



# jPOS Common Message Format

1.0.20.rc13

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# About this document

This is an internal document used as our development road map and master workbook.

It defines the jPOS Common Message Format based on the ISO-8583 v2003 standard.

A copy of the standard can be purchased at the ISO Store [<http://iso.org>]

Please check our Appendix I, *License terms*.

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# Chapter 1. Message Structure

## Field Representation

The message format used by jPOS Common Message Format uses data elements whose permissible contents are indicated via abbreviations described in the following table:

**Table 1.1. Representation abbreviations**

Abbreviation	Definition
<b>n</b>	Fixed length field.
<b>..nn[n[n]]</b>	Variable length of up to maximum 'nn' characters or digits. All variable length fields shall in addition contain two (abbreviated as LLVAR), three positions (abbreviated as LLLVAR) or four positions (abbreviated as LLLLVAR) at the beginning of the data element representing the length of the field itself.
<b>Nn</b>	Fixed length numeric field represented in BCD format. n indicates the number of BCD digits. If the number of BCD digits is odd, a final 'F' is added to the right.
<b>N..nn</b>	Variable length numeric field represented in BCD format. nn indicates the maximum number of BCD digits allowed. If the number of BCD digits is odd, a final 'F' is added to the right.
<b>ANn</b>	Fixed length alphanumeric field (ASCII format). n indicates the field length.
<b>AN..nn</b>	Variable length alphanumeric field (ASCII format). nn indicates the maximum field length.
<b>bn</b>	Fixed length binary field. n indicates the field length in bits.
<b>Bn</b>	Fixed length binary field. n indicates the field length in bytes.
<b>B..nn</b>	Variable length binary field nn indicates the maximum field length in bytes.
<b>z..nn</b>	Track 2 and 3 code set as specified in ISO-4909, ISO-7811-2 and ISO-7813. nn indicates the maximum field length in nibbles.
<b>Z..nn</b>	Track 2 and 3 code set as specified in ISO-4909, ISO-7811-2 and ISO-7813. nn indicates the maximum field length in bytes.
<b>LLVAR</b>	Variable length is expressed in two BCD digits (0 to 99)
<b>LLLVAR</b>	Variable length is expressed in three BCD digits (0 to 999)
<b>LLLLVAR</b>	Variable length is expressed in four BCD digits (0 to 9999)

## Message Components

The ISO-8583 messages transmitted and received by jPOS Common Message Format use the following over-the-wire representation:

**Table 1.2. Wire Protocol**

Component	Format	Mandatory	Description
Message Length	2 bytes (nbo)	Yes	Message length represented as two bytes in network byte order (BIG ENDIAN) used to determine message boundaries in the TCP/IP stream.
ISO-8583 Version	N1	Yes	ISO-8583 version. jPOS Common Message Format uses version 2003 represented by the constant value 2.
MTI	N3	Y	ISO-8583 Message Type Indicator.

Component	Format	Mandatory	Description
Primary Bitmap	64 bits	Yes	64 bits indicating the list of ISO-8583 data elements present in the message (data elements 2 to 64). The first bit indicates the presence of a secondary bitmap.
Secondary Bitmap	64 bits	Optional	64 bits indicating the list of ISO-8583 data elements present in the message (65 to 128).
Data Elements	byte stream	Yes	Variable length binary representation of the data elements present in the message.

## Message Type Identifiers

jPOS Common Message Format implements the following message classes:

**Table 1.3. Message Type Identifiers**

Request	Response	Description
<b>100</b>	<b>110</b>	Authorization, Balance Inquiry, Mini statements
<b>200</b>	<b>210</b>	Financial presentment, Purchase, Void, Refund / Return, Refresh, Transfer
<b>220</b>	<b>230</b>	Financial presentment Advice
<b>240</b>	<b>250</b>	Financial presentment Notification
<b>300</b>	<b>310</b>	Card Activation/De-Activation
<b>304</b>	<b>314</b>	File Update
<b>420</b>	<b>430</b>	Reversals of Authorization and Financial messages
<b>600</b>	<b>610</b>	Administrative
<b>720</b>	<b>730</b>	Acquirer Fee Collection Advice
<b>722</b>	<b>732</b>	Issuer Fee Collection Advice
<b>740</b>	<b>750</b>	Acquirer Fee Collection Notification
<b>742</b>	<b>752</b>	Issuer Fee Collection Notification
<b>804</b>	<b>814</b>	Network Management



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# Chapter 2. Data Elements

## MTI - Message Type Identifier

**Data Element: MTI**

**Format: N4, NUM**

### Description

Message type identifier composed of:

- One digit version number
- Three digit message identifier

## **DE-002 Primary Account Number (PAN)**

**Data Element: 2**

**Format: N..19, LLVAR**

### **Description**

The Primary Account Number (PAN) contains the account number used to identify a customer account or relationship and remains unchanged for the life of a transaction.

If this field is not present and the message contains data element 35, the system will obtain the primary account by parsing the track-two data contained there.

# DE-003 Processing Code

## Data Element: 3

## Format: AN6

## Description

The processing code (also called `pcode` in this documentation) is a constructed data element composed of three subfields:

- Transaction Type Code, AN2
- Account Type Code 1, AN2
- Account Type Code 2, AN2

The Transaction Type Code (TTC) is used along with the Message Type Indicator (MTI) as a key to uniquely identify the type of transaction being processed.

**Table 2.1. Positions 1 & 2 (Transaction Type Code)**

MTI	TTC	Description
100	00	Authorization (Goods and Services) ( <i>See the section called “Authorization / Balance Inquiry”</i> )
100	01	Authorization (Cash Withdrawal)
100	02	Authorization Void (Goods and Services) ( <i>See the section called “Authorization / Balance Inquiry”</i> )
100	09	Authorization (Purchase with cashback)
100	11	Authorization (Quasi-cash)
100	20	Refund/Return ( <i>See the section called “Authorization / Balance Inquiry”</i> )
100	22	Refund/Return Void ( <i>See the section called “Authorization / Balance Inquiry”</i> )
100	30	Balance Inquiry ( <i>See the section called “Authorization / Balance Inquiry”</i> )
100	33	Verification inquiry ( <i>See Appendix C, Function codes</i> )
200	00	POS Purchase
200	01	Cash Withdrawal ( <i>See the section called “Authorization / Balance Inquiry”</i> )
200	02	Void
200	09	POS Purchase With Cashback
200	11	Financial Purchase (Quasi-cash)
200	20	Refund / Return
200	21	Payment / Deposit / Refresh
200	40	Account Transfer
220	00	Purchase Advice

MTI	TTC	Description
220	20	Refund / Return Advice
304	72	Card Activation
304	7S	Card De-Activation
420	XX	Reversal - use same code as original ( <i>See the section called "Reversals"</i> )
600	70	PIN Change ( <i>See DE 113.52</i> )
600	73	Card block
600	74	Card unblock

The Transaction type code describes the specific transaction type. The Account type Code 1 describes the account type affected for debits and inquiries and the "from" account for transfers. The Account type Code 2 describes the account type affected for credits and the "to" account for transfers.

**Table 2.2. Account Types**

Type	Description
00	Default - unspecified
10	Savings account
20	Cheque account
30	Credit facility
31	jCard Refunds/Returns account
40	Universal account
50	Investment account
60	Electronic purse card account

## **DE-004 Amount transaction**

**Data Element: 4**

**Format: N16**

### **Description**

Transaction amount is a constructed data element of three parts totalling 16 positions:

- ISO-4217 Currency code, N3
- Currency minor unit, N1
- Amount Transaction, N12

## **DE-005 Amount reconciliation**

**Data Element: 5**

**Format: N16**

### **Description**

Transaction amount is a constructed data element of three parts totalling 16 positions:

- ISO-4217 Currency code, N3
- Currency minor unit, N1
- Amount Transaction, N12

## **DE-006 Amount cardholder billing**

**Data Element: 6**

**Format: N16**

### **Description**

If transaction fee(s) and/or currency conversion is involved in the transaction, jPOS Common Message Format uses this data element to represent the actual amount billed to the cardholder.

- ISO-4217 Currency code, N3
- Currency minor unit, N1
- Amount Transaction, N12

## **DE-007 Date and time transmission**

**Data Element: 7**

**Format: N10**

### **Description**

Date and time the message initiator sends this message expressed in UTC (MMDDhhmmss).



## **DE-008 Amount cardholder billing fee**

**Data Element: 8**

**Format: N12**

### **Description**

If a transaction fee is involved, jPOS Common Message Format uses this data element to represent the actual fee amount.

#### **Note**

DE 006 (DE-006 Amount cardholder billing) contains the total amount including this fee.

- ISO-4217 Currency code, N3
- Currency minor unit, N1
- Amount Transaction, N8

## **DE-009 Conversion rate, settlement**

**Data Element: 9**

**Format: N8**

### **Description**

Contains the conversion rate used for settlement purposes, formatted as ABBBBBBB. It is used when the transaction currency is different from the settlement currency.

- A: single digit represents the position of the decimal point, counted from the right.
- BBBBBBB: seven digits that represent the conversion factor.

## **DE-010 Conversion rate, cardholder billing**

**Data Element: 10**

**Format: N8**

### **Description**

Contains the conversion rate used for billing the cardholder, formatted as ABBBBBBB. It is used when the transaction currency is different from the cardholder billing currency.

- A: single digit represents the position of the decimal point, counted from the right.
- BBBBBBB: seven digits that represent the conversion factor.

## **DE-011 System Trace Audit Number (STAN)**

**Data Element: 11**

**Format: N12**

### **Description**

Unique sequence number used to match a request/response pair.

## **DE-012 Date and time local transaction**

**Data Element: 12**

**Format: N14**

### **Description**

Date and time local transaction in CCYYMMDDhhmmss format providing the local year, month, day and time in which the transaction takes place at the card acceptor location.

This field remains unchanged throughout the lifetime of the transaction.

## **DE-013 Date effective**

**Data Element: 13**

**Format: N6**

### **Description**

Effective card date in CCYYMM format.

## **DE-014 Expiration date**

**Data Element: 14**

**Format: N4 (YYMM)**

### **Description**

Expiration date of the card. It must be present whenever the acceptor does not automatically capture either the track2 or track1. The expiration date should represent the date after which the card has to be flagged as expired and the transaction declined.

## **DE-015 Settlement date**

**Data Element: 15**

**Format: N8 (CCYYMMDD)**

### **Description**

Settlement date in CCYYMMDD format.



## **DE-017 Capture date**

**Data Element: 17**

**Format: N4**

### **Description**

jPOS Common Message Format capture date in MMDD format.

# DE-018 Message Error Indicator

## Data Element: 18

## Format: AN..140, LLLVAR

## Description

The message error indicator is a constructed data element of up to ten sets of values. Each set of values defines a single error condition and consists of six parts totalling 14 positions:

- Error severity code, N2
- Message error code, N4
- Data Element in error, N3
- Data sub-element in error (in constructed data element), N2
- Dataset identifier in error (in composite data element), B1
- Data bit or tag in error (in composite data element), B2

The error severity code contains a value of 00 (zero zero) to denote a rejected message or 01 to denote a message that was accepted and processed but contained invalid data in non-critical elements (00=error, 01=warning).

The message error code contains a code identifying the error condition as described in the following table:

The data element in error contains the data element number (001-128) and same goes for data sub-element, data set, bit or tag.

## **DE-019 Acquiring Institution Country Code**

**Data Element: 19**

**Format: N3**

### **Description**

A code identifying the country of the acquiring institution.

# DE-021 Transaction life cycle identification data

**Data Element: 21**

**Format: AN22**

## Description

The *Transaction life cycle identification data* is a constructed data element of four parts totalling 22 positions:

- Life cycle support indicator, AN 1
- Life cycle trace identifier, AN 15
- Life cycle transaction sequence number, N2
- Life cycle authentication token, N4

# DE-022 Point-of-Service data code

## Data Element: 22

## Format: B16

## Description

Indicates the method used to capture the PAN as well as the terminal's capabilities.

This is a constructed data element composed of four 32-bit elements (four bytes each) indicating:

- Card reading method used at POS
- Cardholder verification method used at POS
- POS environment
- Security characteristics

**Table 2.3. Card reading method used at POS**

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Unknown	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Information not taken from card (e.g. RFID)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physical (key entry or OCR reading of embossing or printed data either at time of transaction or after the event)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Bar Code	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Magnetic Stripe	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
ICC	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Account data on file	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-
ICC read attempted but failed	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Magnetic stripe read attempted but failed	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Fall back	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Reserved ISO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-
Reserved ISO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x

**Table 2.4. Card reading method used at POS (Bits 17 to 32)**

	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32
Reserved ISO	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	x	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-
Track1 Present (jCard Private)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Track2 Present (jCard Private)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Reserved Private	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-
Reserved Private	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-
Reserved Private	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x

The following table lists the value attributed to each bit of the 32 bits (four bytes) which indicate the cardholder verification method actually used by the POS.

**Table 2.5. Cardholder verification method used at POS**

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Unknown	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
None	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manual signature verification	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Online PIN	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Offline PIN in clear	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Offline PIN encrypted	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Offline digitized signature analysis	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Offline biometrics	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-
Offline manual verification, e.g. passport or driver's license	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-
Offline biographics	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-
Account based digital signature	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-
Public key based digital signature	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x

### Note

Bits 17 to 32 are reserved for ISO, National and Private use and not currently used by jPOS Common Message Format.

The following table lists the value attributed to each bit of the 32 bits (four bytes) which indicate the POS environment.

**Table 2.6. POS environment**

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Unknown	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Attended POS	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unattended, details unknown	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Mail order / telephone order	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Electronic commerce	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Mobile commerce	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Recurring transaction	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Stored details	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-
Cardholder Activated Terminal (CAT)	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-
ATM on bank premises	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-
ATM off bank premises	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-
Deferred transaction	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Installment transaction	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x

### Note

Bits 17 to 32 are reserved for ISO, National and Private use and not currently used by jPOS Common Message Format.

The following table lists the value attributed to each bit of the 32 bits (four bytes) which indicate the security characteristics.

**Table 2.7. Security characteristics (Bits 1 to 16)**

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Unknown	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Private network	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Open network (Internet)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Channel MACing	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Pass through MACing	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Channel encryption	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
End-to-end encryption	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Private algorithm encryption	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-
PKI encryption	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-
Private algorithm MACing	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-
Standard algorithm MACing	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-
Cardholder managed end-to-end encryption	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Cardholder managed point-to-point encryption	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Merchant managed end-to-end encryption	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Merchant managed point-to-point encryption	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Acquirer managed end-to-end encryption	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

**Table 2.8. Security characteristics (Bits 17 to 32)**

	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32
Acquirer managed point-to-point encryption	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserved for ISO use	-	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserved for ISO use	-	-	x	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserved for ISO use	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-	-
Reserved for ISO use	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-
Reserved for ISO use	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-
Reserved for ISO use	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-
Reserved for ISO use	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-
Reserved for national use	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-
Reserved for national use	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-
Reserved for national use	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-
Reserved for national use	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-
Reserved for private use	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-
Reserved for private use	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-
Reserved for private use	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-
Reserved for private use	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1



## **Note**

Bits 17 to 32 are reserved for ISO, National and Private use and not currently used by jPOS Common Message Format.

## **DE-023 Card Sequence Number**

**Data Element: 23**

**Format: N3**

### **Description**

A number distinguishing between separate cards with the same primary account number.

## DE-024 Function Code

**Data Element: 24**

**Format: N3**

### Description

A code indicating the specific purpose of a message within its message class. Appendix C, *Function codes* provides a list of function codes values supported by jPOS Common Message Format

## DE-025 Reason Code

**Data Element: 25**

**Format: N4**

### Description

Provides the receiver of a request, advice or notification message with the reason, or purpose, of the message. Appendix D, *Reason codes* provides a list of possible reason code values supported by jPOS Common Message Format

## **DE-026 Merchant Category Code**

**Data Element: 26**

**Format: N4**

### **Description**

Code classifying the type of business being done by the card acceptor for this transaction. See Appendix F, *Merchant Category Codes*.

# DE-027 Point of service capabilities

## Data Element: 27

## Format: B27

## Description

Provides information about POS card reading and cardholder verification capabilities, approval code and PIN input length, cardholder and card acceptor receipt and display length, ICC scripts length, track 3 rewrite and card capture capability.

**Table 2.9. DE 27 subfields**

Name	Format
POS card reading capability	4B - see Table 2.10, “POS card reading capabilities” and Table 2.3, “Card reading method used at POS”
POS cardholder verification capability	4B - see Table 2.11, “POS card reading capability (Bits 17 to 32)” and Table 2.5, “Cardholder verification method used at POS”
Approval code length	N1
Cardholder receipt data length	N3
Card acceptor receipt data length	N3 (000 indicates no such capability)
Cardholder display data length	N3 (000 indicates no such capability)
Card acceptor display data length	N3 (000 indicates no such capability)
ICC scripts data length	N3 (000 indicates no such capability)
Magnetic stripe track 3 rewrite capability	A1 (Y or N)
Card capture capability	A1 (Y or N)
PIN input length capability	B 1

**Table 2.10. POS card reading capabilities**

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Unknown	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Information not taken from card (e.g. RFID)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physical (key entry or OCR reading of embossing or printed data either at time of transaction or after the event)	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Bar Code	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Magnetic Stripe	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
ICC	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Account data on file	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-
ICC read attempted but failed	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Magnetic stripe read attempted but failed	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Fall back	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Reserved ISO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-
Reserved ISO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x

**Table 2.11. POS card reading capability (Bits 17 to 32)**

	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30	B31	B32
Reserved ISO	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	x	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-
Reserved ISO	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-
Reserved National	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-
Track1 Present (jCard Private)	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Track2 Present (jCard Private)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Reserved Private	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-
Reserved Private	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-
Reserved Private	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x

The following table lists the value attributed to each bit of the 32 bits (four bytes) which indicate the cardholder verification capabilities supported by the POS.

**Table 2.12. Cardholder verification capabilities**

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Unknown	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
None	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manual signature verification	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Online PIN	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
Offline PIN in clear	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Offline PIN encrypted	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
Offline digitized signature analysis	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Offline biometrics	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-
Offline manual verification, e.g. passport or driver's license	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-
Offline biographics	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-
Account based digital signature	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-
Public key based digital signature	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-
Reserved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x

## Note

Bits 17 to 32 are reserved for ISO, National and Private use and not currently used by jPOS Common Message Format.



## **DE-030 Amounts original**

**Data Element: 30**

**Format: N32**

### **Description**

Amounts original is a constructed data element of two parts totalling 32 positions.

- Original amount transaction, N16
- Original amount reconciliation, N16

Each 16-positions part is in turn a constructed data element of three parts:

- ISO-4217 Currency code, N3
- Currency minor unit, N1
- Amount Value, N12

## **DE-032 Acquiring institution identification code**

**Data Element: 32**

**Format: N..11, LLVAR**

### **Description**

A code identifying the acquirer.

## **DE-033 Forwarding institution identification code**

**Data Element: 33**

**Format: N..11, LLVAR**

### **Description**

A code identifying the forwarding institution.

## DE-034 Electronic commerce data

### Data Element: 34

**Format: B..9999, LLLLVAR**

### Description

The *Electronic commerce data* field is a composite data element containing information related to 3D-Secure transactions and other e-commerce related details.

**Table 2.13. DE 34 subfields — Authentication data — Dataset identifier 73**

Dataset bit	Name	Format	Representation
1	Continuation bit		
2	Account based digital signature	LLVAR	B..90
3	Cardholder certificate serial number	LLVAR	B..16
4	Card acceptor certificate serial number	LLVAR	B..16
5	XID		B 16
6	Authentication value		B 20
7	Authentication code	LLVAR	ANSB..50
8	Authentication message version number	LLVAR	ANS..8
9	Authentication message category		AN 2
10	Authentication merchant name	LLVAR	ANS..40
11	Authentication browser IP address	LLVAR	ANS..45
12	Authentication device information	LLLVAR	ANS..9999
13	Authentication purchase amount	LLVAR	ANS..48
14	Authentication purchase currency		N 3
15	Authentication purchase date and time		N 14
16	Authentication address match indicator		A 1
17	Continuation bit		
18	Authentication intermediary transaction identifier	LLVAR	ANS..36
19	Authentication server transaction identifier	LLVAR	ANS..36
20	Authentication status		A 1
21	Application IP address	LLVAR	ANS..45
22	Shipping indicator		AN 2

**Table 2.14. DE 34 subfields — Additional data — Dataset identifier 74**

Dataset bit	Name	Format	Representation
1	Continuation bit		
2	Initiating party	• 0: customer	AN 1

Dataset bit	Name	Format	Representation
		• 1: merchant	
3	Secure temporary storage, POS device capable	• 1: true	AN 1
4	Secure temporary storage, issuer capable	• 1: true	AN 1
5	Secure temporary storage, transaction utilized	• 1: true	AN 1
6	High risk transaction, acceptor	• 1: true	AN 1
7	Risk conditions, acceptor	LLVAR	AN 2, iterative, up to 30
8	Deferred delivery	• 1: true	AN 1
9	Acceptance environment authentication outage indicator	<ul style="list-style-type: none"> <li>• 0: no authentication outage</li> <li>• 1: authentication outage</li> </ul>	AN 1

**Table 2.15. DE 34 subfields — Additional service request data — Dataset identifier 75**

Dataset bit	Name	Format	Representation
1	Continuation bit		
2	Card activation requested	<ul style="list-style-type: none"> <li>• Y: yes</li> <li>• N: no</li> </ul>	AN 1
3	Cash back requested	<ul style="list-style-type: none"> <li>• Y: yes</li> <li>• N: no</li> </ul>	AN 1
4	DCC requested	<ul style="list-style-type: none"> <li>• Y: yes</li> <li>• N: no</li> </ul>	AN 1
5	Instant payment requested	<ul style="list-style-type: none"> <li>• Y: yes</li> <li>• N: no</li> </ul>	AN 1
6	Loyalty requested	<ul style="list-style-type: none"> <li>• Y: yes</li> <li>• N: no</li> </ul>	AN 1
7	Account balance requested	<ul style="list-style-type: none"> <li>• Y: yes</li> <li>• N: no</li> </ul>	AN 1

**Table 2.16. DE 34 subfields — Additional service result data — Dataset identifier 76**

Dataset bit	Name	Format	Representation
1	Continuation bit		
2	Card activation result	(see Appendix G, <i>Service result codes</i> )	AN 2

Dataset bit	Name	Format	Representation
3	Cash back result	(see Appendix G, <i>Service result codes</i> )	AN 2
4	DCC result	(see Appendix G, <i>Service result codes</i> )	AN 2
5	Instant payment result	(see Appendix G, <i>Service result codes</i> )	AN 2
6	Loyalty result	(see Appendix G, <i>Service result codes</i> )	AN 2
7	Account balance result	(see Appendix G, <i>Service result codes</i> )	AN 2

**Table 2.17. DE 34 subfields — Terminal information — Dataset identifier 77**

Dataset bit	Name	Format	Representation
1	Continuation bit		
2	Terminal serial number	LLVAR	ANS..50
3	Terminal software version	LLVAR	ANS..70
4	Terminal location, latitude/longitude	LLVAR	ANS..25
5	Terminal certification identification	LLVAR	ANS..35

# DE-035 Track 2 data

## Data Element: 35

## Format: z..37, LLVAR

## Description

The information encoded on the Track 2 of the magnetic stripe <sup>1</sup> including field separators and excluding the start sentinel, end sentinel and longitudinal redundancy check (LRC) characters.

This is a compound field consisting of the following elements:

**Table 2.18. Track 2 subfields**

Name	Format
Primary Account Number	up to 19 digits
Field Separator	can be either '=' or 'D'
Expiration Date	in YYMM format
Service Restriction Code	three digits
Discretionary data	balance of available digits

---

<sup>1</sup>See ISO-7813

## **DE-037 Retrieval Reference Number**

**Data Element: 37**

**Format: AN12**

### **Description**

Alphanumeric code assigned by jPOS Common Message Format in order to uniquely identify a transaction. This code remains unchanged throughout the life of the transaction.

#### **Tip**

Although this field is called Retrieval Reference "Number", please note this is an alphanumeric field that may contain regular characters.



## **DE-038 Approval Code**

**Data Element: 38**

**Format: AN6**

### **Description**

Approval Code assigned by jPOS Common Message Format when the transaction is approved (see DE 039).

## DE-039 Result Code

**Data Element: 39**

**Format: AN4**

### Description

Result Code (also called Action Code in ISO-8583v2003/2023) returned by jPOS Common Message Format to indicate whether the transaction is approved or declined. Appendix B, *Result codes* provides a list of result codes supported by jPOS Common Message Format.

## **DE-041 Card Acceptor Terminal ID ('TID')**

**Data Element: 41**

**Format: AN16**

### **Description**

A code used to uniquely identify the terminal originating a transaction; this code is also referred to as the Terminal Identifier or 'TID.'

## **DE-042 Card Acceptor Identification Code ('MID')**

**Data Element: 42**

**Format: AN..35, LLVAR**

### **Description**

A code used to uniquely identify the card acceptor originating a transaction; this code is also referred to as the Merchant Identifier or 'MID.'

# DE-043 Card acceptor name/location

**Data Element: 43**

**Format: B..9999**

## Description

The name and location of the card acceptor as known to the cardholder. This is a constructed data field containing:

**Table 2.19. DE 43 subfields**

Name	Format
Bitmap	64 bits indicating field presense.
Bit 2, Card acceptor Name	LLVAR ANS..50
Bit 3, Card acceptor street address	LLVAR ANS..99
Bit 4, Card acceptor city	LLVAR ANS..50
Bit 5, Card acceptor state, province or region code	ANS 3
Bit 6, Card acceptor postal code	ANS 10
Bit 7, Card acceptor country code	ANS 3
Bit 8, Card acceptor phone number	ANS 16
Bit 9, Card acceptor customer service phone number	ANS 16
Bit 10, Card acceptor additional contact information	LLVAR ANS..30
Bit 11, Card acceptor internet URL	LLLVAR ANS..255
Bit 12, Card acceptor e-mail address	LLVAR ANS..99

## **DE-045 Track 1 data**

**Data Element: 45**

**Format: AN..76, LLVAR**

### **Description**

The information encoded on the Track 1 of the magnetic stripe <sup>2</sup> including field separators and excluding the start sentinel, end sentinel and longitudinal redundancy check ('LRC') characters.

---

<sup>2</sup>See ISO-7813

# DE-046 Amounts fees

## Data Element: 46

## Format: AN..216, LLLVAR

## Description

Fees associated with this transaction. This is a constructed data element composed of up to six sets of 36-digit values. Each set of values shall consist of four parts.

**Table 2.20. DE 46 subfields**

Name	Format
Fee Type	N2 <ul style="list-style-type: none"><li>• <b>00</b> Transaction fee</li><li>• <b>02</b> Fee Collection Fee</li><li>• <b>07</b> Card Acceptor Service fee</li></ul>
Amount Fee	N13
Conversion rate	N8
Amount reconciliation fee	N13

# DE-049 Verification data

## Data Element: 49

## Format: B..9999, LLLLVAR

## Description

The *verification data* data element is a composite data element containing additional data used to support the identification of someone (e.g. cardholder) or something (e.g. account existence) through the use of address verification, account verification or other identification such as a national ID, driver's license, CVV2, CVC2, 4DBC, etc.).

The following table lists the subelements that may appear in the *request*.

**Table 2.21. DE 49 subfields, Dataset identifier 71**

Dataset bit	Name	Format	Representation
1	Continuation bit		
2	Card verification data		N4
3	Cardholder billing street address		ANS 40
4	Cardholder billing postal code		ANS 10
5	Cardholder billing address compressed		ANS 16
6	Additional identification type		N1
7	Additional identification reference number	LLVAR	ANS..30
8-15	Reserved for ISO use		
16	Multiple TLV sub-elements	LLLVAR	B..255

The following table lists the subelements that may appear in the *response*.

**Table 2.22. DE 49 subfields, Dataset identifier 72**

Dataset bit	Name	Format	Representation
1	Continuation bit		
2	Address verification result code		AN1
3	Card Verification Value for Card not present		AN2
4	Card Verification Value for Card present		AN2
5	ICC data validation		AN2
6-15	Reserved for ISO use		ANS 40
16	Multiple TLV sub-elements	LLLVAR	B..255



## **DE-052 PIN Block**

**Data Element: 52**

**Format: B8**

### **Description**

PIN related data in ISO 9564-1 format used to identify the cardholder

## **DE-053 Security Related Control Information**

**Data Element: 53**

**Format: B..48, LLVAR**

### **Description**

This field contains the card's security code as printed in the [front/back] of the card (zero-padded, right-justified).

This security code is a 3- or 4- digit value printed on the card or signature strip, but not encoded on the magnetic stripe.

# DE-054 Additional Amount(s)

**Data Element: 54**

**Format: AN..126, LLLVAR**

## Description

This is a constructed data element composed of up to six 21-digit amounts.

**Table 2.23. DE 54 subfields**

Name	Format
Account Type	N2 (see the section called “DE-003 Processing Code”)
Amount Type	N2 <ul style="list-style-type: none"><li>• <b>01</b> Account ledger/current balance</li><li>• <b>02</b> Account available balance</li><li>• <b>07</b> Destination Account ledger balance</li><li>• <b>08</b> Destination Account available balance</li><li>• <b>20</b> Amount remaining this cycle.</li><li>• <b>40</b> Amount cash.</li><li>• <b>42</b> Amount surcharge.</li><li>• <b>80</b> Gratuity.</li><li>• <b>81</b> Amount taxed.</li></ul>
Currency Code	N3
Currency minor unit	N1
Amount Sign	A1 - C for Credit, D for Debit
Value amount	N12

## **DE-055 Integrated Circuit Card (ICC) Related Data**

**Data Element: 55**

**Format: B..9999, LLLLVAR**

### **Description**

This field contains integrated circuit card (ICC) related data in an ISO 7816-6 TLV coding structure.

## DE-056 Original data elements

### Data Element: 56

### Format: AN..41, LLVAR

### Description

Key data elements contained in the original message. Provided in reversal transactions. This is a constructed data element composed of four sub elements:

- Original Protocol version and Message Type Identifier (MTI), N4

See: the section called “MTI - Message Type Identifier”

- Original System Trace Audit Number (STAN), N12

See: the section called “DE-011 System Trace Audit Number (STAN)”

- Original Date and Time Local Transaction in UTC (CCYYMMDDhhmmss), N14

See: the section called “DE-012 Date and time local transaction”

- Original Acquiring Institution Identification Code, N..11

See: the section called “DE-032 Acquiring institution identification code”

## **DE-059 Transport data**

**Data Element: 59**

**Format: AN..999, LLLVAR**

### **Description**

Contains data from the originator of the message that shall be returned unaltered in a response message.

## DE-063 Display message

**Data Element: 63**

**Format: AN..999, LLLVAR**

### Description

Display message associated with the result code (see the section called “DE-039 Result Code”) for the `locale` name specified in the request.

`locale` names are defined at jPOS Common Message Format configuration time.

## **DE-068 Batch/file transfer message control**

**Data Element: 68**

**Format: A9**

### **Description**

Used in settlement message to transmit the terminal's batch number.



## **DE-069 Batch/file transfer control data**

**Data Element: 69**

**Format: A40**

### **Description**

This data element is a constructed data element of two parts.

- Batch/file transfer message count, N8

Indicates the total number of notification or instruction messages to be transmitted for this batch.

- Batch/file transfer file identification, A32

Provides the unique identifier assigned to the batch.

## **DE-072 Data record**

**Data Element: 72**

**Format: B..9999, LLLLBNARY**

### **Description**

Other data required to be passed to support an administrative or file action message.

# DE-074 Reconciliation data primary

## Data Element: 74

## Format: N78

## Description

Number and amount values required to complete the reconciliation of financial totals. This is a constructed data element composed of 6 amount/counter pairs

**Table 2.24. DE 74 subfields**

Name	Format
Credits amount	N16
Credits number	N10
Credits chargeback amount	N16
Credits chargeback number	N10
Credits reversal amount	N16
Credits reversal number	N10
Debits amount	N16
Debits number	N10
Debits chargeback amount	N16
Debits chargeback number	N10
Debits reversal amount	N16
Debits reversal number	N10

## **DE-093 Transaction destination institution identification code**

**Data Element: 93**

**Format: N..11, LLVAR**

### **Description**

A code identifying the Transaction destination institution.

## **DE-094 Transaction originator institution identification code**

**Data Element: 99**

**Format: N..11, LLVAR**

### **Description**

A code identifying the Transaction originator institution identification.

# DE-095 Replacement Amounts

**Data Element: 95**

**Format: N96**

## Description

This field contains the corrected amounts of an authorization transaction. This field has 3 subfields:

- DE 095.01: Actual Transaction Amount
- DE 095.02: Actual Settlement Amount
- DE 095.03: Actual Cardholder Billing Amount

Each subfield has 16-positions, each a data element constructed of three parts:

- ISO-4217 Currency code, N3
- Currency minor unit, N1
- Amount Transaction, N12

# **DE-097 Amount, Net reconciliation**

**Data Element: 97**

**Format: N21**

## **Description**

The net value (in the indicated currency) of all gross amounts. Net reconciliation amount is a constructed data element of three parts totalling 21 positions:

- ISO-4217 Currency code, N3
- Currency minor unit, N1
- Net reconciliation Transaction, N17

## **DE-099 Settlement institution identification code**

**Data Element: 99**

**Format: N..11, LLVAR**

### **Description**

A code identifying the settlement institution.



## **DE-100 Receiving institution identification code**

**Data Element: 100**

**Format: N..11, LLVAR**

### **Description**

A code identifying the receiving institution.

## **DE-101 File Name / Transaction Modifier**

**Data Element: 101**

**Format: AN..99, LLVAR**

### **Description**

While on file update messages this field contains the actual or abbreviated name of the file being accessed by the transaction, on regular authorization/financial transactions, it may contain a transaction modifier.

# **DE-102 Account identification 1**

**Data Element: 102**

**Format: AN..28, LLVAR**

## **Description**

Used to reference a source account in a transfer transaction.

## **DE-103 Account identification 2**

**Data Element: 103**

**Format: AN..28, LLVAR**

### **Description**

Used to reference a destination account in a transfer transaction.

## **DE-111 Discretionary handback data**

**Data Element: 111**

**Format: B..9999, LLLLBNARY**

### **Description**

Optional user field to be echoed back by the jPOS Common Message Format based system.

## **DE-112 Discretionary transport data**

**Data Element: 112**

**Format: B..9999, LLLLBNARY**

### **Description**

Optional user field to be handled by the jPOS Common Message Format based system and transmitted to Destination Stations

## DE-113 TPP data elements

**Data Element: 113**

**Format: B..9999, LLLLBNARY**

### Description

**TPP** use data element 113 to hold application specific data elements. See Chapter 3, *TPP Data Elements* for details.

## **DE-114 Reserved for private use**

### **Data Element: 114**

Reserved for private use

**Format: B..9999, LLLLBNARY**

### **Description**

Reserved for application-specific, customer private use.



## **DE-115 Reserved for private use**

### **Data Element: 115**

Reserved for private use

**Format: B..9999, LLLLBNARY**

### **Description**

Reserved for application-specific, customer private use.

## DE-116 Reserved for national use

This data element, reserved for national use, depends on the content of the section called “DE-019 Acquiring Institution Country Code”, which specifies the acquiring institution's country code.

### Data Element: 116

Reserved for national use

**Format: B..9999, LLLLBINARY**

### Description

Reserved for national use.

### 032 - Argentina

When the section called “DE-019 Acquiring Institution Country Code” has the value 032, the ISO-3166 country code for Argentina, Field 116 may include:

- **116.1 – CUIT/CUIL (AN11):** The tax identification number for businesses (CUIT) or individuals (CUIL).
- **116.2 – VAT (IVA) Amount (N16):** The value-added tax applied to the transaction.
- **116.3 – Perception Tax Amount (N16):** An additional tax collected for specific industries or transactions.

### 076 - Brazil

When the section called “DE-019 Acquiring Institution Country Code” has the value 076, the ISO-3166 country code for Brazil, Field 116 may include:

- **116.1 – CPF/CNPJ (AN14):** The tax identification number for individuals (CPF) or businesses (CNPJ).
- **116.2 – ISS Tax Amount (N16):** The municipal tax applied to service transactions.
- **116.3 – ICMS Tax Amount (N16):** The state tax applied to the sale of goods.

### 356 - India

When the section called “DE-019 Acquiring Institution Country Code” has the value 356, the ISO-3166 country code for India, Field 116 may include:

- **116.1 – GSTIN (AN15):** The Goods and Services Tax Identification Number used for tax compliance.
- **116.2 – GST Amount (N16):** The total tax applied under the Goods and Services Tax system.
- **116.3 – TDS Amount (N16):** The Tax Deducted at Source (TDS) for applicable transactions.

### 566 - Nigeria

When the section called “DE-019 Acquiring Institution Country Code” has the value 566, the ISO-3166 country code for Nigeria, Field 116 may include:

- **116.1 – TIN (AN10):** The Taxpayer Identification Number used for VAT and corporate tax compliance.
- **116.2 – VAT Amount (N16):** The total Value-Added Tax applied to the transaction.
- **116.3 – Withholding Tax Amount (N16):** The tax amount deducted at source for applicable transactions.

## 724 - Spain

When the section called “DE-019 Acquiring Institution Country Code” has the value 724, the ISO-3166 country code for Spain, Field 116 may include:

- **116.1 – NIF (AN9):** The Spanish tax identification number for individuals and businesses.
- **116.2 – VAT (IVA) Amount (N16):** The total VAT applied to the transaction.
- **116.3 – SII Reporting Indicator (N1):** Identifies transactions that must be reported in Spain’s Immediate Supply of Information (SII) system.

## 840 - USA

When the section called “DE-019 Acquiring Institution Country Code” has the value 840, the ISO-3166 country code for the United States, Field 116 may include tax-related or regulatory information such as:

- **116.1 – Sales Tax Amount (N16):** The total applicable sales tax for the transaction, based on state and local tax rates.
- **116.2 – Merchant Category Code (N4):** The MCC assigned to the merchant for taxation and reporting.
- **116.3 – Tax Jurisdiction Code (AN10):** Identifies the tax jurisdiction (state, county, or city) for proper tax reporting.

## 858 - Uruguay

When the section called “DE-019 Acquiring Institution Country Code” has the value 858, the ISO-3166 country code for Uruguay, Field 116 has the following composite data elements:

- **116.1 - Taxable Amount (N16):** The portion of the original amount that is subject to applicable transaction taxes.
- **116.2 - Taxable Benefit Amount (N16):** Amount to be subtracted from the original transaction total due to a tax benefit.
- **116.3 - Tax Benefit Points (N3):** A numerical representation of tax benefits accrued from the transaction. This value may be used in specific tax-related incentive programs.
- **116.4 - Law Limit Reached (AN1):** Indicates whether the transaction has reached a predefined tax benefit limit established by national regulations. Values may include 'Y' (Yes) or 'N' (No).
- **116.5 - Law Indicator (N1):** Identifies the specific tax law or regulation under which the transaction qualifies for benefits. The assigned numeric code corresponds to predefined legal provisions.
- **116.6 - Law Description (AN20):** A brief textual description of the applicable tax law, providing additional context on the regulatory framework governing the transaction.

## DE-123 Reserved for customer-specific use

This data element is designated for customer-specific use.

This field is defined as a binary field to allow for flexible configuration as a composite jPOS field. This structure enables customers to define their own subfields, which can be configured as inner fields within the composite element. By leveraging this approach, organizations can encapsulate multiple data points within a single field while maintaining a structured, hierarchical format that aligns with their specific business or regulatory requirements.

### Data Element: 123

Reserved for customer-specific use

**Format: B..9999, LLLL**BINARY

### Description

Reserved for customer-specific use.

---

# Chapter 3. TPP Data Elements

## DE-113.2 Protocol Version

**Data Element: 113.2**

**Format: AN..20, LLVAR**

### Description

jPOS-CMF version used by client

## DE-113.3 First Name

**Data Element: 113.3**

**Format: AN..40, LLVAR**

### Description

Customer/Contact First name

## DE-113.4 Middle name

**Data Element: 113.4**

**Format: AN..40, LLVAR**

### Description

Customer/Contact Middle name

## DE-113.5 Lastname

**Data Element: 113.6**

**Format: AN..40, LLVAR**

### Description

Customer/Contact Lastname

## **DE-113.6 Secondary lastname**

**Data Element: 113.6**

**Format: AN..40, LLVAR**

### **Description**

Customer/Contact secondary lastname

## **DE-113.7 Email**

**Data Element: 113.7**

**Format: AN..20, LLVAR**

### **Description**

Customer/Contact email address

## **DE-113.8 Status flags**

**Data Element: 113.8**

**Format: B 1**

### **Description**

This is a flags field, individual flag values are:

- **0x0001** - ACTIVE
- **0x0002** - SUSPENDED

## **DE-113.9 Honorific**

**Data Element: 113.9**

**Format: AN..10, LLVAR**

### **Description**

Customer/Contact honorific

## **DE-113.10 Gender**

**Data Element: 113.10**

**Format: AN 1**

### **Description**

'M' for male, 'F' for female.

## **DE-113.11 Address 1**

**Data Element: 113.11**

**Format: AN..40, LLVAR**

### **Description**

Customer/Merchant/Contact address 1

## **DE-113.12 Address 2**

**Data Element: 113.12**

**Format: AN..40, LLVAR**

### **Description**

Customer/Merchant/Contact address 2

## **DE-113.13 City**

**Data Element: 113.13**

**Format: AN..40, LLVAR**

### **Description**

Customer/Merchant/Contact city

## **DE-113.14 State code**

## **Data Element: 113.14**

**Format: AN 2**

### **Description**

US-specific state code (used for US contacts only).

## **DE-113.15 Zipcode**

**Data Element: 113.15**

**Format: AN..10, LLVAR**

### **Description**

Customer/Merchant/Contact zip / postal code

## **DE-113.16 Country code**

**Data Element: 113.16**

**Format: AN 2**

### **Description**

Customer/Merchant/Contact ISO-3166 two-letter country code.

## **DE-113.17 Phone**

**Data Element: 113.17**

**Format: AN..20, LLVAR**

### **Description**

Customer/Merchant/Contact primary phone number

## **DE-113.18 Notes**

**Data Element: 113.18**



**Format: AN..99, LLVAR**

## **Description**

General purpose notes field

## **DE-113.19 Dates**

**Data Element: 113.19**

**Format: N..32, LLVAR**

## **Description**

General purpose date(s) field in 'YYYYMMDD' format. Length is multiple of 8.

## **DE-113.20 Alternate Identifier**

**Data Element: 113.20**

**Format: AN..64, LLVAR**

## **Description**

Application-specific alternate customer identifier.

## **DE-113.21 Card Product ID**

**Data Element: 113.21**

**Format: N..16, LLNUM**

## **Description**

Application-specific card product identifier.

## **DE-113.22 UUID(s)/Correlation ID**

**Data Element: 113.22**

**Format: AN..255**

## Description

General purpose UUID(s) - this field supports up to six comma-separated UUIDs or custom idempotency/correlation IDs used by REST APIs/Tokenization services.

## DE-113.23 SSN

**Data Element: 113.23**

**Format: A 11**

## Description

Social Security Number in XXX-XX-XXXX

## DE-113.24 Installments Information

**Data Element: 113.24**

**Format: N4**

## Description

Used for specify Installments Transactions.

**Table 3.1. Data Element: 113.24**

Subfield	Values
Installment Plan Type	N2 <ul style="list-style-type: none"> <li>• <b>10</b> Merchant Financed Plan</li> <li>• <b>11</b> Issuer Financed Plan</li> <li>• <b>12</b> Acquirer Financed Plan</li> </ul>
Number of installments	N2

## DE-113.25 Network Name

**Data Element: 113.25**

**Format: AN..64**

## Description

Network Name

## **DE-113.26 Device ID/IMEI**

**Data Element: 113.26**

**Format: N..16**

### **Description**

A device identifier or IMEI (International Mobile Equipment Identity).

## **DE-113.27 Geolocation**

**Data Element: 113.27**

**Format: AN..64**

### **Description**

A geolocation. Comma-separated string of latitude and longitude.

## **DE-113.28 Cardholder Identification Data**

**Data Element: 113.28**

**Format: AN..64**

### **Description**

Cardholder identification data.

## **DE-113.29 Invoice**

**Data Element: 113.29**

**Format: AN..64**

### **Description**

Invoice information

## **DE-113.30 Presentment Sequence Count**

## **Data Element: 113.30**

**Format: N2**

### **Description**

The total number of presentment records for the authorization

## **DE-113.31 Presentment Sequence Number**

**Data Element: 113.31**

**Format: N2**

### **Description**

A sequence number that distinguishes a specific presentment message among multiple presentment messages being submitted for a single authorization

## **DE-113.32 Origin Transaction Identifier**

**Data Element: 113.32**

**Format: ANS..22**

### **Description**

Transaction identifier generated by the origin

## **DE-113.33 Related Transaction Identifier**

**Data Element: 113.33**

**Format: ANS..22**

### **Description**

Transaction identifier of the related transaction, for example: id of the original transaction in the case of reversals, id of the initial transaction in the case of a recurring transaction, etc.

## **DE-113.39 Remote Result Code**

## **Data Element: 113.39**

**Format: AN..4**

### **Description**

Remote ISO result code.

## **DE-113.52 New PIN Block for PIN Change operation**

**Data Element: 113.52**

**Format: B8**

### **Description**

PIN related data in ISO 9564-1 format used to define the new PIN in *PIN Change Operation*

## **DE-113.53 Security Related Control Information**

**Data Element: 113.53**

**Format: B..48, LLVAR**

### **Description**

This field contains the KSN used for encryption of DE 113.52 when using DUKPT.

## **DE-113.63 Additional Data - reserved for private use**

**Data Element: 113.63**

**Format: AN..9999**

### **Description**

Reserved for implementation-specific additional data.

## **DE-113.64 Source station**

**Data Element: 113.64**

**Format: AN..50**

### **Description**

Source station name.

## **DE-113.65 Destination station**

**Data Element: 113.65**

**Format: AN..50**

### **Description**

Destination station name.

## **DE-113.66 Card scheme**

**Data Element: 113.66**

**Format: AN..32**

### **Description**

Card scheme symbolic name

## **DE-113.67 Tokenization data**

**Data Element: 113.67**

**Format: B..999**

### **Description**

This is a constructed data element composed of tokenization related additional data elements as described below.

### **DE-113.67.0 Subfield bitmap**

## **Data Element: 113.67.0**

**Format: b64**

### **Description**

Subfield bitmap (supports up to 64 subfields)

## **DE-113.67.1 PAN Source**

**Data Element: 113.67.1**

**Format: AN1**

### **Description**

PAN Source

- **1** - Card on File
- **2** - Manual entry
- **3** - Application entry

## **DE-113.67.2 Payment Application Instance-ID**

**Data Element: 113.68.2**

**Format: AN..255**

### **Description**

Payment application Instance ID used in pre/post tokenization messages.

## **DE-113.67.3 Active Tokens Count**

**Data Element: 113.67.3**

**Format: N 2**

### **Description**

Active tokens count.

## **DE-113.67.4 Wallet Provider Acct Hash**

**Data Element: 113.67.4**

**Format: AN..64**

**Description**

Wallet Service Provider Account ID Hash.

**DE-113.67.5 Tokenization Cardholder Name**

**Data Element: 113.67.5**

**Format: AN..64**

**Description**

Tokenization Cardholder Name.

**DE-113.67.6 Token Type**

**Data Element: 113.67.6**

**Format: AN..16**

**Description**

Token Type.

**DE-113.67.7 Consumer language**

**Data Element: 113.67.7**

**Format: AN 2**

**Description**

Consumer language.

**DE-113.67.8 Device Location**

**Data Element: 113.67.8**

**Format: AN..255**

**Description**

Device location information.



## DE-113.67.9 Device Fingerprint

**Data Element: 113.67.9**

**Format: AN..999 (JSON/base64)**

### Description

base64 encoded JSON payload containing device fingerprint data, such as device name, source IP, geolocation data, IMEI/mobile number.

## DE-113.68 PayFac marketplace data

**Data Element: 113.68**

**Format: B..999**

### Description

This is a constructed data element composed of payment facilitator related additional data elements as described below.

### DE-113.68.0 Subfield bitmap

**Data Element: 113.68.0**

**Format: b64**

### Description

Subfield bitmap (supports up to 64 subfields)

### DE-113.68.1 PayFac ID

**Data Element: 113.68.1**

**Format: AN1**

### Description

Payment facilitator marketplace id.

### DE-113.68.2 PayFac MID

**Data Element: 113.68.2**

**Format: AN15**

**Description**

Payment facilitator sub merchant ID.

**DE-113.69 Card token**

**Data Element: 113.69**

**Format: AN..40**

**Description**

Card identifier generated by TPP

**DE-113.70 Transaction ID**

**Data Element: 113.70**

**Format: N..19**

**Description**

Transaction identifier generated by TPP

**DE-113.71 Transaction GroupID**

**Data Element: 113.71**

**Format: N..19**

**Description**

The transaction identifier of the related transaction generated by TPP, such as the original transaction ID for reversals or the initial transaction ID for recurring transactions, etc.

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# Chapter 4. Transaction Definition

## Authorization / Balance Inquiry

Depending on the DE-024 Function Code (see the section called “DE-024 Function Code” and Appendix C, *Function codes*) this transaction class can be used for:

- Balance Inquiry / Mini-Statement
- Authorization
- Verification (MTI 104)

**Table 4.1. Authorization**

Field	Description	Value	Req	Resp
<b>MTI</b>	Message Type indicator		<b>100</b>	<b>110</b>
<b>2</b>	DE-002 Primary Account Number (PAN)		07	16
<b>3</b>	DE-003 Processing Code		M	27
<b>4</b>	DE-004 Amount transaction		26	26
<b>7</b>	DE-007 Date and time transmission		30	30
<b>11</b>	DE-011 System Trace Audit Number (STAN)		M	ME
<b>12</b>	DE-012 Date and time local transaction		M	ME
<b>13</b>	DE-013 Date effective		02	
<b>14</b>	DE-014 Expiration date		02	
<b>18</b>	DE-018 Message Error Indicator			36
<b>21</b>	DE-021 Transaction life cycle identification data		33	33
<b>22</b>	DE-022 Point-of-Service data code		M	
<b>23</b>	DE-023 Card Sequence Number		02	
<b>24</b>	DE-024 Function Code		M	
<b>26</b>	DE-026 Merchant Category Code		M	
<b>30</b>	DE-030 Amounts original		O	O
<b>32</b>	DE-032 Acquiring institution identification code		O	O
<b>35</b>	DE-035 Track 2 data		06	
<b>38</b>	DE-038 Approval Code			31
<b>39</b>	DE-039 Result Code			M
<b>41</b>	DE-041 Card Acceptor Terminal ID ('TID')		15	16
<b>42</b>	DE-042 Card Acceptor Identification Code ('MID')		15	16
<b>43</b>	DE-043 Card acceptor name/location		O	O
<b>45</b>	DE-045 Track 1 data		06	
<b>46</b>	DE-046 Amounts fees		O	O
<b>49</b>	DE-049 Verification data		45	45
<b>59</b>	DE-059 Transport data		O	16

Field	Description	Value	Req	Resp
<b>63</b>	DE-063 Display message		O	ME
<b>111</b>	DE-111 Discretionary handback data		O	ME

### Note

See Appendix A, *Conditional Codes* for condition details.

## Financial

Depending on the DE-024 Function Code (see the section called “DE-024 Function Code” and Appendix C, *Function codes*) this transaction class can be used for:

- POS Purchase
- Cash Withdrawal
- Voids
- Payment/Deposit
- Account transfer
- Refund/Return

**Table 4.2. Authorization**

Field	Description	Value	Req	Resp
<b>MTI</b>	Message Type indicator		<b>200</b>	<b>210</b>
<b>2</b>	DE-002 Primary Account Number (PAN)		07	16
<b>3</b>	DE-003 Processing Code		M	27
<b>4</b>	DE-004 Amount transaction		26	26
<b>7</b>	DE-007 Date and time transmission		30	30
<b>11</b>	DE-011 System Trace Audit Number (STAN)		M	ME
<b>12</b>	DE-012 Date and time local transaction		M	ME
<b>13</b>	DE-013 Date effective		02	
<b>14</b>	DE-014 Expiration date		02	
<b>18</b>	DE-018 Message Error Indicator			36
<b>21</b>	DE-021 Transaction life cycle identification data		33	33
<b>22</b>	DE-022 Point-of-Service data code		M	
<b>23</b>	DE-023 Card Sequence Number		02	
<b>24</b>	DE-024 Function Code		M	
<b>26</b>	DE-026 Merchant Category Code		M	
<b>30</b>	DE-030 Amounts original		O	O
<b>32</b>	DE-032 Acquiring institution identification code		O	O
<b>35</b>	DE-035 Track 2 data		06	
<b>38</b>	DE-038 Approval Code			31
<b>39</b>	DE-039 Result Code			M

Field	Description	Value	Req	Resp
41	DE-041 Card Acceptor Terminal ID ('TID')		15	16
42	DE-042 Card Acceptor Identification Code ('MID')		15	16
43	DE-043 Card acceptor name/location		O	O
45	DE-045 Track 1 data		06	
46	DE-046 Amounts fees		O	O
49	DE-049 Verification data		45	45
59	DE-059 Transport data		O	16
63	DE-063 Display message		O	ME
111	DE-111 Discretionary handback data		O	ME

### Note

See Appendix A, *Conditional Codes* for condition details.

## Completion / Partial Completion

**Table 4.3. Completion**

Field	Description	Value	Req	Resp
<b>MTI</b>	Message Type indicator		<b>220</b>	<b>230</b>
2	DE-002 Primary Account Number (PAN)		07	16
3	DE-003 Processing Code		M	ME
4	DE-004 Amount transaction		M	M
7	DE-007 Date and time transmission		30	30
11	DE-011 System Trace Audit Number (STAN)		M	ME
12	DE-012 Date and time local transaction		M	ME
13	DE-013 Date effective		02	
14	DE-014 Expiration date		02	
18	DE-018 Message Error Indicator			36
21	DE-021 Transaction life cycle identification data		33	33
22	DE-022 Point-of-Service data code		M	
23	DE-023 Card Sequence Number		02	
24	DE-024 Function Code		M	
25	DE-025 Reason Code		M	
26	DE-026 Merchant Category Code		M	
30	DE-030 Amounts original		O	O
32	DE-032 Acquiring institution identification code		O	O
37	DE-037 Retrieval Reference Number		O	ME
38	DE-038 Approval Code			31
39	DE-039 Result Code		M	M

Field	Description	Value	Req	Resp
41	DE-041 Card Acceptor Terminal ID ('TID')		15	16
42	DE-042 Card Acceptor Identification Code ('MID')		15	16
43	DE-043 Card acceptor name/location		O	O
46	DE-046 Amounts fees		O	O
59	DE-059 Transport data		O	16
63	DE-063 Display message		O	ME
111	DE-111 Discretionary handback data		O	ME

### Note

See Appendix A, *Conditional Codes* for condition details.

## Reversals

**Table 4.4. Reversals**

Field	Description	Value	Req	Resp
MTI	Message Type indicator		420	430
2	DE-002 Primary Account Number (PAN)		07	16
3	DE-003 Processing Code		03	16
4	DE-004 Amount transaction		M	M
7	DE-007 Date and time transmission		30	30
11	DE-011 System Trace Audit Number (STAN)		M	ME
12	DE-012 Date and time local transaction		M	ME
18	DE-018 Message Error Indicator			36
21	DE-021 Transaction life cycle identification data		33	33
24	DE-024 Function Code		M	
25	DE-025 Reason Code		M	
30	DE-030 Amounts original		O	O
32	DE-032 Acquiring institution identification code		O	O
41	DE-041 Card Acceptor Terminal ID ('TID')		15	16
56	DE-056 Original data elements		M	
59	DE-059 Transport data		O	16
63	DE-063 Display message		O	ME
111	DE-111 Discretionary handback data		O	ME

### Note

See Appendix A, *Conditional Codes* for condition details.

## Settlement

**Table 4.5. Settlement**

Field	Description	Value	Req	Resp
<b>MTI</b>	Message Type indicator		<b>540</b>	<b>550</b>
<b>7</b>	DE-007 Date and time transmission		M	ME
<b>11</b>	DE-011 System Trace Audit Number (STAN)		M	ME
<b>12</b>	DE-012 Date and time local transaction		M	ME
<b>13</b>	DE-013 Date effective		02	
<b>24</b>	DE-024 Function Code		M	
<b>41</b>	DE-041 Card Acceptor Terminal ID ('TID')		15	16
<b>68</b>	DE-068 Batch/file transfer message control		M	ME
<b>74</b>	DE-074 Reconciliation data primary		M	ME
<b>97</b>	DE-097 Amount, Net reconciliation		M	ME
<b>111</b>	DE-111 Discretionary handback data		O	ME

**Note**

See Appendix A, *Conditional Codes* for condition details.

## Add Record

This is a general purpose record creation transaction that can be used to create Cards, Customers, Accounts, or application specific entities.

**Table 4.6. Add Record**

Field	Description	Value	Req	Resp
<b>MTI</b>	Message Type indicator		<b>304/305</b>	<b>314</b>
<b>2</b>	DE-002 Primary Account Number (PAN)		28	16
<b>7</b>	DE-007 Date and time transmission		30	30
<b>11</b>	DE-011 System Trace Audit Number (STAN)		M	ME
<b>12</b>	DE-012 Date and time local transaction		M	ME
<b>18</b>	DE-018 Message Error Indicator			36
<b>24</b>	DE-024 Function Code	301	M	
<b>25</b>	DE-025 Reason Code		28	
<b>33</b>	DE-033 Forwarding institution identification code		O	O
<b>42</b>	DE-042 Card Acceptor Identification Code ('MID')		O	O
<b>39</b>	DE-039 Result Code			M
<b>59</b>	DE-059 Transport data			16
<b>72</b>	DE-072 Data record (Application specific record data)		O	16
<b>101</b>	DE-101 File Name / Transaction Modifier		29	
<b>111</b>	DE-111 Discretionary handback data		O	16

Field	Description	Value	Req	Resp
113	DE-113 TPP data elements		O	16

### Note

See Appendix A, *Conditional Codes* for condition details.

## Add Customer

This transaction can be used to create an activate a Customer (aka Cardholder) in the system.

**Table 4.7. Add Record**

Field	Description	Value	Req	Resp
MTI	Message Type indicator		304/305	314
2	DE-002 Primary Account Number (PAN)	Customer Primary Account Number. If not present, an auto-generated ID will be used and returned on the 314 response.	O	M
7	DE-007 Date and time transmission		30	30
11	DE-011 System Trace Audit Number (STAN)		M	ME
12	DE-012 Date and time local transaction		M	ME
18	DE-018 Message Error Indicator			36
24	DE-024 Function Code	301	M	
25	DE-025 Reason Code		28	
32	DE-032 Acquiring institution identification code		O	O
42	DE-042 Card Acceptor Identification Code ('MID')		O	O
39	DE-039 Result Code			M
59	DE-059 Transport data			16
72	DE-072 Data record			16
101	DE-101 File Name / Transaction Modifier	The literal "CUSTOMER"	M	
111	DE-111 Discretionary handback data		O	16
113	DE-113 TPP data elements		O	16

### Note

See Appendix A, *Conditional Codes* for condition details.

## Add Merchant

Used to create a Merchant.

**Table 4.8. Add Record**

Field	Description	Value	Req	Resp
MTI	Message Type indicator		304/305	314



Field	Description	Value	Req	Resp
7	DE-007 Date and time transmission		30	30
11	DE-011 System Trace Audit Number (STAN)		M	ME
12	DE-012 Date and time local transaction		M	ME
18	DE-018 Message Error Indicator			36
24	DE-024 Function Code	301	M	
25	DE-025 Reason Code		28	
32	DE-032 Acquiring institution identification code		O	O
42	DE-042 Card Acceptor Identification Code ('MID')		O	O
39	DE-039 Result Code			M
42	DE-042 Card Acceptor Identification Code ('MID')		M	M
59	DE-059 Transport data			16
72	DE-072 Data record (Application specific record data)		O	16
101	DE-101 File Name / Transaction Modifier	The literal "MERCHANT"	M	
111	DE-111 Discretionary handback data		O	16

### Note

See Appendix A, *Conditional Codes* for condition details.

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# Appendix A. Conditional Codes

The following table specifies the Condition Codes used in this documentation.

**Table A.1. Data element condition codes**

Type	Comment
O	Optional.
S	Special field ( <i>see detail below</i> )
M	Mandatory.
ME	Mandatory echo. jPOS Common Message Format echoes the same data (if present) as the original message.
00	Reserved for ISO use
01	Mandatory if fees affect reconciliation.
02	Mandatory if information is available and not read electronically from the card (e.g. manual card entry)
03	Mandatory, contains the same data as the original authorization (1xx) or financial presentment (2xx) message.
04	Mandatory if DE-006 Amount cardholder billing or DE-008 Amount cardholder billing fee is present.
05	Mandatory when the reconciliation and transaction currencies differ and this data element was not provided in the request or advice message.
06	Mandatory if track data is captured at the point of service.
07	Mandatory if the Primary account number conforms to International Standard ISO 7812.
08	Mandatory in a replacement, previously authorised, retrieval, representment, partial reversal or partial chargeback. Mandatory in a supplementary authorization, if available.
09	Reserved for ISO use
10	Mandatory when the forwarding institution is not the same as the institution originating the message.
11	Reserved for ISO use
12	Mandatory if transaction affects reconciliation and this data element was not provided in the request or advice message.
13	Mandatory if the reconciliation is not in balance. Contains the value calculated by the institution sending the reconciliation advice response.
14	Mandatory if the transaction affects reconciliation and checkpoint reconciliation is used and this data element was not provided in the request or advice message.
15	Mandatory if available.
16	Mandatory in a response message if the data element was present in the original request or advice message. If present, it shall contain the same data as the original message.
17	Mandatory in the advice/notification if the data element was present in the original authorization / financial presentment, request / advice notification message. If present, it shall contain the same data as the original message.
18	Mandatory if the approval code is required to be less than six characters.
19	Mandatory when the receiving institution is not the same as the final destination of the message.

Type	Comment
20	Mandatory when the institution that processed (approved or denied) an authorization or financial presentment is not the same institution identified in the primary account number.
21	Mandatory if a partial approval, declined or rejected transaction.
22	Mandatory if different from Date and time local transaction.
23	Mandatory if transaction affects reconciliation and checkpoint reconciliation used.
24	Mandatory if this message is used for cutover or checkpoint reconciliation.
25	Mandatory if this message is used for checkpoint reconciliation.
26	Mandatory for all processing codes except for inquiry services (i.e. processing code 3xxx).
27	Mandatory, shall echo the first two positions of the processing code in the original message.
28	Mandatory if function code indicates card administration.
29	Mandatory if function code is other than card administration.
30	Mandatory in real time transactions.
31	Mandatory if approved.
32	Mandatory if batch/file transfer control data elements do not uniquely identify the file to be loaded.
33	Mandatory once assigned, in all subsequent messages in this transaction (e.g. responses, acknowledgements, advices, notifications and instructions) and all messages in related transactions (e.g. financial presentments, chargebacks, reversals and retrievals). Shall contain the same value as original assigned.
34	Mandatory if fee collection is relevant to the life cycle of the transaction.
35	Mandatory in a network management message when <i>Function code</i> indicates a key is being delivered.
36	Mandatory in request, response/advice, response messages if the receiver detects an error in the request/repeat or advice/repeat messages.
37	Mandatory in the error notification message if present in the messages that contained the error condition, if the receiver can parse that message.
38	Mandatory in network management messages that denotes the start or end of a file transfer.
39	Mandatory in messages which are submitted as part of a batch or file transfer.
40	Mandatory in retrieval, chargeback and fee collection messages if provided in an original financial presentment. Shall contain the same values as used in the original transaction.
41	Mandatory if DE-024 Function Code is not 650 or 651.
42	Mandatory when the transaction is an accumulation transaction and the value applies to all transactions within the accumulated total.
43	Mandatory if DE-024 Function Code is 111.
44	Mandatory if verification involves PAN.
45	Mandatory if DE-024 Function Code is 109, 110, 112 or 113.

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# Appendix B. Result codes

The following table specifies the Result Codes associated with DE 039 (see the section called “DE-039 Result Code”).

**Table B.1. Result codes**

Code	Description
0000	Transaction Approved
0001	Honor with identification
0002	Approved for partial amount
0003	Approved (VIP)
0004	Approved only the purchase and not the cashback
0885	No reason to decline
1001	Card Expired
1002	Card Suspicious
1003	Contact acquirer
1004	Restricted card
1005	Contact Acquirer Security
1006	Allowable PIN tries exceeded
1007	Refer to card issuer
1008	Refer to card issuer - special conditions
1009	Invalid card acceptor
1011	Invalid card number
1012	PIN data required
1013	Unacceptable fee
1014	No account of type requested
1015	Requested function not supported
1016	Not Sufficient Funds
1017	Incorrect PIN
1018	No card record
1019	Transaction not permitted to cardholder
1020	Transaction not permitted to terminal
1021	Exceeds withdrawal amount limit
1022	Security violation
1023	Exceeds withdrawal frequency limit
1024	Violation of law
1025	Card not effective
1026	Invalid PIN block
1027	PIN length error
1028	PIN key sync error
1029	Suspected counterfeit card
1030	Currency unacceptable to card issuer

Code	Description
1031	Declined and fees disputed
1032	Lost/stolen card
1033	Authoriozation lifecycle unacceptable
1034	Authoriozation lifecycle has expired
1035	Closed account
1036	Closed or restricted savings account
1037	Closed or restricted credit account
1038	Closed credit facility cheque account or restricted for closing
1039	Closed or restricted cheque account
1040	Bad debt
1041	From account bad status
1042	To account bad status
1043	Cheque already posted
1044	Information not on file
1045	Card verification data failed
1046	Amount not found
1047	PIN change required
1048	New PIN invalid
1049	Bank not found
1050	Bank not effective
1051	Customer vendor not found
1052	Customer vendor not effective
1053	Customer vendor account invalid
1054	Vendor not found
1055	Vendor not effective
1056	Vendor data invalid
1057	Vendor date invalid
1058	Personal ID not found
1059	Scheduled transactions exist
1060	Aborted at terminal
1061	Transaction not supported by the card issuer
1062	Cashback not allowed
1063	Cashback amount exceeded
1064	Declined, transaction processed offline by terminal
1065	Declined, terminal unable to process offline
1066	Declined, transaction processed offline after referral
1067	Reserved for ISO use
1068	ID number invalid
1069	Driver ID number invalid
1070	Vehicle ID number invalid
1071	Digital certificate expired

Code	Description
1072-1599	Reserved for ISO use
1600-1799	Reserved for national use
1800-1999	Reserved for private use (see below)
1802	Missing fields
1803	Extra fields exist
1804	Invalid card number
1806	Card not active
1808	Card not configured
1810	Invalid amount
1811	System Error, Database
1812	System Error, Transaction
1813	Cardholder not active
1814	Cardholder not configured
1815	CardHolder expired
1816	Original not found
1817	Usage Limit Reached
1818	Configuration error
1819	Invalid terminal
1820	Inactive terminal
1821	Invalid merchant
1822	Duplicate entity
1823	Invalid Acquirer
1824	Previously Reversed
1825	Further activity prevents reversal
1826	Further activity prevents void
1827	Original transaction has been voided
9102	Invalid transaction

# Appendix C. Function codes

The following table specifies the Function Codes associated with DE 024 (see the section called “DE-024 Function Code”).

**Table C.1. Function codes**

Range	Code	Description
000-099 Reserved for ISO use	000-099	Reserved
100-199 Used in 100, 101, 120, 121, and 140 messages to indicate type of authorization or verification transaction.	100	Original authorization - amount accurate
	101	Original authorization - amount estimated
	102	Replacement authorization - amount accurate
	103	Replacement authorization - amount estimated
	108	Inquiry
	113	Account verification
	114-159	Reserved for ISO use
	160-179	Reserved for national use
	180	Internal API call
	181	Partial authorization supported by terminal
	182	jCard private use: DE-002 Primary Account Number (PAN) contains customer ID or DE-102 Account identification 1 and DE-103 Account identification 2 contains source and destination accounts.
	183	jCard private use: DE-002 Primary Account Number (PAN) contains token ID
	184	jCard private use: DE-113.20 Alternate Identifier contains wallet ID
	185	Partial authorization supported by terminal, Support approved only the purchase and not the cashback
	186	Tokenization Eligibility Request
187-199	Reserved for private use	
200-299 Used in 200, 201, 220, 221, and 240 messages to indicate type of financial presentment.	200	Original financial presentment request/advice
	201	Previously approved authorization - amount same
	202	Previously approved authorization - amount differs
	218-259	Reserved for ISO use
	260-279	Reserved for national use
	280-299	Reserved for private use
300-399 Used in 304, 305, 324, 325, 34, 344, 350, 354, 362, 364, 372 and 374 messages to indicate file action required; use 302 when fields within a record are being replaced; if the entire	300	Reserved for ISO use
	301	Add record
	302	Change record
	303	Delete record
	304	Replace record

Range	Code	Description
record is being changed, code 304 is recommended.	305	Inquiry
	306	Replace file
	309	Card administration
	310	Other
	311-359	Reserved for ISO use
	360-379	Reserved for national use
	380-399	Reserved for private use
400-449 Used in 420, 421 and 440 messages to indicate the function of the reversal.	400	Full reversal, transaction did not complete as approved
	401	Partial reversal, transaction did not complete for full amount
	402-419	Reserved for ISO use
	420-439	Reserved for national use
	440-449	Reserved for private use
700-799 Used in 720, 722, 740 and 742 messages to indicate type of fee collection.	700	Fee Collection Message
	701	Fee Collection cancellation, full or partial
	702-759	Reserved for ISO use
	760-779	Reserved for national use
	780-799	Reserved for private use
800-809 Used in 804 messages to indicate system conditions.	800	Reserved for ISO use
	801	Sign on
	802	Sign off
	803	Target system not available
	804	Message originator's system in backup
	805	Special instruction
	806	Initiate alternate routing
	807-809	Reserved for ISO use
830-839 Used in 804 messages to indicate system conditions.	830	Reserved for ISO use
	831	Echo test
	832	Response received
	833-839	Reserved for ISO use



# Appendix D. Reason codes

The following table specifies the Reason Codes associated with DE 025 (see the section called “DE-025 Reason Code”).

**Table D.1. Reason codes**

Range	Code	Description
0000-0999 Reserved for ISO use	0000-0999	Reserved
1000-1499 Reason for an authorization/financial presentment advice / notification message rather than a request message.	1000	Stand-In processing at the card issuer's option
	1001	Card issuer signed off
	1002	Card issuer timed out on original request
	1003	Card issuer unavailable
	1004	Terminal processed
	1005	ICC processed
	1006	Under floor limit
	1007	Stand-in processing at the acquirer's option
	1008	Stand-in processing at the receiver's option
	1009	Receiver signed off
	1010	Receiver timed out on original request
	1011	Receiver unavailable
	1012-1150	Reserved for ISO use
	1151-1375	Reserved for national use
	1376-1499	Reserved for private use
2000-2999 Reason for a representment	2000	Reserved for ISO use
	2001	Invalid acquirer's reference number on charge-back, documentation was received or was not required.
	2002	Non receipt of required documentation to support chargeback
	2003	Correct transaction date provided
	2004	Invalid acquirer's reference number on charge-back, documentation was received
	2005	Correct card acceptor location/description provided
	2006	Reserved for ISO use
	2007	Transaction did not exceed card acceptor floor limit
	2008	Card issuer authorised transaction
	2009	Reserved for ISO use
	2010	Reserved for ISO use
	2011	Credit previously issued
	2012	Reserved for ISO use

Range	Code	Description
	2013	Chargeback remedied, see corresponding documentation
	2014	Duplicate chargeback
	2015	Past chargeback time limit
	2016	Requested transaction documentation provided (hardship variance)
	2017	Invalid member message text
	2018	Correct card acceptor category code provided
	2019	Authorization advised suspicious
	2020	No authorization request required or attempted
	2021	Account not listed on the applicable warning bulleting as of the transaction date
	2022	Documentation received was illegible
	2023	Documentation received was invalid/incomplete
	2024-2399	Reserved for ISO use
	2400-2699	Reserved for national use
	2700-2999	Reserved for private use
3000-3999 Reason for a file action	3000	Lost card
	3001	Stolen card
	3002	Undelivered card
	3003	Counterfeit card
	3004	Other
	3005-3399	Reserved for ISO use
	3400-3699	Reserved for national use
	3700-3999	Reserved for private use
4000-4499 Reason for a reversal	4000	Customer cancellation
	4001	Unspecified, no action taken
	4002	Suspected malfunction
	4003	Format error, no action taken
	4004	Completed partially
	4005	Original amount incorrect
	4006	Response received too late
	4007	Card acceptor device unable to complete transaction
	4008	Deposit out of balance
	4009	No check in envelope
	4010	Payment out of balance
	4011	Deposit out of balance/applied contents
	4012	Payment out of balance/applied contents
	4013	Unable to deliver message to point of service
	4014	Suspected malfunction/card retained
	4015	Suspected malfunction/card returned

Range	Code	Description
	4016	Suspected malfunction/track 3 not updated
	4017	Suspected malfunction/no cash dispensed
	4018	Timed-out at taking money/no cash dispensed
	4019	Timed-out at taking card/card retained and no cash dispensed
	4020	Invalid response, no action taken
	4021	Timeout waiting for response
	4022-4199	Reserved for ISO use
	4200-4350	Reserved for national use
	4351-4499	Reserved for private use
4500-4999 Reason for a chargeback	4500	Reserved for ISO use
	4501	Requested transaction information not received
	4502	Requested/required information illegible or missing
	4503-4506	Reserved for ISO use
	4507	Warning bulleting file
	4508	Requested/required authorization not obtained
	4509-4511	Reserved for ISO use
	4512	Account number not on file
	4513-4523	Reserved for ISO use
	4524	Earlier warning bulletin protection
	4525-2530	Reserved for ISO use
	4531	Transaction amount differs
	4532-4533	Reserved for ISO use
	4534	Duplicate processing
	4535	Card not valid or expired
	4536	Reserved for ISO use
	4537	No cardholder authorization
	4538-4539	Reserved for ISO use
	4540	Fraudulent processing of transaction
	4541	Cancelled recurring transaction
	4542	Late presentment
	4543-4545	Reserved for ISO use
	4546	Correct transaction currency code not provided
	4547	Exceeds floor limit, not authorised / fraudulent transaction
	4548	Reserved for ISO use
	4549	Questionable card acceptor activity
	4550	Credit posted as a purchase
	4551-4552	Reserved for ISO use
	4553	Not as described
	4554	Cardholder dispute, not elsewhere classified

Range	Code	Description
	4555	Non receipt of merchandise
	4556	Defective merchandise
Reason for a chargeback (continued)	4557	Card activated telephone transaction
	4558	Reserved for ISO use
	4559	Services not rendered
	4560	Credit not processed
	4561	Reserved for ISO use
	4562	Counterfeit transaction, magnetic stripe authorization fraud
	4563	Non receipt of required documentation to support representment
	4564	Documentation received was illegible
	4565	Documentation received was invalid/incomplete
	4566	Chargeback contained a valid acquirer's reference number
	4567	Invalid acquirer's reference number on representment, documentation was received or was not required
	4568	Invalid acquirer's reference number on representment, documentation was received
	4569-4572	Reserved for ISO use
	4573	Expired card
	4574-4577	Reserved for ISO use
	4578	Ineligible transaction
	4579	Requested transaction receipt not received
	4580	Processing error
	4581	Missing imprint
	4582	Reserved for ISO use
	4583	Not possession of card
	4584	Missing signature
	4585	Reserved for ISO use
	4586	Alteration of amount
	4587	Domestic transaction receipt processing violation
	4588-4589	Reserved for ISO use
	4590	Non receipt of merchandise, non receipt of cash at ATM or load transaction value at ATM or load device
	4591-4593	Reserved for ISO use
Reason for a chargeback (continued)	4594	Cancelled guaranteed reservation
	4595	Advance lodging deposit
	4596	Transaction exceeds limited amount
	4597-4649	Reserved for ISO use

Range	Code	Description
	4650-4749	Reserved for national use
	4750-4999	Reserved for private use
5000-5999 Reason for a reconciliation	5000-5299	Reserved for ISO use
	5300-5599	Reserved for national use
	5600-5999	Reserved for private use
6000-6499 Reason for a retrieval or re- trieval fulfilment	6001-6004	Reserved for ISO use
	6005	Cardholder does not agree with amount billed
	6006-6020	Reserved for ISO use
	6021	Cardholder does not recognize transaction
	6022	ICC transaction certificate and associated data requested
	6023	Cardholder needs information for personal records
	6024-6027	Reserved for ISO use
	6028	Request for copy bearing signature
	6029	Travel and entertainment document request
	6030-6031	Reserved for ISO use
	6032	Copy request because original lost in transit
	6033-6034	Reserved for ISO use
	6035	Written cardholder request for original due to inadequate copy of mail/phone order or recurring transaction receipt
	6036	Legal process request for original, e.g. a subpoena
	6037	Received copy illegible
	6038	Paper/handwriting analysis request
	6039-6040	Reserved for ISO use
	6041	Fraud investigation
	6042	Potential arbitration, chargeback or compliance documentation required
	6043	Retrieval not fulfilled - not able to trace original transaction
	6044	Retrieval not fulfilled - invalid reference number
	6045	Retrieval not fulfilled - reference number/PAN incompatible
	6046	Requested documentation supplied
	6047	Retrieval cannot be fulfilled - required/requested documentation is not available
	6048	Retrieval will not be fulfilled - request for an item that is not required to be provided
	6049	Retrieval cannot be fulfilled - ICC transaction certificate and associated data is not available
	6050-6199	Reserved for ISO use

Range	Code	Description
Reason for a retrieval or retrieval fulfilment (continued)	6200-6299	Reserved for national use
	6300-6499	Reserved for private use
6500-6999 Reason for an administrative message	6500-6599	Reserved for ISO use
	6600-6799	Reserved for national use
	6800-6999	Reserved for private use
7000-7999 Reason for a fee collection message	7000-7299	Reserved for ISO use
	7600-7599	Reserved for national use
	7600-7999	Reserved for private use
8000-8099 Reason for a network management message	8000	Start batch/file transfer, no recovery procedure
	8001	Start batch/file transfer, recovery procedure
	8002	End batch/file
	8003-8059	Reserved for ISO use
	8060-8069	Reserved for national use
	8070-8099	Reserved for private use
8100-8199 Reason for a key exchange message	8100	Standard key exchange/activation key life cycle
	8101	Standard key exchange/activation keys out of sync
	8102	Standard key exchange/activation security reasons
	8103	Standard key exchange key deactivation
	8104	Standard key exchange verification key life cycle
	8105	Standard key exchange keys out of sync
	8103-8159	Reserved for ISO use
	8160-8169	Reserved for national use
8200-8999 Reserved	8170-8199	Reserved for private use
	8200-8399	Reserved for ISO use
	8400-8699	Reserved for national use
9000-9999 Reserved	8700-8999	Reserved for private use
	9000-9299	Reserved for ISO use
	9300-9599	Reserved for national use
	9600-9999	Reserved for private use

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# Appendix E. Message error codes

The following table specifies the Message Error Codes associated with DE 018 (see the section called “DE-018 Message Error Indicator”).

**Table E.1. Message error codes**

Code	Description
0001	Required data element missing
0002	Invalid length
0003	Invalid value
0004	Amount format error
0005	Date format error
0006	Account format error
0007	Name format error
0008	Other format error
0009	Data inconsistent with POS data code
0010	Inconsistent data, does not match original request
0011	Other inconsistent data
0012	Recurring data error
0013	Customer vendor format error
0014-3999	Reserved for ISO use
4000-5999	Reserved for national use
6000-9999	Reserved for private use

# Appendix F. Merchant Category Codes

The following table lists merchant category code values DE 026 (see the section called “DE-026 Merchant Category Code”).

**Table F.1. Merchant Category Codes**

Range	Codes	Description
0000-0699 Reserved	0001-0499	Reserved for ISO use
	0500-0599	Reserved for national use
	0600-0699	Reserved for private use
0700-0999 Agricultural services	0700-0741	Reserved for ISO use
	0742	Veterinary services
	0743	Wine producers
	0744	Champagne producers
	0745-0762	Reserved for ISO use
	0763	Agricultural co-operatives
	0764-0779	Reserved for ISO use
	0780	Landscaping and horticultural services
	0781-0819	Reserved for ISO use
	0820-0879	Reserved for national use
	0880-0999	Reserved for private use
1000-1499 Reserved for ISO use	1000-1499	Reserved for ISO use
1500-2999 Contracted services	1500-1519	Reserved for ISO use
	1520	General contractors (residential and commercial)
	1521-1710	Reserved for ISO use
	1711	Heating, plumbin and air-conditioning contractors
	1712-1730	Reserved for national use
	1731	Electrical contractors
	1732-1739	Reserved for ISO use
	1740	Masonry, stonework, tile setting, plating and insulation contractors
	1741-1749	Reserved for ISO use
	1750	Carpentry contractors
	1751-1760	Reserved for ISO use
	1761	Roofing, siding and sheet metal work contractors
	1762-1770	Reserved for national use
	1771	Concrete work contractors
	1772-1798	Reserved for ISO use
	1799	Special trade contractors - not elsewhere classified
	1800-2199	Reserved for ISO use



Range	Codes	Description
	2200-2740	Reserved for ISO use
	2741	Miscellaneous publishing and printing services
	2742-2790	Reserved for national use
	2791	Typesetting, platemaking and related services
	2792-2841	Reserved for national use
	2842	Speciality cleaning, polishing and sanitation preparations
	2843-2999	Reserved for national use
3000-3999 Reserved for private use	3000-3999	Reserved for private use
4000-4799 Transportation	4000-4010	Reserved for ISO use
	4011	Railroads
	4012-4110	Reserved for ISO use
	4111	Local and suburban commuter passenger transportation, including ferries
	4112	Passenger railways
	4113-4118	Reserved for ISO use
	4119	Ambulance services
	4120	Reserved for ISO use
	4121	Taxi-cabs and limousines
	4122-4130	Reserved for ISO use
	4131	Bus lines
	4132-4213	Reserved for ISO use
	4214	Motor freight carriers and trucking - local and long distance, moving and storage companies and local delivery
	4215	Courier services - air, ground and freight forwarders
	4216-4224	Reserved for ISO use
	4225	Public warehousing and storage - farm products, refrigerated goods and household goods
	4226-4299	Reserved for ISO use
	4230-4410	Reserved for national use
	4411	Steamships and cruise lines
	4412-4456	Reserved for private use
	4457	Boat rentals and leasing
	4458-4467	Reserved for private use
	4468	Marinas, marine service and supplies
	4469-4510	Reserved for private use
	4511	Airlines and air carriers
	4512-4581	Reserved for private use
	4582	Airports, flying fields and airport terminals
	4583-4656	Reserved for private use
	4657-4721	Reserved for national use

Range	Codes	Description
	4722	Travel agencies and tour operators
	4723-4783	Reserved for private use
	4784	Tolls and bridges fees
	4785-4788	Reserved for ISO use
	4789	Transportation services - not elsewhere classified
	4790-4799	Reserved for national use
4800-4999 Utilities	4800-4811	Reserved for ISO use
	4812	Telecommunication equipment and telephone sales
	4813	Reserved for private use
	4814	Telecommunication services, including local and long distance calls, credit card calls, call through use of magnetic stripe reading telephones and faxes
	4815	Monthly summary telephone charges
	4816	Computer network/information services
	4817-4820	Reserved for ISO use
	4821	Telegraph services
	4822-4828	Reserved for national use
	4829	Wire transfers and money orders
	4830-4895	Reserved for ISO use
	4896-4898	Reserved for private use
	4899	Cable and other pay television services
	4900	Utilities - electric, gas, water and sanitary
	4901-4974	Reserved for private use
	4975-4999	Reserved for national use
5000-5599 Retail outlets	5000-5012	Reserved for ISO use
	5013	Motor vehicle supplies and new parts
	5014-5020	Reserved for ISO use
	5021	Office and commercial furniture
	5022-5038	Reserved for ISO use
	5039	Construction materials - not elsewhere classified
	5040-5043	Reserved for ISO use
	5044	Office, photographic, photocopy and microfilm equipment
	5045	Computers, computer peripheral equipment — not elsewhere classified
	5046	Commercial equipment — not elsewhere classified
	5047	Dental/laboratory/medical/ophthalmic hospital equipment and supplies
	5048-5050	Reserved for ISO use
	5051	Metal service centres and offices
	5052-5064	Reserved for ISO use
	5065	Electrical parts and equipment

Range	Codes	Description
	5066-5071	Reserved for ISO use
	5072	Hardware equipment and supplies
	5073	Reserved for ISO use
	5074	Plumbing and heating equipment and supplies
	5075-5084	Reserved for ISO use
	5085	Industrial supplies — not elsewhere classified
	5086-5093	Reserved for ISO use
	5094	Precious stones and metals, watches and jewellery
	5095-5098	Reserved for ISO use
	5099	Durable goods — not elsewhere classified
	5100-5110	Reserved for ISO use
	5111	Stationery, office supplies and printing and writing paper
	5112-5121	Reserved for ISO use
	5122	Drugs, drug proprietors
	5123-5130	Reserved for ISO use
	5131	Piece goods, notions and other dry goods
	5132-5136	Reserved for ISO use
	5137	Men's, women's and children's uniforms and commercial clothing
	5138	Reserved for ISO use
	5139	Commercial footwear
	5140-5168	Reserved for national use
	5169	Chemicals and allied products — not elsewhere classified
	5170-5171	Reserved for ISO use
	5172	Petroleum and petroleum products
	5173-5191	Reserved for national use
	5192	Books, periodicals and newspapers
	5193	Florists' supplies, nursery stock and flowers
	5194-5197	Reserved for ISO use
	5198	Paints, varnishes and supplies
	5199	Non-durable goods — not elsewhere classified
	5200	Home supply warehouse outlets
	5201-5210	Reserved for ISO use
	5211	Lumber and building materials outlets
	5212-5230	Reserved for national use
	5231	Glass, paint and wallpaper shops
	5232-5250	Reserved for ISO use
	5251	Hardware shops
	5252-5260	Reserved for ISO use
	5261	Lawn and garden supplies outlets, including nurseries

Range	Codes	Description
	5262-5270	Reserved for ISO use
	5271	Mobile home dealers
	5272-5291	Reserved for ISO use
	5292-5299	Reserved for private use
	5300	Wholesale clubs
	5301-5308	Reserved for private use
	5309	Duty-free shops
	5310	Discount shops
	5311	Department stores
	5312-5330	Reserved for private use
	5331	Variety stores
	5332-5398	Reserved for private use
	5399	Miscellaneous general merchandise
	5400-5410	Reserved for private use
	5411	Groceries and supermarkets
	5412-5421	Reserved for private use
	5422	Freezer and locker meat provisioners
	5423-5440	Reserved for private use
	5441	Candy, nut and confectionery shops
	5442-5450	Reserved for private use
	5451	Dairies
	5452-5461	Reserved for private use
	5462	Bakeries
	5463-5498	Reserved for private use
	5499	Miscellaneous food shops - convenience and speciality retail outlets
5500-5599 Automobiles and vehicles	5500-5510	Reserved for ISO use
	5511	Car and truck dealers (new and used) sales, services, repairs, parts and leasing
	5512-5520	Reserved for private use
	5521	Car and truck dealers (used only) sales, service, repairs, parts and leasing
	5522-5530	Reserved for private use
	5531	Auto and home supply outlets
	5532	Automotive tyre outlets
	5533	Automotive parts and accessories outlets
	5534-5540	Reserved for private use
	5541	Service stations (with or without ancillary services)
	5542	Automated fuel dispensers
	5543-5550	Reserved for private use
	5551	Boat dealers
	5552-5560	Reserved for ISO use

Range	Codes	Description
	5561	Camper, recreational and utility trailer dealers
	5562-5570	Reserved for private use
	5571	Motorcycle shops and dealers
	5572-5591	Reserved for national use
	5592	Motor home dealers
	5593-5597	Reserved for national use
	5598	Snowmobile dealers
	5599	Miscellaneous automotive, aircraft and farm equipment dealers — not elsewhere classified
5600-5699 Clothing outlets	5600-5610	Reserved for ISO use
	5612-5620	Reserved for ISO use
	5621	Women's ready-to-wear shops
	5622-5630	Reserved for ISO use
	5631	Women's accessory and speciality shops
	5632-5640	Reserved for national use
	5641	Children's and infants' wear shops
	5642-5650	Reserved for private use
	5651	Family clothing shops
	5652-5654	Reserved for national use
	5655	Sports and riding apparel shops
	5656-5660	Reserved for national use
	5661	Shoe shops
	5662-5680	Reserved for private use
	5681	Furriers and fur shops
	5682-5690	Reserved for private use
	5691	Men's and women's clothing shops
	5692-5696	Reserved for private use
	5697	Tailors, seamstresses, mending and alterations
	5698	Wig and toupee shops
	5699	Miscellaneous apparel and accessory shops
5700-5711 Miscellaneous outlets	5700-5711	Reserved for ISO use
	5915-5920	Reserved for national use
	5921	Package shops — beer, wine and liquor
	5922-5930	Reserved for national use
	5931	Used merchandise and second-hand shops
	5932	Antique shops — sales, repairs and restoration services
	5933	Pawn shops
	5934	Reserved for national use
	5935	Wrecking and salvage yards
	5936	Reserved for national use
	5937	Antique reproduction shops

Range	Codes	Description
	5938-5939	Reserved for national use
	5940	Bicycle shops — sales and service
	5941	Sporting goods shops
	5942	Bookshops
	5943	Stationery, office and school supply shops
	5944	Jewellery, watch, clock and silverware shops
	5945	Hobby, toy and game shops
	5946	Camera and photographic supply shops
	5947	Gift, card, novelty and souvenir shops
	5948	Luggage and leather goods shops
	5949	Sewing, needlework, fabric and piece goods shops
	5950	Glassware and crystal shops
	5951-5959	Reserved for national use
	5960	Direct marketing — insurance services
	5961	Reserved for national use
	5962	Telemarketing — travel-related arrangement services
	5963	Door-to-door sales
	5964	Direct marketing — catalogue merchants
	5965	Direct marketing — combination catalogue and retail merchants
	5966	Direct marketing — outbound telemarketing merchants
	5967	Direct marketing — inbound telemarketing merchants
	5968	Direct marketing — continuity/subscription merchants
	5969	Direct marketing/direct marketers — not elsewhere classified
	5970	Artist supply and craft shops
	5971	Art dealers and galleries
	5972	Stamp and coin shops
	5973	Religious goods and shops
	5974	Reserved for national use
	5975	Hearing aids — sales, service and supplies
	5976	Orthopaedic goods and prosthetic devices
	5977	Cosmetic shops
	5978	Typewriter outlets — sales, service and rentals
	5979-5982	Reserved for national use
	5983	Fuel dealers — fuel oil, wood, coal and liquefied petroleum
	5984-5991	Reserved for national use
	5992	Florists
	5993	Cigar shops and stands
	5994	Newsagents and news-stands
	5995	Pet shops, pet food and supplies

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Range	Codes	Description
	5996	Swimming pools — sales, supplies and services
	5997	Electric razor shops — sales and service
	5998	Tent and awning shops
	5999	Miscellaneous apparel and speciality retail outlets
6000-7299 Service providers	6000-6009	Reserved for national use
	6010	Financial institutions — manual cash disbursements
	6011	Financial institutions — automated cash disbursements
	6012	Financial institutions — merchandise and services
	6013-6049	Reserved for ISO use
	6050	Reserved for private use
	6051	Non-financial institutions — foreign currency, money orders (not wire transfer), scrip and travellers' checks
	6052-6210	Reserved for ISO use
	6211	Securities — brokers and dealers
	6212-6299	Reserved for ISO use
	6300	Insurance sales, underwriting and premiums
	6301-6528	Reserved for ISO use
	6529-7010	Reserved for private use
	7011	Lodging — hotels, motels and resorts
	7012	Timeshares
	7013-7031	Reserved for private use
	7032	Sporting and recreational camps
	7033	Trailer parks and camp-sites
	7034-7041	Reserved for private use
	7042-7211	Reserved for national use
	7210	Laundry, cleaning and garment services
	7211	Laundry services — family and commercial
	7212-7215	Reserved for national use
	7216	Dry cleaners
	7217	Carpet and upholstery cleaning
	7218-7220	Reserved for national use
	7221	Photographic studios
	7222-7229	Reserved for national use
	7230	Beauty and barber shops
	7231-7250	Reserved for national use
	7251	Shoe repair shops, shoe shine parlours and hat cleaning shops
	7252-7260	Reserved for national use
	7261	Funeral services and crematoriums
	7262-7272	Reserved for national use
	7273	Dating and escort services

Range	Codes	Description
	7274-7275	Reserved for national use
	7276	Tax preparation services
	7277	Counselling services — debt, marriage and personal
	7278	Buying and shopping services and clubs
	7279-7295	Reserved for national use
	7296	Clothing rentals — costumes, uniforms and formal wear
	7297	Massage parlours
	7298	Health and beauty spas
	7299	Miscellaneous personal services — not elsewhere classified
7300-7529 Business services	7300-7310	Reserved for ISO use
	7311	Advertising services
	7312-7320	Reserved for ISO use
	7321	Consumer credit reporting agencies
	7322	Debt collection agencies
	7323-7332	Reserved for ISO use
	7333	Commercial photography, art and graphics
	7334-7337	Reserved for ISO use
	7338	Quick copy, reproduction and blueprinting services
	7339	Stenographic and secretarial support services
	7340-7341	Reserved for ISO use
	7342	Exterminating and disinfecting services
	7343-7348	Reserved for ISO use
	7349	Cleaning, maintenance and janitorial services
	7350-7360	Reserved for ISO use
	7361	Employment agencies and temporary help services
	7362-7371	Reserved for ISO use
	7372	Computer programming, data processing and integrated systems design services
	7373-7374	Reserved for ISO use
	7375	Information retrieval services
	7376-7378	Reserved for ISO use
	7379	Computer maintenance and repair services — not elsewhere classified
	7380-7391	Reserved for ISO use
	7392	Management, consulting and public relations services
	7393	Detective agencies, protective agencies and security services, including armoured cars and guard dogs
	7394	Equipment, tool, furniture and appliance rentals and leasing
	7395	Photofinishing laboratories and photo developing
	7396-7398	Reserved for ISO use



Merchant Category Codes

Range	Codes	Description
	7399	Business services — not elsewhere classified
	7400-7406	Reserved for ISO use
	7407-7487	Reserved for private use
	7488-7510	Reserved for national use
	7511	Reserved for private use
	7512	Automobile rentals
	7513	Truck and utility trailer rentals
	7514-7518	Reserved for national use
	7519	Motor home and recreational vehicle rentals
	7520-7522	Reserved for national use
	7523	Parking lots and garages
	7524-7529	Reserved for national use
7530-7799 Repair services	7530	Reserved for ISO use
	7531	Automotive body repair shops
	7532-7533	Reserved for ISO use
	7534	Tyre retreading and repair shops
	7535	Automotive paint shops
	7536-7537	Reserved for ISO use
	7538	Automotive service shops (non-dealer)
	7539-7541	Reserved for ISO use
	7542	Car washes
	7543-7548	Reserved for ISO use
	7549	Towing services
	7550-7600	Reserved for ISO use
	7601-7606	Reserved for national use
	7607-7621	Reserved for private use
	7622	Electronics repair shops
	7623	Air conditioning and refrigeration repair shops
	7624-7628	Reserved for national use
	7629	Electrical and small appliance repair shops
	7630	Reserved for national use
	7631	Watch, clock and jewellery repair shops
	7632-7640	Reserved for national use
	7641	Furniture upholstery, repair and refinishing
	7642-7690	Reserved for private use
	7691	Reserved for national use
	7692	Welding services
	7693-7698	Reserved for national use
	7699	Miscellaneous repair shops and related services
	7700-7799	Reserved for ISO use
7800-7999	7800-7828	Reserved for ISO use

Range	Codes	Description
Amusement and entertainment	7829	Motion picture and video tape production and distribution
	7830-7831	Reserved for ISO use
	7832	Motion picture theatres
	7833-7840	Reserved for ISO use
	7841	Video tape rentals
	7842-7893	Reserved for national use
	7894-7910	Reserved for private use
	7911	Dance halls, studios and schools
	7912-7921	Reserved for private use
	7922	Theatrical producers (except motion pictures) and ticket agencies
	7923-7928	Reserved for private use
	7929	Bands, orchestras and miscellaneous entertainers — not elsewhere classified
	7930-7931	Reserved for private use
	7932	Billiard and pool establishments
	7933	Bowling alleys
	7934-7940	Reserved for private use
	7941	Commercial sports, professional sports clubs, athletic fields and sports promoters
	7942-7959	Reserved for private use
	7960-7990	Reserved for national use
	7991	Tourist attractions and exhibits
	7992	Public golf courses
	7993	Video amusement game supplies
	7994	Video game arcades and establishments
	7995	Betting, including lottery tickets, casino gaming chips, off-track betting and wagers at race tracks
	7996	Amusement parks, circuses, carnivals and fortune tellers
	7997	Membership clubs (sports, recreation, athletic), country clubs and private golf courses
	7998	Aquariums, seaquariums and dolphinariums
	7999	Recreation services — not elsewhere classified
8000-8999 Professional services and membership organizations	8000-8010	Reserved for ISO use
	8011	Doctors and physicians — not elsewhere classified
	8012-8020	Reserved for ISO use
	8021	Dentists and orthodontists
	8022-8030	Reserved for ISO use
	8031	Osteopaths
	8032-8040	Reserved for national use
	8041	Chiropractors

Range	Codes	Description
	8042	Optometrists and ophthalmologists
	8043	Opticians, optical goods and eyeglasses
	8044-8048	Reserved for national use
	8049	Podiatrists and chiropodists
	8050	Nursing and personal care facilities
	8051-8061	Reserved for ISO use
	8062	Hospitals
	8063-8070	Reserved for ISO use
	8071	Medical and dental laboratories
	8072-8098	Reserved for ISO use
	8099	Medical services and health practitioners — not elsewhere classified
	8100-8110	Reserved for ISO use
	8111	Legal services and attorneys
	8112-8210	Reserved for ISO use
	8211	Elementary and secondary schools
	8212-8219	Reserved for ISO use
	8220	Colleges, universities, professional schools and junior colleges
	8221-8240	Reserved for ISO use
	8241	Correspondence schools
	8242-8243	Reserved for ISO use
	8244	Business and secretarial schools
	8245-8248	Reserved for ISO use
	8249	Trade and vocational schools
	8250-8298	Reserved for ISO use
	8299	Schools and educational services — not elsewhere classified
	8300-8350	Reserved for ISO use
	8351	Child care services
	8352-8397	Reserved for national use
	8398	Charitable and social service organizations
	8399-8492	Reserved for ISO use
	8493-8640	Reserved for private use
	8641	Civic, social and fraternal associations
	8642-8650	Reserved for national use
	8651	Political organizations
	8652-8660	Reserved for national use
	8661	Religious organizations
	8662-8674	Reserved for private use
	8675	Automobile associations
	8676-8698	Reserved for private use

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Merchant Category Codes

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Range	Codes	Description
	8699	Membership organizations — not elsewhere classified
	8700-8733	Reserved for private use
	8734	Testing laboratories (non-medical)
	8735-8910	Reserved for private use
	8911	Architectural, engineering and surveying services
	8912-8930	Reserved for private use
	8931	Accounting, auditing and bookkeeping services
	8932-8998	Reserved for national use
	8999	Professional services — not elsewhere classified
9000-9199 Reserved for ISO use	9000-9199	Reserved for ISO use
9200-9402 Government services	9200-9210	Reserved for ISO use
	9211	Court costs, including alimony and child support
	9212-9221	Reserved for ISO use
	9222	Fines
	9223	Bail and bond payments
	9224-9291	Reserved for ISO use
	9311	Tax payments
	9312-9388	Reserved for private use
	9389-9398	Reserved for national use
	9399	Government services — not elsewhere classified
	9400-9401	Reserved for national use
	9402	Postal services — government only
9403-9999 Other	9403-9499	Reserved for private use
	9500-9699	Reserved for ISO use
	9700-9799	Reserved for private use
	9800-9999	Reserved for national use

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# Appendix G. Service result codes

The following table specifies the Service result codes transmitted in DE 034 (see the section called “DE-034 Electronic commerce data”).

**Table G.1. Service result codes**

Code	Description
00	Performed
01	Not performed
02	Not supported
03—1Z	Reserverd for ISO use
20—3Z	Reserverd for national use
40—ZZ	Reserverd for private use

# Appendix H. Revision History

**Table H.1. Revision History**

Date	Version	Author	Description
Mar, 2025	1.0.20.rc13	Federico González	<ul style="list-style-type: none"> <li>Added data element 34 - Electronic commerce data</li> <li>Removed data element 48</li> </ul>
Mar, 2025	1.0.20.rc12	Alejandro Revilla	<ul style="list-style-type: none"> <li>Added 3DS referencie to data element 48</li> <li>Added data element the section called “DE-116 Reserved for national use” along with the section called “032 - Argentina”, the section called “076 - Brazil”, the section called “356 - India”, the section called “566 - Nigeria”, the section called “724 - Spain”, and the section called “840 - USA”.</li> <li>Added data element the section called “DE-123 Reserved for customer-specific use”</li> </ul>
Mar, 2025	1.0.20.rc11	Federico González	<ul style="list-style-type: none"> <li>Added data element 48 - Additional private data</li> </ul>
Feb, 2025	1.0.20.rc10	Federico González	<ul style="list-style-type: none"> <li>Added data element 9 - Conversion rate, settlement</li> <li>Added data element 10 - Conversion rate, cardholder billing</li> </ul>
Feb, 2025	1.0.20.rc10	Federico González	<ul style="list-style-type: none"> <li>Added data element 9 - Conversion rate, settlement</li> <li>Added data element 10 - Conversion rate, cardholder billing</li> </ul>
Jan, 2025	1.0.20.rc9	Orlando Pagano	<ul style="list-style-type: none"> <li>Added '113.69' - Card Token</li> <li>Added '113.70' - Transaction ID</li> <li>Added '113.71' - Transaction GroupID</li> </ul>
Dec, 2024	1.0.20.rc8	Barzilai Spinak	<ul style="list-style-type: none"> <li>Added Transaction Type Code '11' for Quasi-cash to Table 2.1, “Positions 1 &amp; 2 (Transaction Type Code)”.</li> </ul>
Oct, 2024	1.0.20.rc7	Alejandro Revilla	<ul style="list-style-type: none"> <li>Added Appendix F, <i>Merchant Category Codes</i></li> </ul>
Jul, 2024	1.0.20.rc6	Alejandro Revilla	<ul style="list-style-type: none"> <li>Function code 180 reserver for internal API calls Appendix C, <i>Function codes</i></li> <li>Added missing result codes in the 1021..1071 range. See Appendix B, <i>Result codes</i>.</li> </ul>
May, 2024	1.0.20.rc5	Alejandro Revilla	<ul style="list-style-type: none"> <li>Moved rc 1018..1021 to 1824..1827. See Appendix B, <i>Result codes</i></li> <li>Added missing result codes in the 1021..1071 range. See Appendix B, <i>Result codes</i>.</li> </ul>

## Revision History

Date	Version	Author	Description
April, 2024	1.0.20.rc4	Alejandro Revilla	<ul style="list-style-type: none"> <li>Added the section called “DE-113.68 PayFac marketplace data”.</li> <li>Added the section called “DE-114 Reserved for private use” and the section called “DE-115 Reserved for private use”.</li> </ul>
April, 2024	1.0.20.rc3	Federico González	<ul style="list-style-type: none"> <li>Added transaction types for card block and unblock (600.73 and 600.74).</li> <li>Added the section called “DE-113.68 PayFac marketplace data”.</li> </ul>
Jan, 2024	1.0.20.rc2	Alejandro Revilla	<ul style="list-style-type: none"> <li>Added result code '0886' (no reason to decline)</li> </ul>
Jun, 2023	1.0.20.rc1	Alejandro Revilla	<ul style="list-style-type: none"> <li>Added '33' processing code, '186' function code</li> <li>Added '113.67' tokenization data</li> </ul>
Dec, 2022	1.0.19	Alejandro Revilla	<ul style="list-style-type: none"> <li>DE 101 repurposed as Transaction Modifier.</li> </ul>
Oct, 2022	1.0.18-pr2	Rainer Reyes	<ul style="list-style-type: none"> <li>Added data element 95.</li> <li>Added data elements 113.30, 113.31, 113.32, 113.33 and 113.67-78.</li> <li>New reason and function code are added.</li> <li>Added new subfield to data element 49 (card validation results).</li> <li>Added data element 19.</li> </ul>
Aug, 2022	1.0.17	Federico González and Alejandro Revilla	<ul style="list-style-type: none"> <li>Added fields 113.66.</li> </ul>
Aug, 2022	1.0.16	Federico González	<ul style="list-style-type: none"> <li>Added fields 113.64 and 113.65.</li> <li>Renamed chapter 3.</li> </ul>
Jun, 2022	1.0.15	Alejandro Revilla	<ul style="list-style-type: none"> <li>Added Point of service capability (DE 027)</li> </ul>
Jun, 2021	1.0.14	Federico González	<ul style="list-style-type: none"> <li>Added result code 9102</li> </ul>
May, 2018	1.0.13	apr	<ul style="list-style-type: none"> <li>Added DE 113.63 (Additional Data - reserved for private use)</li> </ul>
Sep, 2016	1.0.12	apr	<ul style="list-style-type: none"> <li>Added DE 113.24 (Installments information)</li> </ul>
Jul, 2014	1.0.11	apr	<ul style="list-style-type: none"> <li>Added DE TRACK1 and TRACK2 reading methods to Pos Data Code (DE 22)</li> </ul>
Dec, 2013	1.0.10	apr	<ul style="list-style-type: none"> <li>Added DE 100, receiving institution code</li> <li>Re-enabled DE 53</li> </ul>
Jul, 2013	1.0.9	apr	<ul style="list-style-type: none"> <li>Added jCard field 113.23, SSN</li> </ul>
Mar, 2013	1.0.8	apr	<ul style="list-style-type: none"> <li>Added field 15, corrected field 13</li> </ul>

Date	Version	Author	Description
Jan, 2013	1.0.7	apr	<ul style="list-style-type: none"> <li>Added function code 184 (jCard Wallet ID)</li> </ul>
May, 2011	1.0.6	apr	<ul style="list-style-type: none"> <li>Changed wording in the section called “DE-112 Discretionary transport data” to indicate it's a transport field, no logging is required.</li> <li>Added the section called “DE-113 TPP data elements” and Chapter 3, <i>TPP Data Elements</i></li> <li>the section called “Add Record” now supports optional field the section called “DE-113 TPP data elements”</li> <li>the section called “Add Record” clarifies the fact that field 2 is optional</li> <li>the section called “Add Record” uses field 33 (the section called “DE-033 Forwarding institution identification code”) instead of 32</li> </ul>
Jun 23th 2010	1.0.5	apr	Added the section called “DE-112 Discretionary transport data”
Nov 7th 2009	1.0.4	Andy Orrock	Changed references to 'begin sentinel' to 'start sentinel' in the section called “DE-035 Track 2 data”. Provided additional data element definition information for the section called “DE-007 Date and time transmission”, the section called “DE-023 Card Sequence Number”, the section called “DE-024 Function Code”, the section called “DE-025 Reason Code”, the section called “DE-026 Merchant Category Code”, the section called “DE-032 Acquiring institution identification code”, the section called “DE-041 Card Acceptor Terminal ID ('TID')”, the section called “DE-042 Card Acceptor Identification Code ('MID')”, the section called “DE-043 Card acceptor name/location”, the section called “DE-046 Amounts fees”, the section called “DE-056 Original data elements”, the section called “DE-059 Transport data”, the section called “DE-074 Reconciliation data primary”, the section called “DE-097 Amount, Net reconciliation” and the section called “DE-101 File Name / Transaction Modifier”
Oct 15th 2009	1.0.3	apr	Added the section called “DE-068 Batch/file transfer message control” and the section called “Settlement”.
Aug 24th 2009	1.0.2	David Bergert - bergert@olsdallas.com	Added Result Code Table
Aug 2009	1.0.1	apr	Added fields the section called “DE-074 Reconciliation data primary” and the section called



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## Revision History

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Date	Version	Author	Description
			“DE-097 Amount, Net reconciliation” used in reconciliation messages.
Aug 2009	1.0.0	apr	Assorted additions, initial public release
Aug 2008	r3382	apr	Initial internal revision

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# Appendix I. License terms



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# Glossary

<b>MID</b>	Merchant ID (see the section called “DE-042 Card Acceptor Identification Code ('MID')”).
<b>MTI</b>	Message Type Indicator (see the section called “MTI - Message Type Identifier”).
<b>TID</b>	Terminal ID (see the section called “DE-041 Card Acceptor Terminal ID ('TID')”).
<b>TTC</b>	Transaction Type Code (see the section called “DE-003 Processing Code”).

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