification code of the Institution sending the transaction	M	M	
101	File name	M	R	
128	Authentication message code	M	M	

### 3.6 File management advice

#### Message synopsis



#### Message content

Type	1324
Flow	From Sender to Receiver.
Description	Informs an issuer that a file or record was added, deleted, or replaced.
Response	A message of file update advice request (1334) must be sent.

Type	1334
Flow	From Receiver to Sender.
Description	Sends a response to a file management advice.

Element	Description	1324	1334	Comment
1	Secondary bitmap	M	M	
2	Primary account number	M	R	
7	Transmission date and time	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
24	Function code	M		
25	Message reason code	M		
27	Authorization code length		M	
37	Retrieval reference number	M	R	
39	Action code		M	See list of action codes
46	Fees amount	C	R	This field is defined by the CENTER.
73	Action date	C	C	
93	Identification code of the Institution receiving the transaction	M	M	
94	Identification code of the Institution sending the transaction	M	M	
101	File name	M	R	
128	Authentication message code	M	M	



### 3.7 Reversal advice

#### Message synopsis

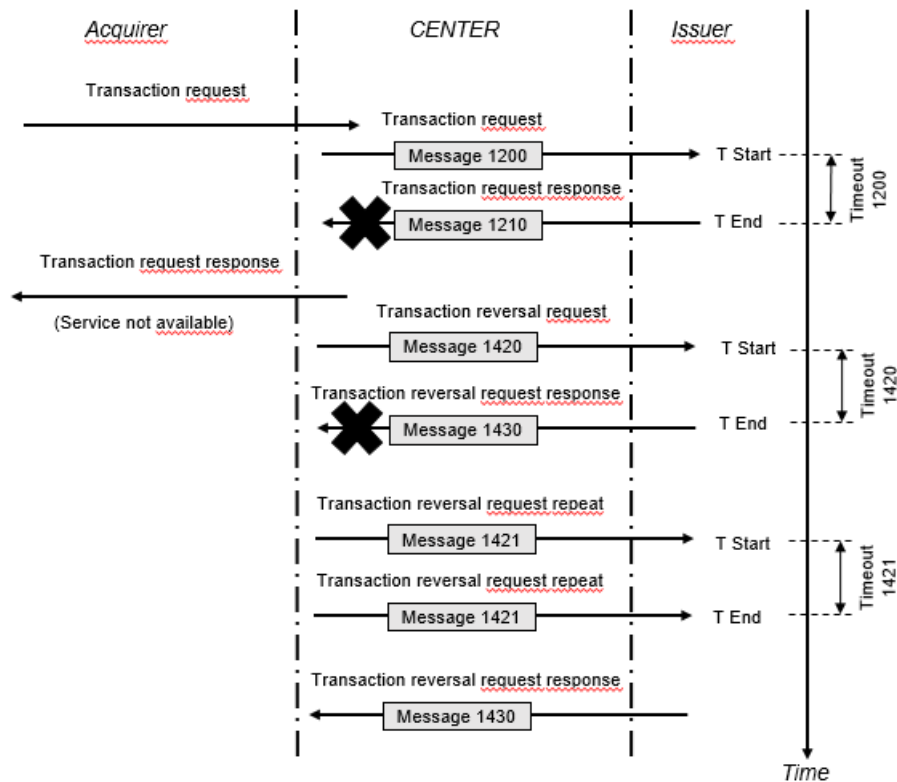


Figure 1: First case: Reversal following a timeout on issuer side

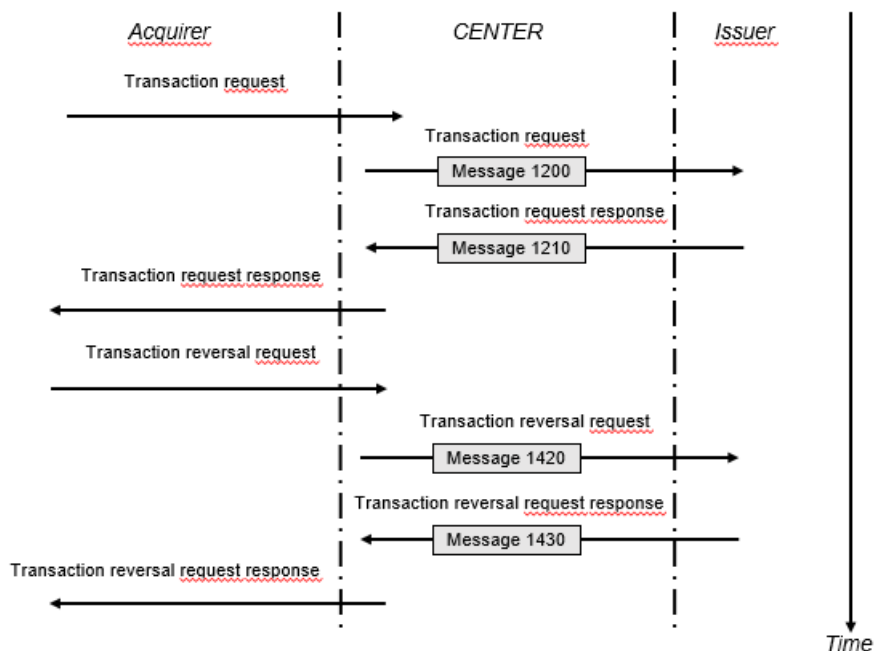


Figure 2: Second case: Reversal following a timeout on acquirer side

#### Message content

Type	1400/1420
Flow	From acquirer to issuer

Description	Adjusts a previous authorization or financial transaction message.
Response	An acquirer reversal advice response message (1410/1430) is mandatory

Type	1410/1430
Flow	From issuer to acquirer
Description	Sends a response to an reversal advice.

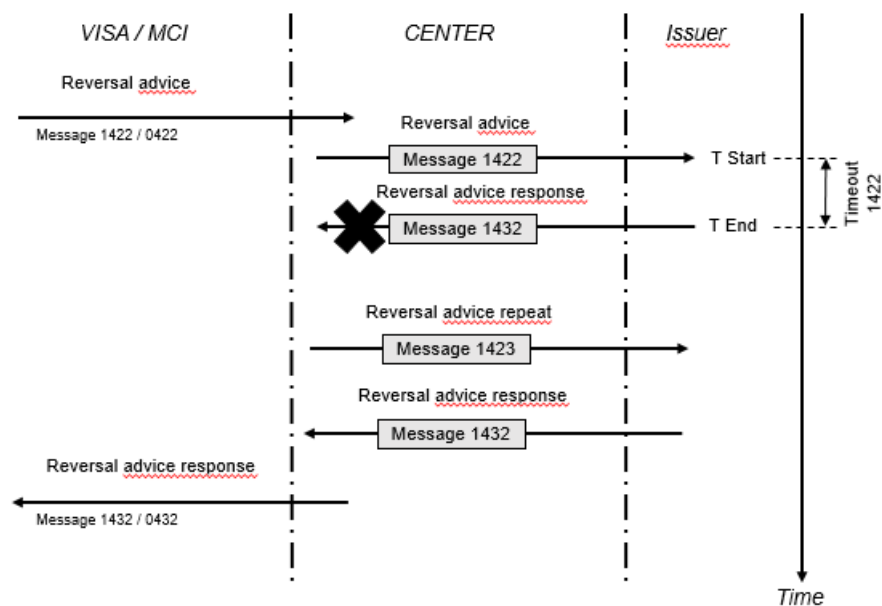
Element	Description	1400 1420 1421	1410 1430	Comment
1	Secondary bitmap	M	M	
2	Primary account number	M	R	
3	Processing code	M	R	
4	Transaction amount	M	R	Must be the same value as in the initial request message being reversed.
5	Settlement amount	C	R	
6	Cardholder billing amount	M	R	Must be the same value as in the initial request message being reversed.
7	Transmission date and time	M	R	Reversal date and time.
9	Exchange rate, settlement	C		Must be the same value as in the initial request message being reversed.
10	Cardholder billing exchange rates	M		Must be the same value as in the initial request message being reversed.
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	Reversal local date and time. Format : YYMMDDhhmmss.
15	Settlement date	M	R	
16	Exchange date	M	R	
19	Acquirer institution country code	M		Must be the same value as in the initial

Element	Description	1400 1420 1421	1410 1430	Comment
				request message being reversed.
21	Forwarding institution country code	O		Must be the same value as in the initial request message being reversed.
23	Card sequential number	C		
24	Function code	M		Message code fonction: <b>400</b> = total reversal, <b>402</b> = partiel reversal.
25	Message reason code	M		Reversal reason.
30	Replacement amounts	C		Mandatory if reversal is partial.
32	Acquirer institution identification code	M	R	Must be the same value as in the initial request message being reversed.
33	Forwarding institution identification code	M	R	Must be the same value as in the initial request message being reversed.
37	Retrieval reference number	M	R	
38	Authorization code	C	M	Must be the same value as in the initial request message being reversed.
39	Action code	M	M	Response code for the initial request message.
41	Card acceptor terminal identification	M	R	Must be the same value as in the initial request message being reversed.
42	Card acceptor identification code	M	R	Must be the same value as in the initial request message being reversed.
43	Card acceptor name / address	M	R	
46	Fees amount	C	R	

Element	Description	1400 1420 1421	1410 1430	Comment
48	Additional data	C	C	
49	Transaction currency code	M	R	Must be the same value as in the initial request message being reversed.
50	Reconciliation currency code	M	R	Must be the same value as in the initial request message being reversed.
51	Cardholder billing currency code	M	R	Must be the same value as in the initial request message being reversed.
53	Security check data	M	M	
56	Original data elements	M		
60	Reserved for national use	C		
61	Reserved for national use	C		
62	Reserved for private use	C		
128	Authentication message code	M	M	

### 3.8 Issuer reversal advice

#### Message synopsis



**Message content**

Type	1422/1423
Flow	From issuer to acquirer.
Description	To issue a reversal for the financial transactions previously accepted but that are disputed by cardholders or considered as not valid by the Issuer.
Response	A response to chargeback (1432) is mandatory.

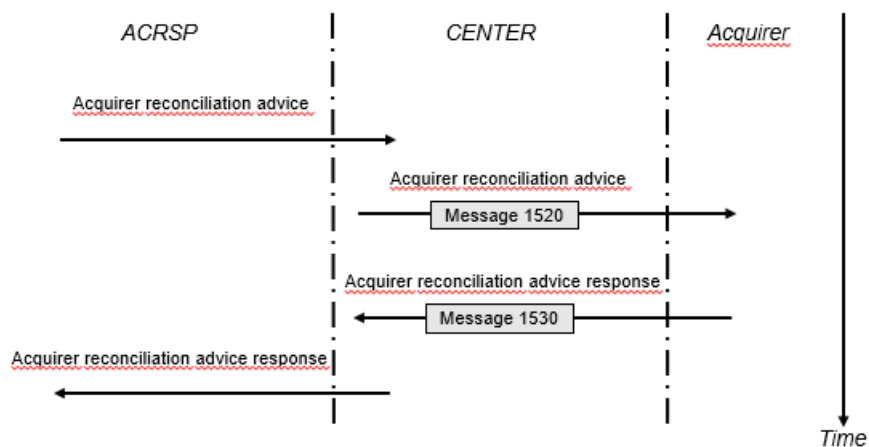
Type	1432
Flow	From acquirer to issuer.
Description	Response to an Issuer reversal message advice (1422/1423). Indicates a positive response to an Issuer reversal message advice (1422/1423)

Element	Description	1422 1423	1432	Comment
1	Secondary bitmap	M	M	
2	Primary account number	M	R	
3	Processing code	M	R	
4	Transaction amount	M	R	
5	Settlement amount	M	R	
7	Transmission date and time	M	R	
9	Exchange rate, settlement	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
15	Settlement date	M	R	
16	Exchange date	M	R	
18	Merchant type	M		
19	Acquirer institution country code	M	R	
21	Forwarding institution country code	O	R	
23	Card sequential number	C		
24	Function code	M		
25	Message reason code	M	R	

27	Authorization code length		M	
32	Acquirer institution identification code	M	R	
37	Retrieval reference number	M	R	
38	Authorization code		M	
39	Action code		M	See list of action codes
41	Card acceptor terminal identification	M	R	
42	Card acceptor identification code	M	R	
46	Fees amount	C	R	This field is defined by the CENTER.
48	Additional data	C	C	
49	Transaction currency code	M	R	
50	Reconciliation currency code	M	R	
53	Security check data	M	M	
62	Reserved for private use	C	C	
56	Original data elements	M	R	
128	Authentication message code	M	M	

### 3.9 Acquirer Reconciliation Advice

#### Messages synopsis



**Messages content**

Type	1520/1521
Flow	From ACRSP to acquirer
Description	Informs on the Acquirer totals (number and value) for the last period of reconciliation.
Response	A reconciliation advice response message (1530) is mandatory.

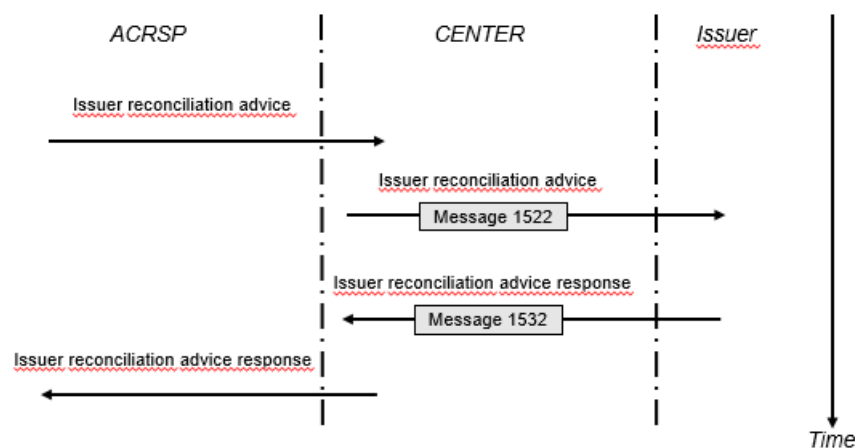
Type	1530
Flow	From acquirer to ACRSP
Description	Must be sent in response to an Acquirer Reconciliation message (1520) to acknowledge receipt of that message.

Element	Description	1520 1521	1530	Comment
1	Secondary bitmap	M	M	
7	Transmission date and time	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
15	Settlement date	M	R	
24	Function code	M		
37	Retrieval reference number	M	R	
39	Action code		M	<a href="#">See list of action codes</a>
50	Reconciliation currency code	M	R	
53	Security check data	M		
74	Credit number	M	M	
75	Credit reversal number	M	M	
76	Debit number	M	M	
77	Debit reversal number	M	M	
80	Inquiries number	M	M	
81	Authorization number	M	M	
86	Credit amount	M	M	

87	Credit reversal amount	M	M	
88	Debit amount	M	M	
89	Debit reversal amount	M	M	
97	Net reconciliation amount	M	M	
99	Settlement agent identification code	M	M	
128	Authentication message code	M	M	

### 3.10 Issuer Reconciliation Advice

#### Messages synopsis



#### Messages content

Type	1522/1523
Flow	From ACRSP to issuer
Description	Informs about issuer totals (number and value) for the last period of reconciliation.
Response	A reconciliation advice response message (1532) is mandatory.

Type	1532
Flow	From issuer to ACRSP
Description	Sends the response to a reconciliation advice.

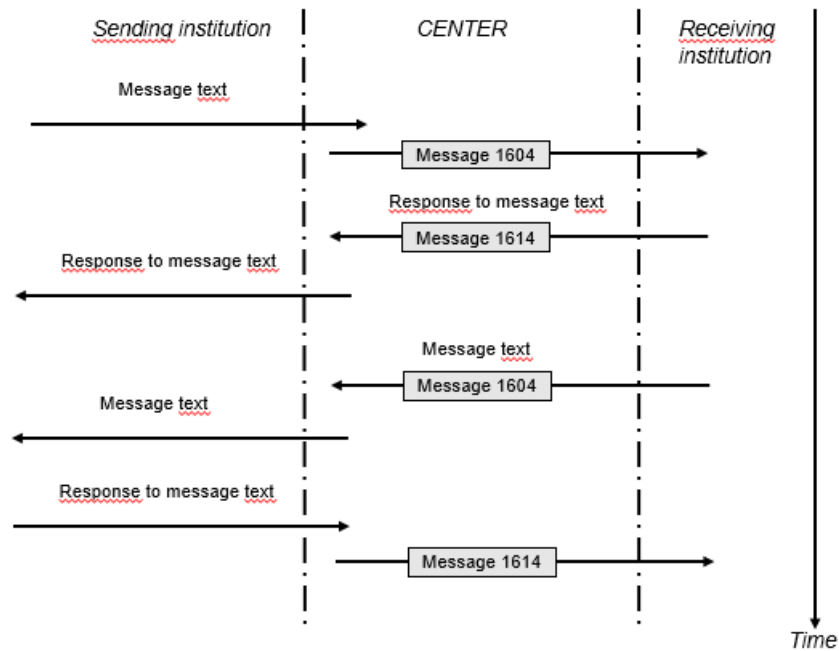
Element	Description	1522 1523	1532	Comment
1	Secondary bitmap	M	M	
7	Transmission date and time	M	R	



11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
15	Settlement date	M	R	
24	Function code	M		
37	Retrieval reference number	M	R	
39	Action code		M	See list of action codes
50	Reconciliation currency code	M	R	
53	Security check data	M		
74	Credit number	M	M	
75	Credit reversal number	M	M	
76	Debit number	M	M	
77	Debit reversal number	M	M	
80	Inquiries number	M	M	
81	Authorization number	M	M	
86	Credit amount	M	M	
87	Credit reversal amount	M	M	
88	Debit amount	M	M	
89	Debit reversal amount	M	M	
97	Net reconciliation amount	M	M	
99	Settlement agent identification code	M	M	
128	Authentication message code	M	M	

### 3.11 Administrative message: Message text

#### Messages synopsis



#### Messages content

Type	1604
Flow	From sender to receiver
Description	Allows the exchange of text message (VISA only)
Response	A response to a message text request (1614) is mandatory.

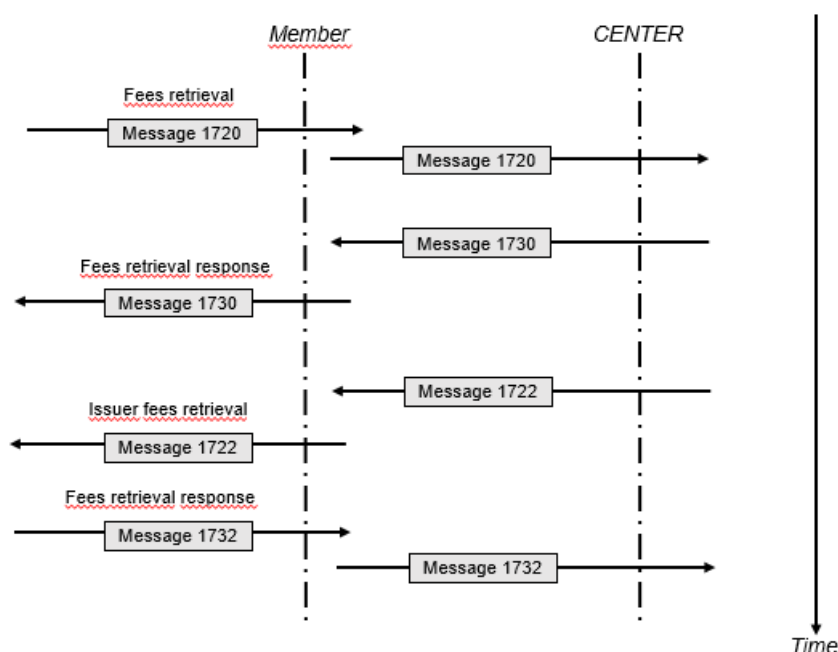
Type	1614
Flow	From receiver to sender
Description	Sends the response to message text request.

Element	Description	1604	1614	Comment
1	Secondary bitmap	M	M	
7	Transmission date and time	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
33	Forwarding institution identification code	M	R	
37	Numéro de référence de recouvrement	M	R	

39	Action code		M	See list of action codes
48	Additional data	C	C	P35 including # at beginning
100	Receiving institution ID	M	R	
128	Authentication message code	M	M	

### 3.12 Funds and Fees request - Visa

#### Messages synopsis



#### Messages content

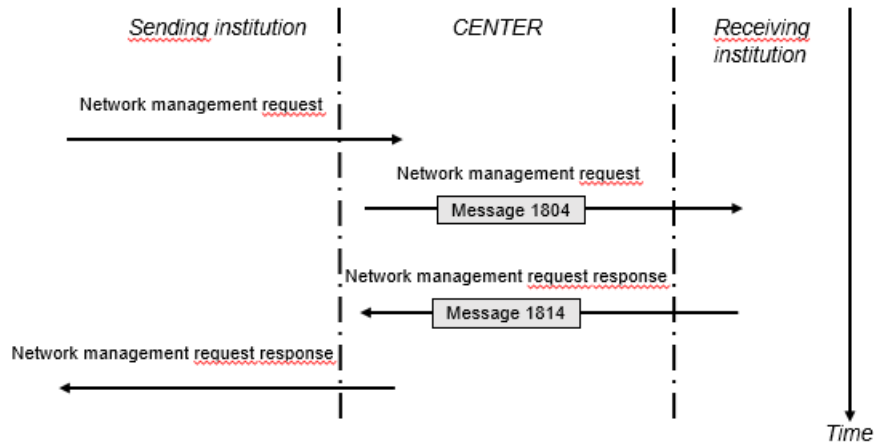
Type	1720 --1722	
Flow	From acquirer to issuer – From issuer to acquirer.	
Description	Allows the fees collection from acquirer to issuer. Allows the fees collection from issuer to acquirer.	
Response	A response to fees collection message (1730-1732) is mandatory.	
Type	1730 –1732	
Flow	From acquirer to issuer. From issuer to acquirer.	
Description	Response to a fees or funds message.	

Element	Description	1720 1722	1730 1732	Comment
---------	-------------	-----------	-----------	---------

1	Secondary bitmap	M	M	
2	Primary account number	C	R	
3	Processing code	M	R	
4	Transaction amount	M	R	
5	Settlement amount	M	R	
7	Transmission date and time	M	R	
9	Exchange rate, settlement	M	R	Present if the message is 1722
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
15	Settlement date		C	
16	Exchange date	M	R	Present if the message is 1722
19	Acquirer institution country code	M	R	
32	Acquirer institution identification code	M	R	
37	Retrieval reference number		R	
38	Authorization code		M	
39	Action code		M	See list of action codes
48	Additional data	C	C	
49	Transaction currency code	M	R	
50	Reconciliation currency code	M	R	
128	Code d'authentification du message	M	M	

### 3.13 Network management request

#### Messages synopsis



#### Messages content

Type	1804
Flow	From sender to receiver
Description	Request for network management action
Response	A network management request response (1814) is mandatory.

Type	1814
Flow	From receiver to sender
Description	Sends the response to a network management request.

Element	Description	1804	1814	Comment
1	Secondary bitmap	M	M	
7	Transmission date and time	M	R	
11	System Trace Audit Number	M	R	
12	Transaction date and time	M	R	
24	Function code	M		
25	Message reason code	M		
33	Forwarding institution identification code	M	R	
37	Retrieval reference number	M	R	

39	Action code		M	See list of action codes
48	Additional data	C	C	
128	Authentication message code	M	M	

### 3.14 AFD authorization with partial approval support

#### 3.14.1 Pre-authorization

An AFD pre-authorization request or advice is characterized with the below fields:

- Message type is 1100, 1120, 1200 or 1220
- Function code "101" (Preauthorization) in field 24
- Merchant type "5542" (Automated Fuel Dispenser) in field 18
- An AFD reference number in field 48, tag P57
- Partial approval terminal support indicator ('1') in field 48, tag P61 if applicable

The AFD pre-authorization response 1110/1210 contains in case the authorization is partially approved

- The partial approved amount in transaction amount (or billing amount depending on the requested amount type)
- The value "002" in field 39 if the authorization is partially approved
- The original amount with amount type "57" in field 54 if the authorization is partially approved(optional)

#### 3.14.2 Completion

The AFD Completion 1120/1220 advice contains:

- The final transaction amount (or billing amount depending on the requested amount type)
- Merchant type "5542" (Automated Fuel Dispenser) in field 18
- Function code "202" (Authorized previously - Amount differs) in field 24
- The authorization code (field 38) previously sent in the original preauthorization response
- the AFD reference number previously sent in the preauthorization request (field 48, tag P57)

### 3.15 Support incremental authorization

The following data elements are required to identify incremental

- Field No 11 System Trace Audit Number: Use the value from the original authorization request message.
- Field No 37 Retrieval Reference Number: Use the value from the original authorization request message.
- Field No 48 Tag P68 Transaction identifier: Use the value from the original authorization response message

## 4 Link between PowerCARD-Switch and the partners servers

This section introduces the procedures related to the management of the link between the CENTER and the electronic payment server of the Member. These procedures are based mainly on the network management messages 1804/1814.

### 4.1 Network connection

At network level, the link between the CENTER server and the electronic payment server is established by this latter. A network connection request is sent by the Bank electronic payment server (Member). The CENTER responds to this request by a connection request confirmation. If the CENTER server is unavailable when the connection request is sent by the Bank electronic payment server (Member), this latter should automatically retry to establish the connection.

**Note**

This setting should be configurable.

---

The same process should apply in case the network connection is lost after being successfully established.

The link between both servers is declared as OFF-LINE as long as the network connection is not established. It will be declared as SIGN-OFF once the connection is established successfully.

For network connection, Hightech Payment Systems recommends using TCP/IP protocol.

### 4.2 Session logon

Once the network connection is established, the member's electronic payment server initiates a session logon request. This server sends a network management request message (1804) with the value 801 for the « function code » element (element ISO 24). The CENTER responds to this request by a message 1814 with the « action code » element (element ISO 39) set to 800. Once the response is sent, the link between both servers is considered as SIGN-ON by the CENTER. It will be considered as such by the electronic payment server when receiving the corresponding response.

The link between both servers remains in status SIGN-OFF if the CENTER could not respond or if the element ISO 39 of the CENTER response is different than 800. In this case, the electronic payment server should retry to establish a session.

**Note**

This setting should be configurable.

---

### 4.3 Session status checking

At regular time intervals, the electronic payment server will send a session verification message (ECHO-TEST) using a network management message (1804) with 803 as value for the element « function code » (element ISO 24). The CENTER must respond with a message 1814 with 800 as value of the element « action code » (element ISO 39).

**Note**

This setting should be configurable.

---

If the member's electronic payment server does not receive the response to an ECHO-TEST message or if the element ISO 39 of the CENTER response is different than 800, it should retry to send another message for a given number of times and for reduced times intervals. After these attempts, if no response was received, the electronic payment server declares the link as SIGN-OFF.

---

**Note**

This setting should be configurable.

---

A session verification message can be initiated by the CENTER. The same rules apply except the last one : if the electronic payment server does not respond to ECHO-TEST message, the link won't be declared as SIGN-OFF by the CENTER. However, the CENTER will generate an alert for the Systems Operators.

## 4.4 Session logout

The electronic banking server can initiate a session logout request.

To do so, it will send a network management message with the element « function code » set to 802. The CENTER will respond with a message 1814 with the element « action code » set to 800. Once the response is received, the electronic banking server considers the link to be in status SIGN-OFF. The Center will do the same as soon as it replied.

If the electronic banking server would not receive any response to its request, it should retry to send the request for a given number of attempts.

---

**Note**

This setting should be configurable.

---

The CENTER can also initiate a session logout request. The same rules must apply.

## 4.5 General rules

If the link status is different than 'OFF-LINE', both servers can exchanged session logon requests, session verification requests and session logout requests.

Authorization requests (11XX), transaction requests (message 12XX), reversal requests (message 14XX), file management requests (13XX) as well as reconciliation requests (message 15XX) can be exchanged only when the link status is 'SIGN-ON'.



## 5 Appendix A – Action codes

Code	Description
000	Approved
001	Approved with ID
002	Partial Approval
003	Approved VIP
007	Approved, chip update
010	Purchase amount only, no cash back allowed
100	Rejected
101	Expired card
102	Suspected fraud
104	Private card
106	Limit of PIN entry attempts exceeded
107	Refer to card issuer
108	Refer to card issuer special conditions
109	Invalid merchant
110	Invalid amount
111	Invalid card number
112	PIN not present
114	No account matching the type requested
115	Function not available
116	No sufficient funds
117	Incorrect PIN
118	No such card
119	Cardholder transaction not permitted
120	Terminal transaction not permitted
121	Withdrawal amount limit exceeded
122	Security violation
123	Withdrawal frequency limit exceeded
125	Card not in service
126	Wrong PIN format
127	PIN length error
128	Cryptographic error
129	Card counterfeit detected
130	Closed account
180	No credit account
181	No checking account
182	No saving Account

Code	Description
183	Invalid CVV
184	Invalid date
186	Contactless not permitted
187	Authentication required (for ecom only)
188	Pin required
189	Pin not changed
200	Rejected, Pick up card
201	Expired card, Pick up card
202	Fraud suspected , Pick up card
204	Reserved usage, Pick up card
205	Card issuer calls for acquirer security service, Pick up card
206	Number of PIN validation attempts exceeded, pick up
207	Special conditions, Pick up card
208	Card lost, Pick up card
209	Card stolen, Pick up card
210	Fraud suspected, Pick up card
280	Alternative amount reversed
299	Pick up card
300	Successfully processed
301	Not supported by receiver
302	Unable to find the record in the file
303	Duplicate record. Old record replaced.
304	Zone control error
305	File locked
306	Unsuccessful
307	Format error
308	Duplicate record. New record rejected
309	File unknown
381	Record not found
382	Error check luhn key
383	Balance request
400	Revocation all authorizations
451	Fraud monitoring rejection
480	Reversal accepted
481	Invalid reversal
501	Reconciliation not accepted
503	Counters not available

Code	Description
581	Reconciliation done
582	Reconciliation process not available
800	Cut-off in progress
880	Connection not accepted
902	Invalid transaction
908	Transaction receiver not referenced for switch
909	System fault
911	Timeout
912	Card issuer not available
920	Life cycle decline (Mastercard use only)
921	Policy decline (Mastercard use only)
922	Fraud/Security decline (Mastercard use only)
992	Issuer not found
993	PIN verification fault
994	Transaction processing error
995	Server processing error

## 6 Document history

Version	Status	Date	Modifications
1.2	Valid	01/12/2016	<p>Adding field F048.P19 VISA MVV</p> <p>Adding field F048.P21 Merchant additional data</p> <p>Adding details on field F046 fees amounts</p>
1.3	Valid	10/01/2017	<p>Remove deprecated tags in field 48.</p> <p>Adding field F048.P70 Terminal info</p>
1.4	Valid	01/02/2017	<ul style="list-style-type: none"> <li>Adding Amount type 40 <ul style="list-style-type: none"> <li>40:Cash back amount</li> </ul> </li> <li>- Adding F072 Message usage</li> <li>- Add P10</li> </ul>
1.5	Valid	24/02/2017	<ul style="list-style-type: none"> <li>Updating fields F048, F054, F055</li> </ul>
1.6	Valid	24/03/2017	<ul style="list-style-type: none"> <li>Support AFD Pre-Authorization / Completion</li> </ul>
1.7	Valid	21/06/2017	<ul style="list-style-type: none"> <li>Support Incremental authorization</li> </ul>
1.8	Valid	19/09/2017	<ul style="list-style-type: none"> <li>Adding F013 (Effective date)</li> <li>Adding new value 'F' (Credentials on file) to F22.7</li> <li>Adding description and new values for F048.P54 (CAVV result)</li> <li>Updating F048.P55 tag (token data)</li> <li>Adding new values to F048.P71 (recurring payment indicator)</li> <li>Defining new values for F048.P83 (Address verification result) <ul style="list-style-type: none"> <li>- Adding P91 tag (Amex transaction id) to F048</li> <li>- Changing the length of F048.P92 (CVC2)</li> </ul> </li> </ul>

Version	Status	Date	Modifications
			<ul style="list-style-type: none"> <li>- Adding new tags S22 (Sale info) and S23 (Sale items info data) to F048</li> </ul>
1.9	Valid	24/11/2017	<ul style="list-style-type: none"> <li>Changing the length of F048.P43 (MasterCARD UCAF)</li> <li>Changing the length of F048.P51 (Account authentication value)</li> <li>Adding the tag F048.P77 (Transaction ID (XID))</li> </ul>
2.0	Valid	12/12/2017	<ul style="list-style-type: none"> <li>Updating the definition of the value 'C' of F048.P71</li> </ul>
2.1	Valid	04/01/2018	<ul style="list-style-type: none"> <li>Acquirer reversal request/response</li> </ul>
2.2	Valid	17/01/2018	<ul style="list-style-type: none"> <li>Adding the value "181" (Account request) and new value "182" for address verification request to F024</li> </ul>
2.3	Valid	23/01/2018	<ul style="list-style-type: none"> <li>Adding details for the value 'R' and 'C' of F048.P71</li> <li>Updating the values/definitions of F48.P54 (CAVV result)</li> </ul>
2.4	Valid	19/06/2018	<ul style="list-style-type: none"> <li>Updating the presence mode of CVV2 (changed from "not allowed" to "optional") in an authorization initiated by a cardholder with credential on file (See details on F48.P71)</li> <li>Adding the value "07" of Discover to F48.P95</li> </ul>
2.5	Valid	03/10/2018	<ul style="list-style-type: none"> <li>- Adding new tags 'P66' and 'K06' to F48</li> </ul>
2.6	Valid	23/11/2018	<ul style="list-style-type: none"> <li>-Adding new value '3' (mPOS Software based PIN Entry Capability) to F022.12</li> </ul>

Version	Status	Date	Modifications
			-Adding new values '1' and '2' to F048.P61.21
2.7	Valid	07/03/2019	Change the type of F32 and F33 from numeric to alpha numeric
2.8	Valid	21/05/2019	<ul style="list-style-type: none"> <li>-Adding new value 187 to F39</li> <li>-Adding new subfield "004" and "005" to F48.P21</li> <li>-Updating F48.P64</li> <li>-Updating F48.P66 and adding new positions</li> <li>-Adding new values to F48.S20.001 ("PU", "CI", ...)</li> <li>-Adding new tags 032, 033 and 033 to F48.S20</li> <li>-Adding new tags K08, K09 and K10 to F48</li> <li>-Updating the description of the value 32 in F003</li> <li>-Adding new value K in F022</li> </ul>
2.9	Valid	03/09/2019	<ul style="list-style-type: none"> <li>- Adding new function code "185" to F024</li> <li>- Updating new action code "188" to F039</li> <li>- Adding new tags P11 and P52 to F048</li> <li>- Updating tags info P61, P64, P66 of F048</li> <li>- Changing the length of F048.S20.029</li> </ul>
3.0	Valid	11/08/2020	<ul style="list-style-type: none"> <li>- Adding new tag N52 to F048</li> <li>- Changing the type of F041 and F042 from "an" to "ans"</li> <li>- Adding new action code 186</li> <li>- Adding new transaction types 10, 21 and 98 to F003</li> <li>- Adding new function code 202 to F024</li> <li>- Updating F048.P66 position 2 description</li> <li>- Adding new tags P34 and S26 to F048</li> </ul>

Version	Status	Date	Modifications
			<ul style="list-style-type: none"> <li>- Updating the length of F048.P61</li> <li>- Change the description of F048.S20.034</li> <li>- Add new tag 035 to F048.S20</li> <li>- Adding new tags S27 and N21 to F048</li> <li>- Change the description of F048.K09, Octet1, position 6</li> </ul>
3.1	Valid	29/09/2020	<ul style="list-style-type: none"> <li>- Add new positions to F048.P64</li> <li>- Add new values 004 and 111 to F048.K10</li> </ul>
3.2	Valid	04/05/2021	<ul style="list-style-type: none"> <li>- Update the description of the action codes 121 and 187</li> <li>- Add new action codes 010, 130 and 451</li> <li>- Add new tags 036, 037 to F048.S20</li> <li>- Change the length of F048.S20.015 and F048.S20.19</li> <li>- Add new tag 006 to F048.P21</li> <li>- Add new tag N22 to F063</li> <li>- Update F048.P66.pos6-7 values description</li> </ul>
3.3	Valid	26/05/2021	<ul style="list-style-type: none"> <li>- Update the description of the action codes 129 and 206</li> </ul>
3.4	Valid	18/08/2021	<ul style="list-style-type: none"> <li>- Update the description of F030</li> <li>- Add new action codes 189, 920, 921 and 922 to F039</li> <li>- Add new tag 038 to F048.S20</li> <li>- Remove the position 20 of P66 (Its usage is replaced with F048.K09 position 3)</li> <li>- Update the description of F048.K09</li> <li>- Add new position 10 to F048.P64</li> <li>- Add new position 4 to F048.S27.002</li> </ul>

Version	Status	Date	Modifications
			<ul style="list-style-type: none"> <li>- Add new tag N55 to F048</li> <li>- Update the description format of F056</li> </ul>
3.5	Valid	22/11/2021	<ul style="list-style-type: none"> <li>- Update action codes labels for 112, 382</li> <li>- Add action codes 400 and 501</li> <li>- Update the presence of F021 in the messages layout</li> </ul>
3.6	Valid	14/03/2022	Field 48 : <ul style="list-style-type: none"> <li>• Add the following Tags : N56, P64.Position7, P21.007, P21.008, S20.040,S20.041, S20.042,S20.043, S20.044,S20.045, S20.046</li> <li>• Update the description of tag P71</li> </ul>
3.7	Valid	28/04/2022	<ul style="list-style-type: none"> <li>- Add tag S29 in Filed F048</li> <li>- Add value 4 in DE22 Position 10</li> <li>- Add value 07 in F048.P66.Position6-7</li> <li>- Add tags N23 and N24 in Field F063</li> <li>- Add tags F022, F025 in field 61</li> <li>- Add position 11 in P64</li> <li>- Add Field 57</li> </ul>
3.8	Valid	26/08/2022	<ul style="list-style-type: none"> <li>- Add F048.N58</li> <li>- Add the description of Iss.F048.P64.Position12</li> <li>- Add F048.N25</li> <li>- Add F048.N26</li> <li>- Add F048.S24</li> </ul>