ISO:8583 Specifications

i2c Reference Guide

24.3.1 | Standard

PAYMENTS | BANKING

Version: 24.3.1 | Standard

Revision Date: May 16th, 2024

Table of Contents

Summary of Changes

Revision	Released On	Description of Change	Where to Look
24.3.1	May 16th, 2023	Updated description in Appendix A – Message Matching Criteria	Refer to: Matching Criteria for Reversal Message with Corresponding Original Message (01xx/02xx with 042x Matching)
23.2.2	August 31st, 2023	Updated tag length value of Decline Reasons from '03' to '02' in DE – 080 – DISPUTE ACTION INFORMATION	Refer to: DE – 080 – DISPUTE ACTION INFORMATION
23.2.2	August 1st, 2023	Added new processing codes to DE 003 – Processing Codes Table	Refer to: Data Element 003 – Processing Codes Table
23.2.1	February 08th, 2023	Added DE 80 – Dispute Action Information Added Dispute Decline Reasons in Appendix D Added 80 – Dispute Action Information in "Message Layouts" section	Refer to: DE – 080 – DISPUTE ACTION INFORMATION Refer to: Data Element 80 Dispute Action Information Tag 05 Decline Reasons Refer to: PART 2 – Message Layouts
22.09.1	September 21st, 2022	Added a Token Status D	Refer to: Appendix E – Possible Values of New Sub-fields in DE-111
22.06.1	May 26th, 2022	Incremental Authorization Indicator Support Added for Efund/FIS	Refer to: Data Element 111 – Additional Data Table
22.05.1	April 1st, 2022	Segregation of 'GV' response code for status inquiry / Account verification transactions in case of declined due to invalid card status ('SX') or expiry ('EX'). Token Authorization Request - TAR red path response code updated as 'TR' from 'TX'	Refer to: Data Element 039 – Response Codes Table
21.12.2	December 08th, 2021	Support Added for Sender Data for Visa.	Refer to: DE – 108 – Receiver/Sender Data
21.12.1	November 30th, 2021	Support added for Fiserv based auth-hosts	Refer to: Fiserv DE 43 Fiserv DE 90 Fiserv DE 109 Fiserv DE 111
21.10.1	October 11th, 2021	Addition of new Token Device Type Addition of new Dataset in DE 125 for Visa	Refer to: Token Device Type Data Element 125
21.09.1	September 7th, 2021	Addition of new Field for Mastercard	Refer to: Data Element 108

21.08.2	August 25th, 2021	Addition of new fields 33 and 90	Refer to: Data Element 33 Data Element 90
21.08	August 15th, 2021	Addition of new Field 59 for Mastercard and Visa	Refer to: Data Element 59
21.07	July 15th, 2021	Field 125 and Field 111 updated	Refer to: Data Element 125 – Discover Data Element 111
21.06	June 1st, 2021	Field 125 updated	Refer to: Data Element 125 - Discover
21.06	March 30th, 2021	Addition of Transaction types	Refer to: Data Element 3
21.06	March 30th, 2021	Addition of a Field 125 for Discover.	Refer to: Data Element 125 - Discover
21.06	March 30th, 2021	Addition of a Field 111 for Discover.	Refer to: Data Element 111 - Discover
21.06	March 30th, 2021	Addition of a Field 109 for Discover.	Refer to: Data Element 109
21.05	May 4th, 2021	Updated description for DE 111.47 (MasterCard Format) to show that it is in TLV format.	Refer to: Fraud Scoring Data (Data Element 111.47)
21.04	April 13th, 2021	Updated part 3. Added co-operative auth model. Improved explanations of message flows	Refer to: Part-3
21.04	March 23rd, 2021	3DS Related Data Added	Refer to: Data Element 111
21.03	March 9th, 2021	Updated PART 2 – Message Layouts for DE02	Refer to: Message Layouts
20.12	November 26th, 2020	Fee chunks for excess usage fee	Refer to: DE54 chunk 46-47
20.11.2	November 10th, 2020	Description of DE57 updated	Refer to: Data Element 57
20.11.1	November 2nd, 2020	Value of POS Entry Mode (29) updated	Refer to: POS Entry Mode Codes Table
20.10.2	October 9th, 2020	Expire Pre Auth Reversal Message Indicator	Refer to: Data Element 048

20.10.1	September 30th, 2020	Token Device Bound Fields Added	Refer to: Data Element 111
20.9.1	September 01st, 2020	STAR Access Support Added	Refer to: Data Element 048. Additional Amounts Codes Table Data Element 63 Data Element 109 Data Element 111
20.7.1	July 25th, 2020	Incremental Authorizations and Multi-Clearing Transactions related indicators added for MC DMS based Clients	Refer to: Data Element 048. Data Element 109 Data Element 111
20.5.1	May 04th, 2020	Application Transaction Counter (ATC) support added in 48.8 and new response code 'AI' introduced	Refer to: Data Element 048. Response Codes
20.3.1	March 18th, 2020	Over Limit Fee and Over Payment Fee chunks 07 and 08 added	Refer to Additional Amounts Codes Table
20.2.1	January 31st, 2020	UnionPay Support Added, Update some values for DE61	Refer to: UnionPay DE111 UnionPay DE125 Field 61
20.1.1	December 23rd, 2019	Default timeout value added	Refer to Timeout Communication Exception Flows
19.9.1.1	September 17th, 2019	New Field 109 Added , DE54 chunk 06 added	Refer to Field 109
19.8.1.2	September 12th, 2019	Addition of: New DE-007 added in Token Provisioning – Send OTP Request (0600)	Refer to: Appendix G
19.8.1.1	August 16th, 2019	Addition of: Modified MTI 0100 – Token Provisioning – Send OTP Request to MTI 0600 Administrative request Appendix-G modified, New field 02 added in request. Field 111 modified DE-25 POS Condition code modified from 59 to 66	Refer to: Appendix G
19.7.1	July 16th, 2019	Addition of: New MTI 0100 – Token Provisioning – Send OTP Request New sub-fields 111.47 & 111.48. Appendix-G.	Refer to: Message Layouts Sub Elements of DE 111 Appendix G
19.7.1	June 25th, 2019	Addition of new sub-fields 48.7 & 48.8.	Refer to Data Element 048.

19.4.1	April 18th, 2019	Description change for DE-07	Refer to Data Element 07
19.4.1	April 18th, 2019	Addition of new response code value 99	Refer to Response Codes.
19.4.1	April 18th, 2019	Addition of a new sub-field 48.4, 48.5, 48.6 in DE-048.	Refer to Data Element 048.
19.4.1	April 10th, 2019	Addition of a new sub-field 48.3 in DE-048.	Refer to Data Element 048.
19.4.1	April 10th, 2019	Addition of a new Response Code value 1A – Strong Customer Authentication Required in DE-39	Refer to Response Codes section.
19.4.1	April 10th, 2019	Addition of new Field 110 – Mini Statement Data.	Refer to DE – 110.
19.4.1	April 10th, 2019	Addition of new process code value 34 (ATM Mini Statement) in Field 3—Processing Code, position 1–2.	Refer to Processing Codes.
19.2.1	March 1st, 2019	Conditional new Field-048 (Additional Processing Data) added in the ISO specifications.	Refer to Data Element – 048
19.1.1	January 10th, 2019	Description added of Sub field DE 111 and DE125	DE 111 Mastercard Format:Sub Field 111.4, 111.18, 111.19, 125.6
18.7.1	July 5th, 2018	Addition of new sub field in DE 111 On-behalf Service, Fraud Scoring Data	DE 111 Mastercard Format: Sub Field 111.46, 111.47
18.7.1	July 5th, 2018	Addition of new sub field in DE 111 Chargeback flag	DE 111 Visa Format: Sub Field 111.46 DE 111 Mastercard Format: Sub Field 111.45 DE 111 Efund Format: Sub Field 111.11 DE 111 Star Format: Sub Field 111.4
18.6.1	June 20th, 2018	Addition of new code in: Appendix H, Token Event Notification Section. Token Notification Type.	DE 111 Token Notification Type
18.5.1	May 21st, 2018	Addition of new sub field in DE 111 i.e. 111.45	DE 111 Visa Format Sub Field 111.45
18.5.1	April 26th, 2018	Addition of new sub field in DE 111 i.e. 111.44	DE 111 MasterCard Format Sub Field 111.44
18.5.1	April 26th, 2018	Text updated	Appendix F, Appendix H
18.7.1	July 4th, 2018	Addition of new sub-field 111.47 (Fraud Scoring Data)	See section Sub Elements of DE-111 when DE-63.7 = 'MASTERCARD'
18.7.1	July 4th, 2018	Addition of new sub-field 111.46 (On-behalf Service)	See section Sub Elements of DE-111 when DE-63.7 = 'MASTERCARD'
18.7.1	July 4th, 2018	Addition of new sub-field 111.45 (Chargeback flag)	See section Sub Elements of DE-111 when DE-63.7 = 'MASTERCARD'

PART 1 – Message Structure

ISO 8583 Protocol Format

Message Length	Message Type Identifier (MTI)	Bitmaps (Primary & Secondary)	Data Elements
2 or 4 Bytes	4 Bytes	8 Bytes each	Variable

Message Length

The message length is the first 2 or 4 bytes of the message. The number of bytes which contains message length depends on the type of field configuration. Below are the two possible configurations:

ASCII format – The message length will be represented in 4-bytes ASCII format where the first 4 bytes of the message represents length. For example, for a 68 bytes message, the message length will be like 0068.

Bytes format – The first 2 bytes of the message will represent message length. The length will be in packed hexadecimal format.

The message length will not include the length of bytes used to represent message length, which means Message Length = $\text{Length}_{\text{MTI}} + \text{Length}_{\text{Bitmaps}} + \text{Length}_{\text{Data Elements}}$

For the **bytes format**, below pseudo code can be used to extract message length:

```
var msg = message_received_at_socket;
var msgLenBytes = msg[0,1]; // the first 2 bytes
var msgLenBinary = binary((int)msg[0]) + binary((int)msg[1]);
var msgLen = convertToInteger(msgLenBinary);
```

Message Type Identifier (MTI)

The n-4 ASCII representation of the Message, called MTI. It is the first mandatory data element in ISO 8583 message and specifies general message category (e.g., financial or reversal).

Refer to Appendix J for the list of supported message type identifiers.

Message Bitmaps

The data elements transmitted in the message are not fixed; bitmaps specify which data elements are present and which are not. The length of a bitmap can be of 8 or 16 bytes (64 binary values) depending upon the format of message i.e. ASCII format or Bytes format.

1. **ASCII format** – A bitmap will be comprised of 16 unpacked hexadecimal digits where each digit will represent 4 bits.

2. **Bytes format** – A bitmap will be represented in 8-bytes packed hexadecimal format. Each byte will contain 2 hexadecimal digits i.e. 8 binary value.

Each bitmap will contain 64 bits where each bit represents the presence of data element on that bit number. i2c's ISO 8583 specification can contain two bitmaps i.e. Primary (mandatory) & Secondary (optional). The detail of each bitmap is described below.

Primary Bitmap

Every message includes the Primary Bitmap. It is of 8 Bytes (64 bits) length, positioned after the message type identifier. Except for the first bit, each bit of the primary bitmap is associated with the corresponding data element, starting from 2 to 64. Each bit indicates the presence or absence of its associated data element.

- If a bit is 0, the data element associated with the bit is not present.
- If a bit is 1, the data element associated with the bit is present in the message.

For example:

The first bit of the Primary Bitmap indicates the presence of Secondary Bitmap. If the first bit is 1, a Secondary Bitmap follows this Bitmap.

Secondary Bitmap

Like the Primary Bitmap, Secondary Bitmap is also of 8 Bytes (64 bits) length, positioned after primary bitmap in the i2c message. Except for the first bit, each bit of the secondary bitmap is associated with the corresponding data element, starting from 66 to 128. Each bit indicates the presence or absence of its associated data element.

- If a bit is 0, the data element associated with the bit is not present.
- If a bit is 1, the data element associated with the bit is present in the message.

For example:

The first bit of the Secondary Bitmap indicates the presence of a Third Bitmap. If the first bit is 1, a Third Bitmap follows this Bitmap. This bit will always be 0.

Third Bitmap

The third bitmap is reserved for future use.

Message Data Elements

The Message Data Elements section explains the available fields along with their formats that can be a part of the i2c message.

PART 2 – Message Layouts

C = Conditional, CE = Conditional Echo, M = Mandatory, ME = Mandatory Echo, Blank Space = Not Available or Not Required

* For Non-PCI Compliant Auth-Host, secure data elements like PIN, CVV1, and CVV2 etc. will not be sent.

0100/0110* – Token Send OTP Request

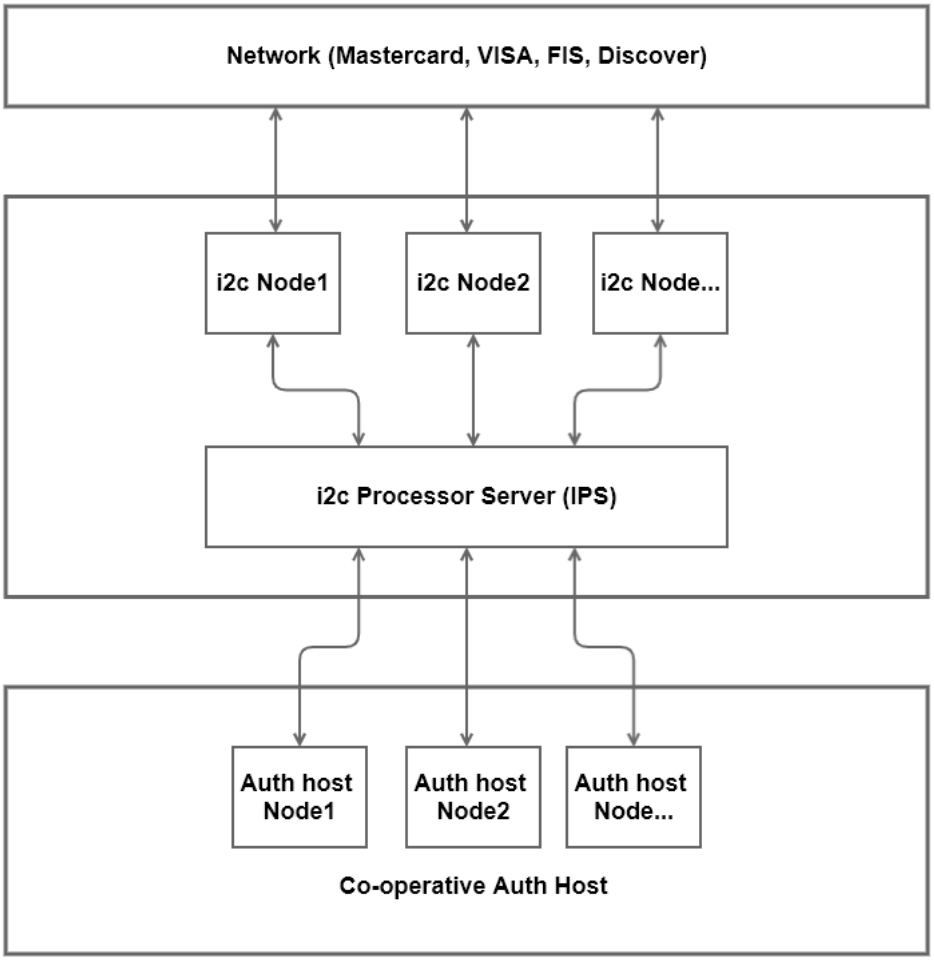
Field	Description	0100	0110	0110*	0110*	0120	0130	0200	0210	0220	0230	0420	0430	0800	0810	0302	0312	0620	0630
2	Primary Account Number	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME			ME	ME	ME	ME
3	Processing Code	ME	ME			ME	ME	ME	ME	ME	ME	ME	ME						
4	Transaction Amount	ME	C			ME	C	C	C	C	C	ME	C						
5	Settlement Amount	C	C			C	C	C	C	C	C	C	C						
6	Cardholder Billing Amount	C	C			C	C	C	C	C	C	C	C						
7	Transmission Date/Time	ME	ME	M	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	CE	CE	ME	ME
9	Settlement Conversion Rate	C	C			C	C	C	C	C	C	C	C						
10	Conversion Rate	C	C			C	C	C	C	C	C	C	C						
11	Trace Number	ME	ME	M	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	CE	CE	ME	ME
12	Local Time	C	C			C	C	ME	C	C	C	C	C						
13	Local Date	C	C			C	C	ME	C	C	C	C	C						
14	Date, Expiration	CE				CE		CE		CE		CE					CE	CE	
15	Date, Settlement	C	C			C	C	ME	ME	ME	ME	C	C				C	C	C
18	Merchant Category Code (MCC)	C		M	ME	C		C		C		C							

Field	Description	0100	0110	0110*	0110*	0120	0130	0200	0210	0220	0230	0420	0430	0800	0810	0302	0312	0620	0630
22	Point of Service Entry Mode Code	C		M	ME	C		C		C		C							
25	POS Condition Code	C	C	M	ME	C	C	C	C	C	C	C	C						
26	POS PIN Capture Code	C				C		C		C									
28	Amount, Transaction Fee	C	C			C	C	C	C	C	C	C	C						
29	Amount, Settlement Fee	C	C			C	C	C	C	C	C	C	C						
32	Acquirer Institution Identification Code	ME	ME	M	ME	ME	CE	ME	ME	CE	CE	ME	CE						
37	Retrieval Reference	CE	CE	M	ME	CE	CE	CE	CE	CE	CE	CE	CE			CE	CE	CE	CE
38	Auth-ID Code	CE	CE			CE		CE	CE	CE		CE	CE						
39	Response Code	C	ME	C	M	C	ME	C	C	C	ME	C	C	C	C		ME	C	C
41	Card Acceptor Terminal ID	CE	CE	M	ME	CE	CE	CE	CE	CE	CE	CE	CE						
42	Card Acceptor ID Code	C	C	M	ME	C	C	C	C	C	C	C	C						
43	Card Acceptor Name/Location	C				C		ME		C		C	C						
48	Additional Processing Data	C				C		C		C									
49	Currency Code, Currency	ME	ME			ME	C	C	C	C	C	ME	C						

Field	Description	0100	0110	0110*	0110*	0120	0130	0200	0210	0220	0230	0420	0430	0800	0810	0302	0312	0620	0630
50	Currency Code, Settlement	C	C			C	C	C	C	C	C	C	C						
51	Currency Code, Card-Holder Billing	C	C			C	C	C	C	C	C	C	C						
54	Additional Amounts	C	C			C	C	C	C	C	C	C	C						
57	Authorization Life Cycle	C	C			C	C	C	C	C	C	C	C						
61	Point-of-Service (POS) Data	C	C			C	C	C	C	C	C	C	C						
63	Network Data	ME	C			ME	C	ME	C	ME	C	ME	C			C	C	ME	ME
65	Tertiary Bitmap	C	C	C	C	C	C	C	C	C	C	C	C						
70	Network Management Information Code													ME	ME			C	C
80	Dispute Action Information					C	C			C	C	C	C						
102	Account Identification 1	C	C	C	C	C	C	C	C	C	C	C	C						
110	Mini Statement Data		C						C										
111	Additional Data, Private Acquirer	C	C	M	C	C	C	C	C	C	C	C	C			ME	ME	ME	ME
123	Verification Data	C	C			C		C	C	C		C							
125	Supporting Information	C	C	C														ME	ME

PART 3 – Co-operative Auth Model

Block Diagram

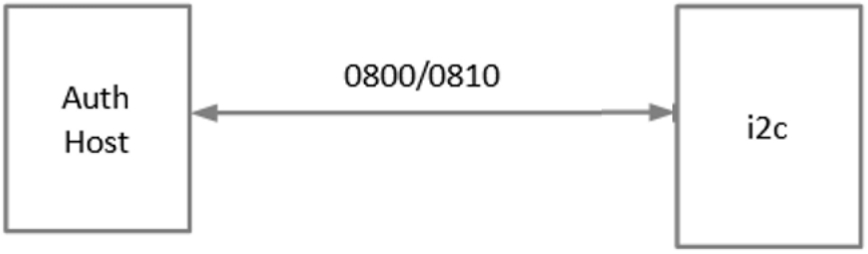


Connectivity Message Flows

i2c will establish connection with Auth host. In case of disconnection, i2c will retry to establish connection.

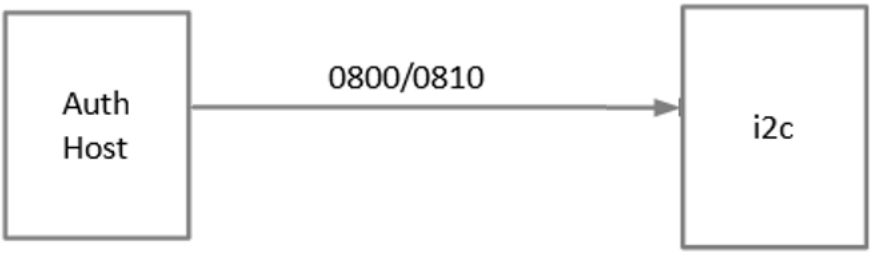
Sign-On Message

Once connection is established, i2c will send sign on. Sign on must be successful before sending transaction to auth host.



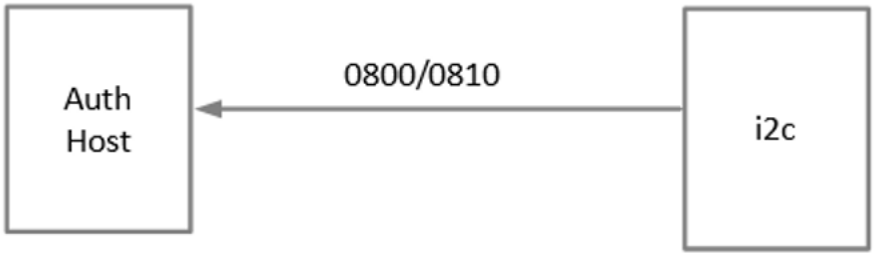
Sign-Off Message

Auth host can initiate Sign-off message to not receive further transactions. Once Sign-off is performed by Auth host, Sign-on is expected by Auth host to resume transaction processing.



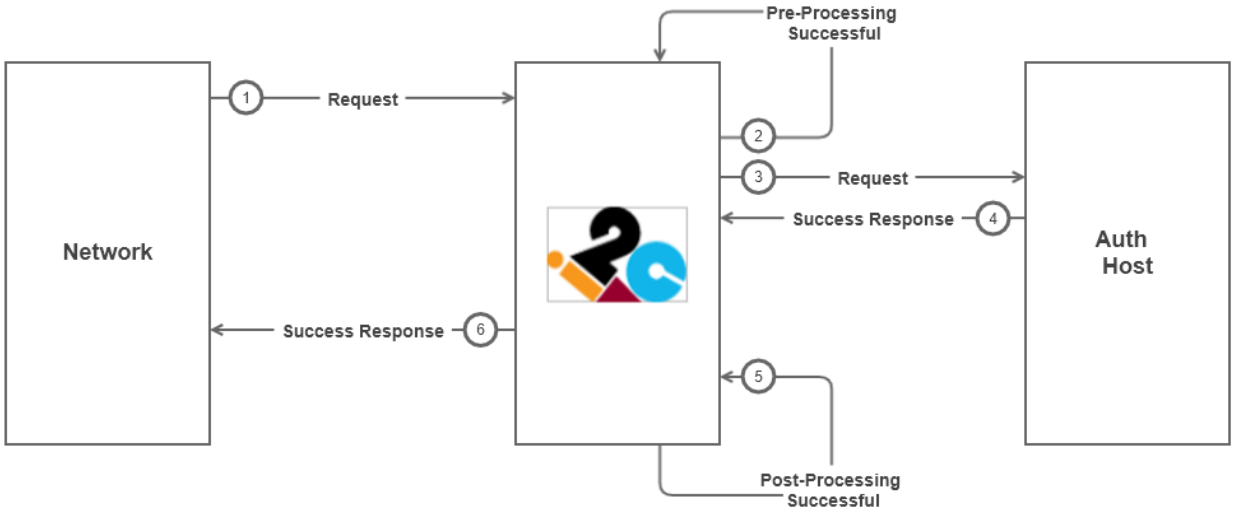
Echo/Health Check Message

Echo messages are sent on socket after defined intervals in-case there is no transaction in defined time-frame. Echo messages are sent by i2c to auth host.



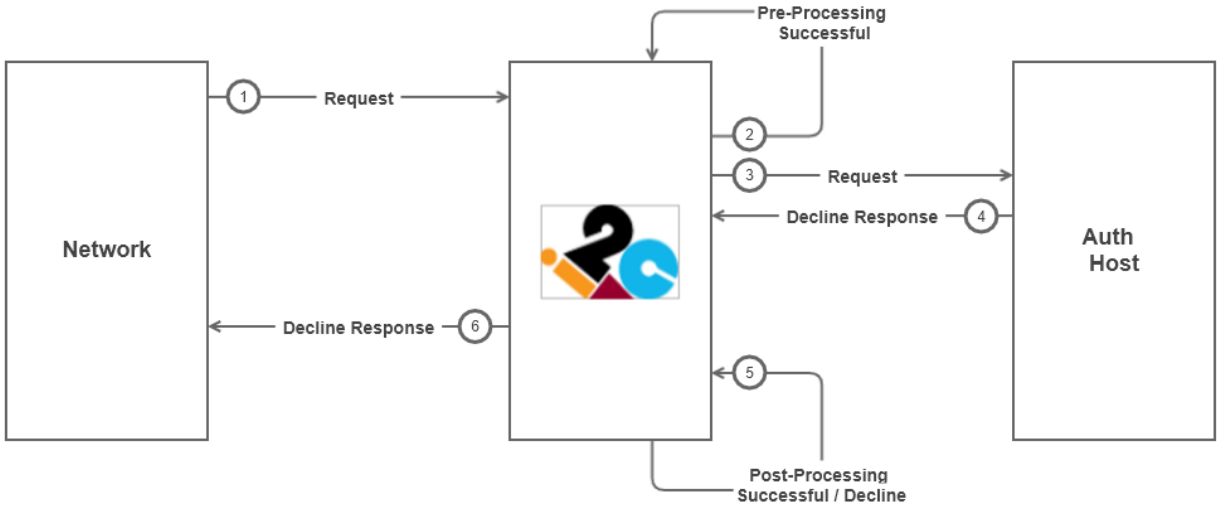
Transaction Flows

Authorized by Auth-Host Processor



Step	Description
1	Network initiates a transaction request/(0xx0) message to i2c
2	Pre-processing process is executed at i2c prior to sending transaction to auth host.
3	i2c forwards the Financial Transaction Request message to the auth host
4	The auth host generates a success response(0X10/0X30) and sends it to i2c.
5	Post-processing process is executed at i2c prior to sending response to network.
6	i2c generates a success response (0x10/0x30) message and sends it to network.

Declined by Auth-Host Processor

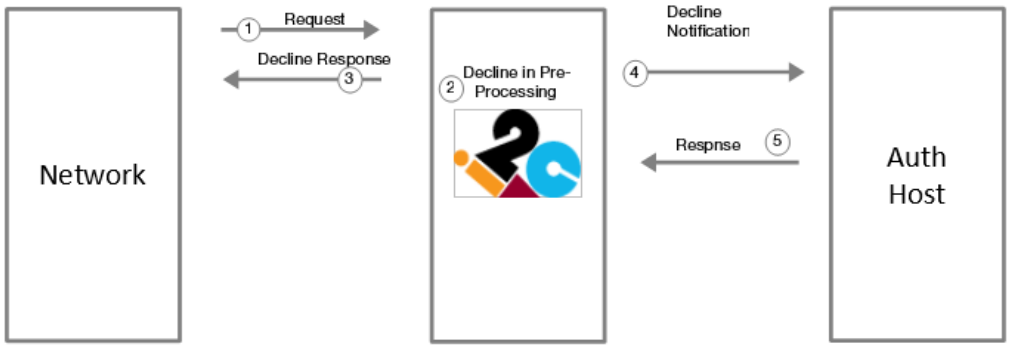


Step	Description
1	Network initiates a transaction request/(0xx0) message to i2c
2	Pre-processing process is executed at i2c prior to sending transaction to auth host.
3	i2c forwards the Financial Transaction Request message to the auth host
4	The auth host generates a decline response (0X10/0X30) and sends it to i2c.
5	Post-processing process is executed at i2c prior to sending response to network.
6	i2c generates a decline response (0x10/0x30) message and sends it to network.

Exceptions Processing Flows

Fail at i2c Pre-Processing

If a transaction fails pre-processing at i2c, then only a configurable notification will be sent to the auth host processor. The Decline response to the network will be sent (for non-force post transactions).

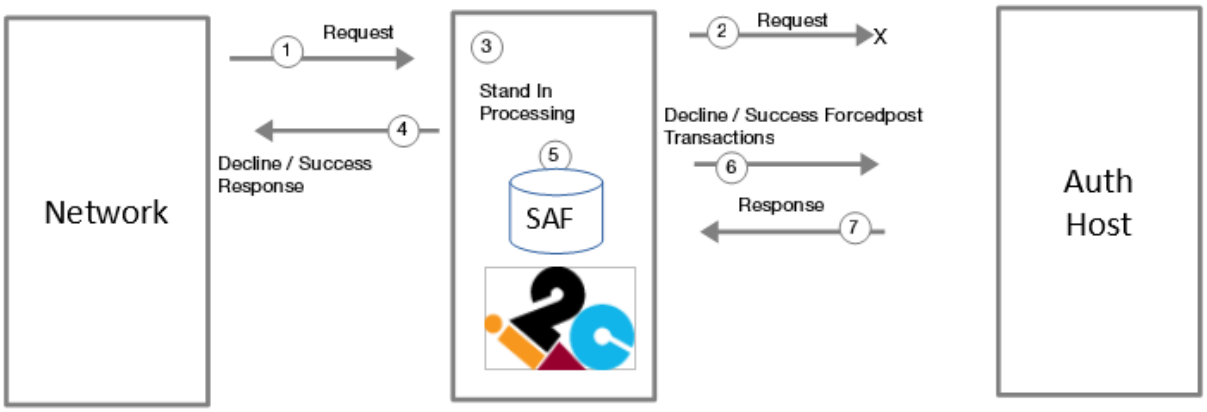


Step	Description
1	Network initiates a transaction request/(0xx0) message to i2c
2	Transaction failed at i2c in pre-processing
3	i2c generates a decline response (0x10/0x30) message and sends it to network.
4	i2c will send a decline notification to auth host
5	Auth host generates a transaction request response(0x10/0x30) message and sends it to i2c.

Stand-in Processing

Auth Host Down

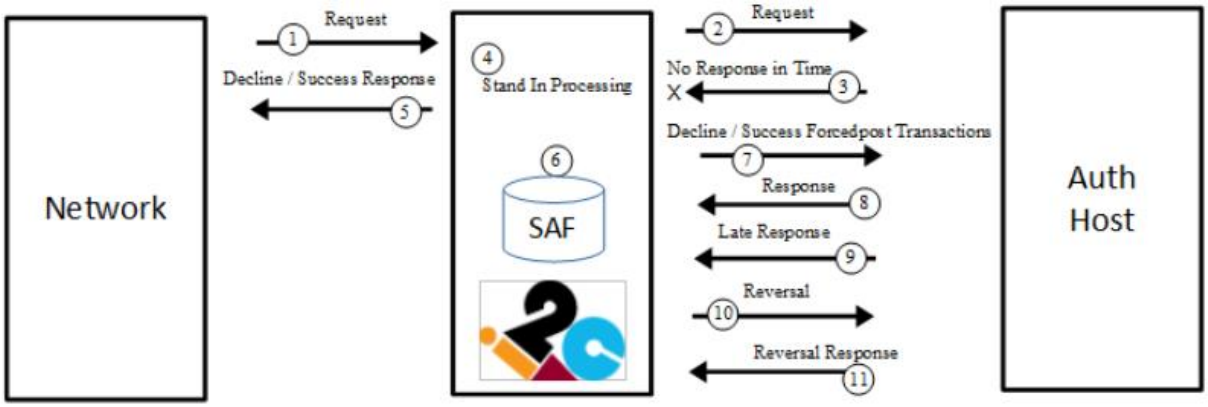
If there occurs an exception in sending the request message to the auth host due to non-availability of auth host, then either a decline notification or a forced post notification will be sent to the auth host based on auth host configuration with i2c.



Stage	Description
1	Network initiates a transaction request/(0xx0) message to i2c
2	i2c initiates a Financial Transaction Request message, but unable to send this to auth host because of network communication failure.
3	i2c will perform Stand In processing. Stand-in processing is configurable (Allowed/Not Allowed).
4.1	If auth host has configuration with i2c to decline transaction in its non-availability, then i2c sends a decline response (0x10/0x30) message to network.
4.2	If auth host has configuration with i2c to process transaction in its non-availability, then i2c sends a success response (0x10/0x30) message to network. Stand-in limits are configurable for POS and ATM transactions. Unit of accumulative limit is down time of auth host. For example, $100 is configured as stand-in limit then i2c will not allow transactions once approved transactions accumulative amount is reached $100 within down time of auth host. Once auth is up again, accumulation counter is reset. Note : Stand-in limit works only incase, system of record is auth host.
5	i2c stores decline / forced post notification to be sent to auth host in SAF (Store & Forward).
6	SAF mechanism will forward notifications to auth host when it is available for communication.
7	Auth host generates a transaction request response (0x10/0x30) message and sends it to i2c.

Auth Host Time-Out

If a transaction is successful at i2c in pre-processing but no response is received from the auth host at all or till the specific time, then either a decline notification or a forced post notification will be sent to the auth host based on auth host configuration with i2c.



Step	Description
1	Network initiates a transaction request/(0xx0) message to i2c
2	i2c initiates a Financial Transaction Request message & sent this to auth host.
3	No response from auth host in time.
4	i2c performs Stand In processing. Stand-in processing is configurable (Allowed / Not Allowed).
5.1	If auth host has configuration with i2c to decline transaction for timeout response, then i2c sends a decline response (0x10/0x30) message to network.
5.2	If auth host has configuration with i2c to process transaction for timeout response, then i2c sends a success response (0x10/0x30) message to network. Stand-in limits are configurable for POS and ATM transactions. Unit of accumulative limit is down time of auth host. For example, $100 is configured as stand-in limit then i2c will not allow transactions once approved transactions accumulative amount is reached $100 within down time of auth host. Accumulation is reset once auth host is up. Note : Stand-in limit works only incase, system of record is auth host.
6	i2c store decline / forced post notification to be sent to auth host in SAF (Store & Forward).
7	SAF mechanism will forward notifications to auth host.
8	Auth host generates a transaction request response (0x10/0x30) message and sends it to i2c.
9	Auth host generates a transaction request response (0x10/0x30) message and sends it to i2c after specified time. (Late response)
10	If auth host late response is successful, then i2c generates a reversal to auth host only if 5.2 case is executed at step 6.
11	The auth host generates reversal response (0X10/0X30) message and sends it to i2c.

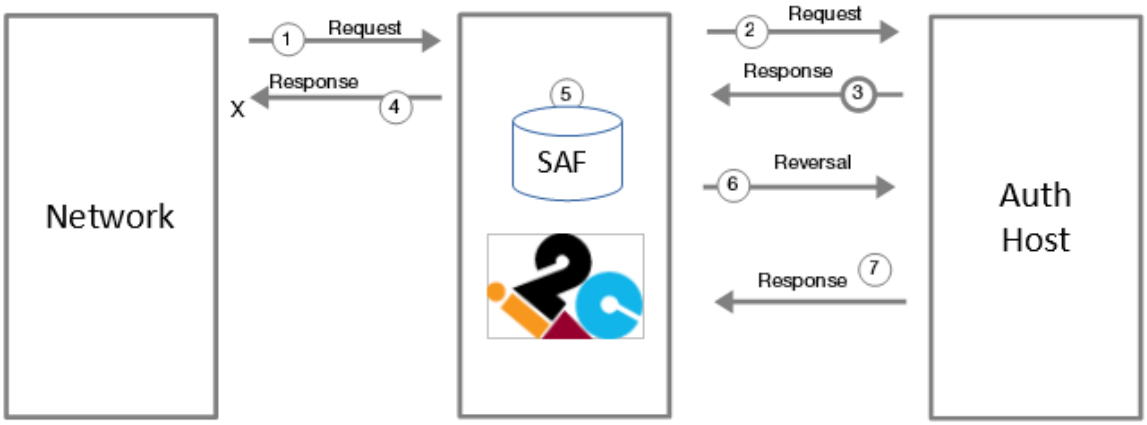
Post Processing Failure

Fail at i2c in Response to Network

If a transaction is successful in i2c in pre-processing, by auth host processor and in post-processing at i2c, but failed to send the response to the socket for network, then an auto reversal at i2c as well as initiate a reversal at the auth host processor side.

If a transaction is successful in i2c in pre-processing, by auth host processor and in post-processing at i2c, but the response sent to the switch was rejected with a format error, then the switch will send the reversal to i2c and a reversal will be initiated at i2c as well as at auth host processor.

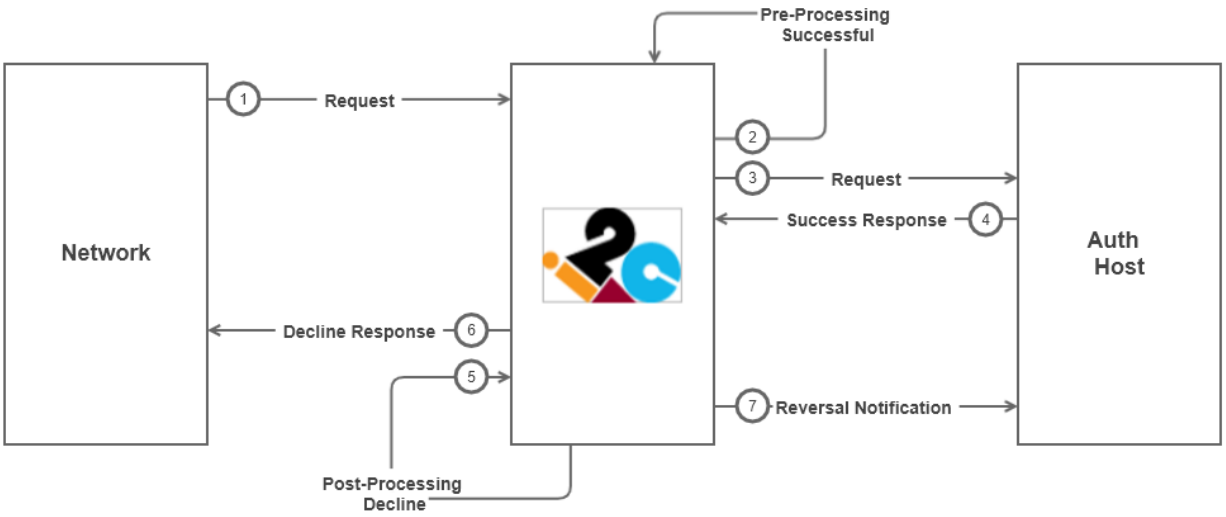
If a transaction is successful in i2c in pre-processing, by auth host processor and in post-processing at i2c, but the response sent to the switch was rejected due to timeout at i2c, then the switch will send the reversal to i2c and a reversal will be initiated at i2c as well as at auth host processor.



Step	Description
1	Network initiates a transaction request/(0xx0) message to i2c
2	i2c forwards the Financial Transaction Request message to the auth host
3	Auth host generates a success transaction request response(0X10/0X30) message and sends it to i2c.
4	i2c generates a response (0x10/0x30) message and sends it to network, but it cannot be delivered to network because of network communication failure or i2c decline in post processing.
5	i2c reverse transaction & store reversal to be sent to auth host in SAF.
6	SAF mechanism will forward reversal to auth host.
7	The auth host generates a transaction reversal response (0X10/0X30) message and sends it to i2c.

Fail at i2c due to business rules / services

Services that are executed after sending authorization request to auth host are called post processing services. For example, fraud and ADS services.



Step	Description
1	Network initiates a transaction request/(0xx0) message to i2c.
2,3	i2c forwards the Financial Transaction Request message to the auth host.
4	Auth host generates a success transaction request response(0X10/0X30) message and sends it to i2c.
5	Post processing is failed at i2c side due to services like (Fraud, ADS, …).
6	i2c generates a decline response (0x10/0x30) message and sends it to network.
7	i2c sends reverse notification to auth host to reverse the financial impact on its side.

Fail at i2c in Parsing Response

If some exception occurs in parsing the response message from the auth host, then this (non-forced post) transaction will be considered & processed as a timed-out transaction at the auth host. For forced post transaction, it will be looped in and resent to the auth host until a successful response is received from the auth host.

PART 4 – Data Elements Definition

Legends for Attributes Acronyms

Acronym	Description
n	Numeric digits only. For example, n 6 in DE-11: System Trace Audit Number indicates the data of fixed, definite length of 6 Numeric digits.
an	Alphabetic and Numeric characters only.
ns	Numeric and Special characters only.
ans	Alphabetic, Numeric and Special Characters.
x	Indicates a Debit or Credit. For example, x + n 8 in DE-28: Amount, Transaction Fee means prefix C or D and 8 digits of amount, transaction. C indicates Credit (a positive amount). D indicates Debit (a negative amount).
b	Data in Bytes (Binary String) Format.
LLVAR	Variable Length that follows from 01 – 99, appended at the start of the Data Element's value to identify the actual length of the value present. For example, n.. 19 in DE-2: Primary Account Number indicates variable length up to a maximum of 19 characters as its actual value may vary from 16 to 19 characters. NOTE: In LLVAR format, the length identified is the number of characters to read after the first 2 positions to get the data element's value.
LLLVAR	Variable Length that follows from 001 – 999, appended at the start of the Data Element's value to identify the actual length of the value present. For example, ans... 060 in DE-60: Advice Reason Code indicates variable length up to a maximum of 60 alphanumeric and special characters. NOTE: In LLLVAR format, the actual length is added in first 3 positions that gives number of characters to read after these positions to get the data element's value.

Data Elements Details

DE – 002 – PRIMARY ACCOUNT NUMBER

Format: LLVAR
Attributes: n..19
Description: A series of digits used to identify a customer account or relationship. This can be 16 to 19 digits card number or card reference number.
Note: *For Non-PCI Compliant auth-host, the card reference number will be sent instead of card number.*

DE – 003 – PROCESSING CODE

Attributes: an 6
Description: A series of digits used to describe the effect of a transaction on the customer account and identify the accounts affected.
Positions 1–2, Transaction Type: A 2-digit code identifying the customer transaction type, or the center function being processed.
Positions 3–4, Account Type (From): A 2-digit code identifying the cardholder account type affected for cardholder account debits and inquiries, and the "from" account type for cardholder account transfer transactions.
Positions 5–6, Account Type (To): A 2-digit code identifying the cardholder account type affected for cardholder account credits and the "to" account type for cardholder account transfer transactions.
Refer to the Processing Codes Table for a list of valid processing codes.

DE – 004 – AMOUNT, TRANSACTION

Attributes: n 12
Description: Funds requested by the cardholder in the local currency of the acquirer or source location of the transaction, exclusive of transaction fee amount.

DE – 005 – AMOUNT, SETTLEMENT

Attributes: n 12
Description: Funds to be transferred between the acquirer and issuer. This amount equals the transaction amount in the currency of settlement.

DE – 006 – AMOUNT, CARDHOLDER BILLING

Attributes: n 12
Description: The amount billed to the cardholder in the currency of the cardholder account, exclusive of cardholder billing fees. It will always contain the fee amount in addition to transaction amount in cardholder billing currency i.e. DE 51.

DE – 007 – TRANSMISSION DATE AND TIME

Attributes: n 10
Format: MMddhhmmss
Description: The date and time the message entered into the data interchange system. Greenwich Mean Time (GMT) can be used as timezone, forwarded data is unaltered

DE – 009 – CONVERSION RATE, SETTLEMENT

Attributes: n 8
Description: The factor used in the conversion from the transaction to settlement amount. The transaction amount is multiplied by the settlement conversion rate to determine the settlement amount.
This data element is in the format ABBBBBBB, where:
A = the decimal position from the right
B = the actual conversion factor

DE – 010 – CONVERSION RATE, CARDHOLDER BILLING

Attributes: n 8
Description: The factor used in the conversion from the transaction to cardholder billing amount. The transaction amount is multiplied by the cardholder billing conversion rate to determine the cardholder billing amount.
This data element is in the format ABBBBBBB, where:
A = the decimal position from the right
B = the actual conversion factor

DE – 011 – SYSTEM TRACE AUDIT NUMBER

Attributes: n 6
Description: A number assigned by the message initiator to uniquely identify a transaction. The trace number remains unchanged for all messages throughout the life of the transaction.
For Token Authorization Request, (MTI = 01xx and TAR Indicator = 1), this field is Conditional. See DE – 111, Additional Data Details for TAR indicator.

DE – 012 – TIME, LOCAL TRANSACTION

Attributes: n 6
Format: hhmmss
Description: The local time at which the transaction takes place at the point of the card acceptor location. This time must remain unchanged throughout the life of the transaction.

DE – 013 – DATE, LOCAL TRANSACTION

Attributes: n 4
Format: MMdd
Description: The local month and day on which the transaction takes place at the card acceptor location. This date must remain the same throughout the life of the transaction.

DE – 014 – DATE, EXPIRATION

Attributes: n 4
Format: yymm
Description: The year and month after which the card expires.

DE – 015 – DATE, SETTLEMENT

Attributes: n 4
Format: MMdd
Description: The month and day funds are transferred between the acquirer and issuer or any intermediate network facility.

DE – 018 – MERCHANT TYPE

Attributes: n 4
Description: The classification of the merchant's type of business product or service.
For Token OTP Notification Request, its value will be 7299 (Miscellaneous personal services—Not elsewhere classified). See Appendix F for OTP Notification Request Identification.

DE – 022 – POINT-OF-SERVICE ENTRY MODE CODE

Attributes: n 3
Description: Two numeric to indicate the method by which the primary account number was entered into the system and one numeric to indicate PIN entry capabilities.
Positions 1–2, PAN and Date Entry Mode: A 2-digit code that identifies the actual method used to enter the cardholder account number and card expiration date.
For Token OTP Notification Request, its value will be 01 (Manual key entry). See Appendix F for OTP Notification Request Identification.
Position 3, PIN Entry Capability: A 1-digit code that identifies the capability of terminal to capture PINs. This code does not necessarily mean that a PIN was entered or is included in this message. Refer to POS Entry Mode Codes Table for the complete list of valid codes.

DE – 023 – PAN SEQUENCE NUMBER

Attributes: n 3

Description: DE 23 (Card Sequence Number) distinguishes among separate cards having the same PAN or DE 34 (Primary Account Number [PAN] Extended). Issuers mayencode chip cards with Card Sequence Numbers. Acquirers with chip-reading capability may pass this information encoded on the chip in DE 23 of Financial Transaction/0200 messages.

Values:

Valid values for Card Sequence Number are in the range 000–099.

DE – 025 – POINT-OF-SERVICE CONDITION CODE

Attributes: n 2
Description: An identification of the condition under which the transaction takes place at the point-of-service.
For Token OTP Notification Request, its value will be 66 (E-commerce request through public network). See Appendix F for OTP Notification Request Identification.
Refer to POS Condition Codes Table for the complete list of valid codes.

DE – 026 – POINT-OF-SERVICE PIN CAPTURE CODE

Attributes: n 2
Description: A code indicating the technique and/or maximum number of PIN characters accepted by the point-of-service device used to construct the PIN data.
Refer to POS PIN Capture Codes Table for the complete list of valid codes.

DE – 028 – AMOUNT, TRANSACTION FEE

Attributes: x + n 8
Description: The fee charged (for example, by the acquirer) for transaction activity in the currency of the transaction amount. This fee can be a surcharge, rebate, or transaction fee.
Transaction fee must be represented in numeric 8 digits while the x represents the Credit or Debit sign where,
C = Credit amount
D or 0 = Debit amount

DE – 029 – AMOUNT SETTLEMENT FEE

Attributes: x + n 8
Description: The fee transferred between the acquirer and the issuer equal to the transaction fee amount in the currency of the settlement amount. This amount must be the same value in the response as in the request. The value is a debit for a fee and a credit for a rebate.
Settlement fee must be represented in numeric 8 digits while the x represents the Credit or Debit sign where,
C = Credit amount
D or 0 = Debit amount

DE – 032 – ACQUIRING INSTITUTION IDENTIFICATION CODE

Format: LLVAR
Attributes: n 11
Description: A code identifying the acquiring institution (for example, merchant bank) or its agent. This can be any uniquely identifying number agreed upon by the network.
For Token OTP Notification Request, its value will be 746922. See Appendix F for OTP Notification Request Identification.

DE – 033 – FORWARDING INSTITUTION IDENTIFICATION CODE

Format: LLVAR
Attributes: n… 11
Description: DE 33 (Forwarding Institution Identification Code) identifies the institution forwarding a Request or Advice message in an interchange system if not the same institution as specified in the DE 32 (Acquiring Institution Identification Code).

DE – 037 – RETRIEVAL REFERENCE NUMBER

Attributes: an 12
Description: This field contains a number that is used with other data elements as a key to identify and track all messages related to a given cardholder transaction; that is, to a given transaction set. For x8xx messages, retrieval reference number can be generated using following format:

Position	Data
1-4	The yddd equivalent of the field 7 date
5-6	The hours from the time in field 7
7-12	The value from field 11

DE – 038 – AUTHORIZATION IDENTIFICATION RESPONSE

Attributes: an 6
Description: Field 38 contains the authorization code provided by the issuer when a transaction is approved or a “no reason to decline” code provided for successful verification.

DE – 039 – RESPONSE CODE

Attributes: an 2
Description: A code that defines the disposition of a message. When the response code is 30, then Additional Response Data (bit 044) contains the bit number in error.
Refer to Response Codes Table for the complete list of valid codes.

DE – 041 – CARD ACCEPTOR TERMINAL IDENTIFICATION

Attributes: an 8
Description: A unique code identifying a terminal at the card acceptor location.
For Token OTP Notification Request, its value will be 11111111. See Appendix F for OTP Notification Request Identification.

DE – 042 – CARD ACCEPTOR IDENTIFICATION CODE

Attributes: an 15
Description: A code identifying the card acceptor that defines the point of the transaction in both local and interchange environments.

For Token OTP Notification Request, its value will be 111111111111111. See Appendix F for OTP Notification Request Identification.

DE – 043 – CARD ACCEPTOR NAME/LOCATION

Usage: Usage 1: For existing clients; Usage 2: For new clients
Attributes: an 43 (Usage 1); an 70 (Usage 2)
Description: This field contains the name and location of the card acceptor (merchant), including the city name, state and country code.

For details, please refer to DE – 43 – Card Acceptor Name/Location.

DE – 048 – ADDITIONAL PROCESSING DATA

Format: LLLVAR
Attributes: ans... 255
Description: This data element is reserved for communicating the results of i2c processing for example Issuer Script Command sent in case of EMV transactions or any other processing data. This field is applicable for x1xx, x2xx & x4xx transactions.
For details of sub-fields, please refer to DE – 48, Additional Processing Details.

DE – 049 – CURRENCY CODE, TRANSACTION

Attributes: n 3
Description: The local currency of the acquirer or source location of the transaction. Currency used in transaction amount and transaction fee amount.
For Token Authorization Request, (MTI = 01xx and TAR Indicator = 1), this field is Conditional. See DE – 111, Additional Data Details for TAR indicator.

DE – 050 – CURRENCY CODE, SETTLEMENT

Attributes: n 3
Description: A code defining the currency of the settlement amount and the settlement fee amount.

DE – 051 – CURRENCY CODE, CARDHOLDER BILLING

Attributes: n 3
Description: A code defining the currency of the cardholder billing amount and the cardholder billing fee amount.

DE – 054 – ADDITIONAL AMOUNTS

Format: LLLVAR
Attributes: ans... 120

Description: This field contains additional amounts like additional fees, card balances, etc. which applies to the transaction.
The field will be formatted in chunks of 20 bytes each, where chunk represents one amount to be communicated. This means maximum of 6 amounts can be communicated in this field. Each chunk (20-bytes) will be formatted as follows:
Positions 1–2, Account Type: This 2-digit code (field 54.1) identifies the account type.
Positions 3–4, Amount Type: This 2-digit code (field 54.2) describes the use of the amount.
Positions 5–7, Currency Code: This 3-digit code (field 54.3) defines the currency used in positions 9–20.
Position 8, Amount, Sign: This 1-digit code (field 54.4) defines the value of the amount as either positive or negative, where C = Positive balance & D = Negative balance.
Positions 9–20, Amount: This 12-character amount (field 54.5) is right-justified and contains leading zeros. The amount also includes an implied decimal relative to the currency code specified in positions 5–7.

Refer to Additional Amounts Codes Table for the complete list of valid account / amount types.

Refer to Additional Amounts Business Use Cases table.

DE – 057 – AUTHORIZATION LIFE CYCLE

Format: LLLVAR
Attributes: an 003
Description: The ANSI X9.2-1988 standard defines this data element as the Authorization Life Cycle, a value in calendar days, hours, or minutes that identifies the time for which an acquirer is requesting guarantee of funds.
This data element is subdivided into the following two sub-elements:
Position 1, Life Cycle Indicator (n 1): It indicates the type of time interval in effect for a pre-authorization. Possible values are:
1 = Calendar days
2 = Hours
3 = Minutes
Position 2-3, Life cycle (n 2): It is the time interval in effect for a pre-authorization.

DE – 059 – GEOGRAPHIC DATA

Format: LLLVAR
Attribute: ans… 018
Description: This field contains geographic information about POS location

Position	Attribute	Description
1-10	ans 10	Merchant Postal code

11-18	ans 18	Reserved for future

DE – 061 – POINT-OF-SERVICE (POS) DATA

Format: LLLVAR
Attributes: ans... 019
Description: The ANSI X9.2-1988 standard defines this data element as the National Point-Of-Service Condition Code, a series of codes intended to identify terminal class, presentation data, and security condition.
Refer to Point-of-Service (POS) Data Table for the complete list of valid i2c POS Codes.

DE – 063 – NETWORK DATA

Format: LLLVAR
Attributes: ans... 070
Description: DE 63 (Network Data) is generated by the Authorization Platform for each originating message routed through the network. The receiver must retain the data element and use it in any response or acknowledgment message associated with the originating message. The Sub-Fields of DE-63 are as follows:

Position	Attribute	Description
1-4	an 4	Acquirer Network ID
5-8	an 4	Issuer Network ID
9-24	an 16	Transaction Identifier/Access Transaction Sequence Number
25-33	an 9	Bank Net Reference Number
34	an 1	Interchange Rate Indicator
35-58	n 24	Acquirer Reference Number
59-70	an 12	Network Type

Note: All sub-fields are right justified space filled. If data in any of the sub-field is not present, it must be space filled.
For Token Authorization Request, (MTI = 01xx and TAR Indicator = 1), this field is Conditional. See DE – 111, Additional Data Details for TAR indicator.

DE – 065 – SECONDARY BITMAP DATA

Attributes: b 64
Description: A series of 64 bits used to identify the presence (denoted by 1) or absence (denoted by a 0) of data elements 66 through 128.

DE – 070 – NETWORK MANAGEMENT INFORMATION CODE

Attributes: n 3

Description: Used to identify network status.

Code	Description
081	Sign On Code
082	Sign Off Code
301	Echo/Health Check Code

DE – 080 – DISPUTE ACTION INFORMATION

Format: LLLVAR

Attributes: ans... 999

This is a field is setup in Tag, Length, Value (TLV) format which contain information about the Dispute Actions transactions. It contains multiple tags. The description for each of the tag is given below:

Tag	Length	Value	Format	Content
'01'	'02'	Dispute Trans ID	N	It is a unique identifier in our system against a dispute.
'02'	'02'	Dispute Amount	N	The claimed dispute Amount by Card holder.
'03'	'02'	Credit Type	AN	This is applicable only for the Credit transactions. This tag will not be available for debit transactions. Credit Type Possible value are: • Admin Credit: Administratively Credit is given to Cardholder. • Network: Network has accepted the claim and send the charge-back. None: where settlement of funds is already completed between merchant and card holder.
'04'	'02'	Agent ID	AN	The ID of the chargeback analyst.
'05'	'02'	Decline Reasons	AN	The reasons on the basis of which the claim does not fulfills. The tag will contain the comma separated list of reason ids. Details against each ID can be seen in Data Element 80 Dispute Action Information Tag 05 Decline Reasons.
'06'	'02'	CH Loss Date	Date	The date on which cardholder faces the loss. [YYYYMMDD]

DE – 090 – ORIGINAL DATA ELEMENTS

Usages: Usage 1: For existing clients; Usage 2: For new clients
Attributes: n 42 (Usage 1); n 44 (Usage 2)
Description: DE 90 (Original Data Elements) are data elements contained in an original message that may identify a transaction for correction or reversal. Below is detail for field sub elements:

**Usage-1 Details (For existing clients):

Position	Type	Element
1 – 4	n - 4	Message Type Identifier
5 - 10	n - 6	System trace audit no
11 – 20	n - 10	Transmission date time
21 - 31	n – 11	Acquirer Institution Id
32 - 42	n - 11	Forwarding Institution ID Code

**Usage-2 Details (For existing clients):

Position	Type	Element
1 – 4	n - 4	Message Type Identifier
5 - 10	n - 6	System trace audit no
11 – 22	n - 12	Transmission date time
23 - 33	n – 11	Acquirer Institution Id
34 - 44	n - 11	Forwarding Institution ID Code

DE – 102 – ACCOUNT IDENTIFICATION 1

Format: LLVAR
Attributes: ans.. 28
Description: A series of digits used to identify a customer account or relationship Id.
Account identification 1 identifies the account involved for a single account transaction. In the case of transfers, Account Identification 1 identifies the From account in a transaction.

DE – 108 – RECEIVER/SENDER DATA

Format: LLLVAR

Attributes: ans... 999

When DE-63.7 = 'VISA': DE 108 (Additional Transaction Reference Data) provides the capability for the acquirers to send sender data required in 0200 and 0100 original credit transactions.

Refer to details for the complete list of sender data fields with sub elements.

When DE-63.7 = 'MASTERCARD': DE 108 (Additional Transaction Reference Data) provides the capability for the acquirers to send sender, receiver, and transaction level data to the issuer in funding transfer transactions and MoneySend payment transactions. DE 108 provides the

capability to acquirers to send to the issuer data for Mastercard™ Merchant Presented QR payment transactions and Mastercard Merchant Presented QR funding transactions.

Sub Element	Length Field	Representation	Element
01	3	ans...322; LLLVAR	Receiver Data
02	3	ans...322; LLLVAR	Sender Data
03	3	ans...138; LLLVAR	Transaction reference Data
04	3	ans...61; LLLVAR	Language Description
05	3	ans...99; LLLVAR	Digital Account Info
06	3	ans...237; LLLVAR	QR Dynamic Code Data

DE – 109 – ADVICE REASON CODE

Format: LLLVAR, Fixed Format
Attributes: ans 999
This data element is reserved by ISO for private definition and use. i2c defines this data element as Additional Data, which contains additional information for Visa®, MasterCard®, FIS®, Discover®, and Fiserv format.

This contains data in fixed length sub-fields. The number and contents of sub-fields varies according to different networks, based on the value of DE-63.7 (Network Type).

Refer to Advice Reason Code for the complete list of network specific additional data fields for Fixed Format.

DE – 110 – MINI STATEMENT DATA

Format: LLLVAR
Attributes: an 360
Description: This field is required in responses (0110/0210) of 0100/0200 ATM Mini Statement requests.
Issuers that choose to support the new mini statement requests, must be able to receive the new transaction type value 34 (ATM Mini Statement) carried in existing Field 3, positions 1–2 and must be able to send Field 110 in the 0110/0210 responses.

The field will be formatted just like Field-54 where data of each transaction will be formatted in a chunk of 36-bytes. This means maximum of 10 transactions (i.e. 10 chunks of 36 bytes each) can be communicated in this field.
Each chunk (36-bytes) will be formatted as follows:
Positions 1–8 will contain an 8-digit transaction date in yyyymmdd format.

Positions 9–23 will contain a 15-character alphanumeric transaction description that is left-justified with trailing spaces.
Position 24 will contain a 1-digit code prefix that defines whether the transaction amount is credit or debit, where, C (Credit) & D (Debit).
Positions 25–36 will contain a 12-character amount that is right-justified and contains leading zeros. The amount also includes an implied decimal relative to the cardholder billing currency code.

DE – 111 – ADDITIONAL DATA

Format: LLLVAR, Fixed Format
Attributes: ans... 999
Description: This data element is reserved by ISO for private definition and use. i2c defines this data element as *Additional Data*, which contains additional information for Visa®, MasterCard®, FIS® , Discover® , Star®, UnionPay®, and Fiserv format.
This contains data in fixed length sub-fields. The number and contents of sub-fields varies according to different networks, based on the value of DE-63.7 (Network Type).

- Sub Field/s for Token Authorization Request (TAR 0100)
- Token Authorization Request (TAR) Indicator
- Sub Field/s for Token Financial Transactions (01XX, 02XX,04XX)
- Token Device Id
- Token Device No
- Token Device Name
- Token Device Type
- Token ID
- Token Type
- Token Status
- Sub Field/s for Token OTP Request (0100)
    - Token OTP Code
    - Token OTP Expiry Date Time
- Sub Field/s for Token PAN Management (0302)
    - Replacement PAN
    - Replacement PAN Expiration Date
- Sub Field/s for Token Life Cycle (0620)
    - Token Notification Type

Refer to Additional Data Table for the complete list of network specific additional data fields for Fixed Format.

DE – 123 – VERIFICATION DATA

Format: LLLVAR
Attributes: ans... 255
Description: It is an i2c-defined private-use field that contains information used for certain types of verification data, including selected portions of the cardholder's postal code and street address. All merchants whose acquirers subscribe to the i2c Address Verification Service may request postal code and street address verification for a cardholder.
The field has two sub-fields which are described below:

Position	Data	Description
1-9	Postal code	This value is the 5-digit postal code (left-justified with 4 positions of right-space-fill), or 9-digit postal code.
10-29	Cardholder street address	This sub-field contains up to 20 characters of street address. The acquirer converts spelled-out numbers to digits, left-justified with right space-fill.

DE – 125 – SUPPORTING INFORMATION

Format: LLLVAR, BER-TLV Format for Visa (DE-63.7 = VISA)
LLLVAR, Fixed Format for MasterCard (DE-63.7 = MASTERCARD)
Attributes: ans 999
Description: It is an i2c-defined private-use field that contains supporting information used for certain types of transactions, including Token Authorization Transactions (TAR) and Administrative Advice Messages. All merchants whose acquirers subscribe to the i2c Tokenization Service may request supporting information of a transaction.
Refer to Supporting Information Table for the complete list of data fields for BER-TLV and Fixed Format.

BER-TLV Format for Visa

For VISA, this field allows for multiple data-sets in TLV format. Each data-set can have multiple TLV sub-fields. The format is shown below:

	Positions: 1	2–3	4 - 999
Subfield 1: length	Subfield 2: dataset ID	Subfield 3: dataset length	Subfield 4: TLV elements
			
Byte 1	Byte 2	Bytes 3–4	Bytes 5 - 999

In the Basic Encoding Rules (BER), the Tag-Length-Value (TLV) format is an ISO convention that treats field content as data-sets.

Length Sub-field: This one-byte binary sub-field contains the number of bytes following the length sub-field. The maximum value is 255.

Position 1, Dataset ID: This one-byte binary sub-field contains a hexadecimal value that identifies the TLV data that follows. Following are the valid values:

Dataset Value Hex 68, Token Data

Dataset Value Hex 01, Token Device

Dataset Value Hex 02, Wallet Provider

Dataset Value Hex 40, Terms and Conditions

Positions 2–3, Dataset Length: This 2-byte binary sub-field specifies the total length of the TLV fields present in the dataset. The length is variable, depending on the data that follows.

Positions 4–999, TLV Elements: Each sub-field of a dataset has a defined tag, length, and value. The tag is used in conjunction with the dataset ID value. The dataset sub-fields can be present in any order with other TLV sub-fields.

PART 5 – Appendices

Appendix A – Message Matching Criteria

Matching Criteria for Clearing Message with Corresponding Authorization (01xx with 022x Matching)

Criteria #	Message Type	Criteria Fields
1	0100/0220	DE-002, Transaction Identifier
2	0100/0220	DE-002, DE-038
3	0100/0220	DE-002, DE-037
4	0100/0220	DE-002, DE-111.31

Matching Criteria for Reversal Message with Corresponding Original Message (01xx/02xx with 042x Matching)

Criteria #	Message Type	Criteria Fields
1	0420	DE-002, Transaction Identifier
2	0420	DE-002, DE-011, DE-012, DE-032 and DE-037
3	0420	DE-002, DE-011, DE-032 and DE-037
4	0420	DE-002, Banknet Reference No.
5	0420	DE-002, DE-038

Transaction Identifier: A number which remains unique throughout a transaction life cycle. The value is received in DE63.3 (Transaction Identifier) DE111.7 (for MASTERCARD)

Appendix B – Authorization Expiration Time

In authorization (01xx), funds are held for a configurable time period.
Possible configuration can be:

- Auth Expiry Days for Electronic PAN entry Mode
- Auth Expiry Days for Manual PAN entry Mode
- Auth Expiry Days according to Merchant Cat Code

If a particular authorization (01xx) is not settled by merchant within time, then funds are released, and a reversal will be sent to the auth host by i2c for this authorization.

Appendix C – Data Elements Detailed Definitions

Data Element 003 – Processing Codes Table

Positions 1–2: Transaction Type	
Code	**Definition**
00	Purchase
01	Withdrawal
02	Debit Adjustment
03	Guarantee with Conversion (POS Check Service) (Future Use)
04	Verification with Conversion (POS Check Service) (Future Use)
06	Traveler Check
09	Purchase with Cash Back
10	Account Funding
11	Quasi-Cash Transaction–Debit or Internet Gambling Transaction
13	Funds Withdrawal for Electronic Purse / Address Verification with a goods or services Authorization for Recurring Billing (Recurring Payments)
14	Recurring Billing (Recurring Payments) – goods or services
15	Installment Payment – goods or Services
17	Cash Disbursement
18	Deferred Goods and Services / Scrip Issue / Conversion Only (POS Check Service) / Card Account Verification
19	Debit Fee Collection / Deferred Goods and Services With Cash Disbursement
20	Credit Return (of goods) / Credit Transaction / Credit Voucher or Merchandise / Return Authorization (U.S. Only) / Purchase Return/Refund
21	Deposit
22	Credit Adjustment
23	Check Deposit Guarantee
24	Check Deposit
25	Envelope-less Cash Deposit
26	Original Credit
28	Prepaid Activation and Load Prepaid Load / Payment Transaction
29	Credit Funds Disbursement / Primary Credit
30	Available Funds Inquiry / Commercial Deposit
31	Balance Inquiry
33	Account Updater Code / Account Verification (Future Use)
34	ATM Mini Statement

39	Eligibility Inquiry / Generic Balance Inquiry (Future Use)
40	Cardholder Account Transfer
50	Bill Payment / Payment to Another Party
53	Payment (U.S. only)
54	Payment Debit (P2P)
55	Payment from Third Party
56	Payment Credit (P2P)
58	Payment from Account to Credit/Loan
59	Payment Enclosed
72	Prepaid Activation
91	PIN Unblock
92	PIN Change
PV	PV Credit Transaction
PD	PV Debit Transaction
CB	CHARGEBACK CREDIT
Q2	SPECIAL CREDIT 2

Positions 3–4: Account Type (From)

Code	Definition
00	Default Account (Not specified or Not applicable)
10	Savings Account
20	Checking Account
30	Credit Card Account
38	Credit Line Account
39	Corporate Account
40	Universal Account
50	Money Market Investment Account
60	Stored Value /Prepaid account
90	Revolving Loan Account
35	Deferred debit account
36	Charge account

Positions 5–6: Account Type (To)	
Code	**Definition**
00	Default Account (Not specified or Not applicable)
10	Savings Account
20	Checking Account
30	Credit Card Account
38	Credit Line Account
40	Universal Account
50	Money Market Investment Account
58	IRA Investment Account
90	Revolving Loan Account
91	Installment Loan Account
92	Real Estate Loan Account

Data Element 022 – POS Entry Mode Codes Table

Position 1–2: PAN and Date Entry Mode	
Code	**Definition**
00	Unspecified
01	Manual
02	Magnetic stripe
03	Bar code / Consumer-presented QRC, chip information excluded
04	OCR / Consumer-presented QR Code (QRC), chip information included
05	Integrated circuit card
06	Manual (key-entered)
07	Contact-less via Chip rules
08	Reserved for ISO use
09	PAN entry via electronic commerce, including remote chip

10	From file
11	Full magnetic stripe read (optionally supported)
12	Contactless via magnetic stripe rules
13	Integrated circuit card, CVV data may be unreliable
14	PAN auto-entry via chip PayPass mapping
15	Contactless M/Chip PayPass Mapping
16	PAN manual entry via e-commerce
17	Contactless input PayPass Mapping Service
18	Store-and-forward
19	MICR Reader (POS Check Service); U.S. Only
20	Store-and-forward resubmission
21	Electronic Commerce
22	Radio Frequency Identification Indicator
23	Mobile Commerce (mCommerce)
24	Voice Authorizations
25	Voice Response Unit (VRU)
26	Batch Authorizations
27	Batch Authorization Cash Access
28	Biometrics
29	Credentials on File
30-60	Reserved for ISO use
61-78	Reserved for national use
79	Chip card or chip-capable terminal was unable to process the transaction using the data on the chip or magnetic stripe, the PAN was entered manually, or the Acquirer is not certified to process the value 80.
80	Chip card or chip-capable terminal was unable to process the transaction using the data on the chip, the PAN was entered via magnetic stripe. The full track data was read from the data encoded on the card and transmitted within the authorization request on Track-2 Data (DE 35) or Track-1 Data (DE 45) without alteration or truncation.

81-89	Reserved for private use
90	PAN auto-entry via magnetic stripe—the full track data has been read from the data encoded on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation.
91	PAN auto-entry via contact-less magnetic stripe—the full track data has been read from the data on the card and transmitted within the authorization request in DE 35 (Track 2 Data) or DE 45 (Track 1 Data) without alteration or truncation.
92	PAN Auto Entry via Server (issuer, acquirer, or third-party vendor system)
93	Merchant-presented QR code, chip information included
94	Merchant-presented QR code, chip information excluded
95	Visa only. Chip card with unreliable Card Verification Value (CVV) data.
96-99	Reserved for private use

Position 3: PIN Entry Capability	
Code	**Definition**
0	Unspecified
1	PIN entry capability
2	No PIN entry capability
3	Terminal has PIN entry capability, but PIN pad is out of service
4-5	Reserved for ISO use
6	PIN pad inoperative
7	Reserved for national use
8	Reserved for private use
9	PIN verified by terminal device

Data Element 025 – POS Condition Codes Table

Data Element 025 – Point-of-Service Condition Codes	
Code	**Definition**
00	Normal presentment

01	Customer not present
02	ATM Transactions
03	Merchant suspicious
04	Electronic card register interface
05	Customer present, card not present
06	Pre-Authorized request
07	Telephone device/mobile phone request
08	Mail and/or telephone order
09	Security alert
10	Customer identity verified
11	Suspected fraud
12	Security reasons
15	Customer terminal (home terminal)
16	Administration terminal
17	Chargeback (validation request or advice)
27	Unattended terminal unable to retain card
28-39	Reserved for ISO use
40	Customer not present, standing order/recurring payment
41-50	Reserved for national use
51	Point of Sale (POS)
52	CVV verified and valid
53	CVV verified and invalid
54	Non-Secure/Security unknown electronic commerce transaction
55	Secure electronic transaction with cardholder certificate
56	Secure electronic transaction without cardholder certificate
57	Channel-encrypted electronic commerce transaction
58	Secure electronic transaction containing a digital signature

59	Deferred billing
60	Internet PIN debit transaction
61	Reserved for private use
62	Account Verification w/o Auth; product eligibility inquiry without authorization
63	POS Check original full financial transaction or adjustment;
64	Chargeback reversal
65	Request for telecode verification without authorization
66	Electronic commerce request by public network
67-70	Reserved for private use
71	Card present, magnetic stripe cannot be read (key-entered)
72	Unattended terminal able to retain card
73-99	Reserved for private use

Data Element 026 – POS PIN Capture Codes Table

Data Element 026 – Point-of-Service PIN Capture Codes	
Code	**Definition**
00-04	Invalid
05-12	Indicates the maximum number of PIN characters that the terminal can accept
13-99	Reserved

Data Element 039 – Response Codes Table

Data Element 039 – Response Codes	
Code	**Definition**
00	Approved
01	Refer to Card Issuer
02	Refer to Card Issuer, Special Condition
03	Invalid Merchant
04	Lost/Stolen Card
05	Do not Honor
06	Error

07	Pick-up Card, Special Condition
08	Honor with Identification
10	Approved – Partial Amount
12	Invalid Transaction
13	Invalid Amount
14	Invalid Card Number
15	Invalid Issuer
17	Customer Cancellation, Reversal
27	Issuer File Update Field Edit Error
30	Format Error
31	Bank Not Supported by Switch (Future Use)
32	Partial Reversal
33	Expired Card, Pick-up
34	Suspect Fraud
39	No Credit Account (Future Use)
40	Requested Function Not Supported
41	Lost Card Not Captured
42	No universal account
43	Stolen Card, Pick-up
51	Insufficient Funds
52	No Checking Account (Future Use)
53	No Savings Account (Future Use)
54	Expired Card
55	Invalid PIN
56	No Card Account
57	Transaction not Permitted to Cardholder
58	Transaction not Permitted to Acquirer/Terminal
59	Suspected Fraud
61	Exceeds Withdrawal Amount Limit
62	Restricted Card
63	Decline Error in Decryption of PIN Block / Security Violation
64	Original Amount Incorrect, Reversal
65	Exceeds Withdrawal Frequency Limit
68	Response Received Late

70	Invalid Transaction; Contact Card Issuer
71	PIN Change Decline
75	Allowed Number of PIN Tries Exceeded
76	Invalid/Nonexistent “To” Account Specified (Future Use)
77	Invalid/Nonexistent “From” Account Specified (Future Use)
78	Invalid/Nonexistent Account Specified (General) (Future Use)
79	Key Exchange Validation Failed
80	System not Available (Future Use)
81	Invalid Transaction (PIN Block Format Error)
82	Time Out Issuer
84	Invalid Authorization Life Cycle
85	Approved – Account Verification
86	PIN Validation Not Possible or Invalid PVK/ZPK/Offset/PVV
87	Approved – Purchase Only
88	Invalid Transaction (CVC1/CVV2/CID/iCVV Format Error)
89	Bad CVC1/iCVV/Expiry Date
91	Issuer or Switch Inoperative
92	Unable to Route Transaction
93	Transaction Cannot be Completed
94	Duplicate Transmission
96	Refer to Card Issuer / System Error
97	Already Activated Card
99	Approve Transaction in Super Green Path
AT	Auth-Host Timed Out
CD	Cryptogram Decline
CN	Invalid Currency
DN	Duplicate Record Found Against Name and DOB / Auth-Host Down
EX	Status inquiry / Account Verification declined due to invalid Card Expiry
E7	Bad CVV2/CID/Expiry Date
GA	General AVS Decline
GC	General Card Decline
GV	General CVV2 Decline
PA	Card is Pre-Active
PF	Purse Found with Invalid Status

PI	PIN Change Fail Invalid Data
PL	Bad PIN (Invalid PIN Block Length)
SA	Inactive Card
SD	Account Closed
SX	Status inquiry / Account Verification declined due to invalid Card Status
TM	Card Technology Mismatch
TR	Token Provisioning / Authorization Request declined with Red Path
X1	Bad AVS
1A	Strong Customer Authentication Required
AI	ATC Validation Failed (Authorization Host must set response code AI in case of ATC validation failure at authorization host side)
X6	Valid account but amount not supported

**For any forced post message 0x2x, auth host must respond with approved response code i.e. “00”

Data Element 043 – Card Acceptor Name/Location

**Usage-1 Details (For existing clients):

Sub Elements of DE-43 – Card Acceptor Name/Location (Usage-1)

Sub Field No.	Field Name	Description	Position	Format (ASCII)
43.1	Address	Merchant’s Street Address	1-25	25 AN
43.2	City	Merchant’s City Name	26-38	13 AN
43.3	State	Merchant’s State	39-40	2 AN
43.4	Country	Merchant’s Country Code	41-43	3 AN

**Usage-2 Details (For new clients):

Sub Elements of DE-43 – Card Acceptor Name/Location (Usage-2)

Sub Field No.	Field Name	Description	Position	Format (ASCII)
43.1	Address	Merchant’s Street Address	1-25	25 AN

43.2	City	Merchant's City Name	26-40	15 AN
43.3	State	Merchant's State	41-42	2 AN
43.4	Country	Merchant's Country Code	43-45	3 AN
43.5	Card Acceptor Name	Merchant's Name	46-70	25 AN

** Note: In case of Usage-2, Card Acceptor Name will be sent to Auth-Host if only received from network as mostly it is sent by network in Address field (43.1). In this case, field-43.5 will consist of ALL spaces. Currently, it is only supported by FISERV.

Data Element 048 – Additional Processing Data

Sub Elements of DE-48 – Additional Processing Data

Sub Field No.	Field Name	Description	Position	Format (ASCII)
48.1	EMV – Issuer Script Command Identifiers	The identifiers of the Issuer Script Commands sent in the response as a result of EMV processing. Below are the supported Script Command Identifiers: • **01** – PIN Change • **02** – PIN Unblock The field will be left-justified space-filled. If multiple script commands are sent in a transaction, this field will contain all script commands identifiers. For example, if both PIN Change (01) & PIN Unblock (02) scripts are sent, this sub-field will be formatted as: '0102 '.	1-12	12 AN
48.2	EMV – Result of Issuer Script Commands sent in Previous Transaction	The status of the EMV Issuer Script Commands sent in the previous transaction. It will tell that whether the issuer script sent in response was successfully executed on the card or not. Possible values are: • **(space)** – Pending • **P** – Passed • **F** – Failed	13	1 AN
48.3	Transaction Processing Indicator	The indicator which described the purpose or type of processing performed on a transaction. The field is a 2 byte alphanumeric which can hold below list of possible values: • **PC** – The indicator identifies a Pending Credit Financial Advice (0220). The credit will be posted to the card account against the credit authorization. • **HC** – The indicator represents a debit authorization advice (0120) which is to hold the credit given in 0220 credit financial advice.	14-15	2 AN
48.4	Card Status Validation Result Code	This field will identify the result of the Card Status Validation Service. Refer to the table below for the possible result code values.	16	1 AN

48.5	Card Expiry Validation Result Code	This field will describe the result of the Card Expiry Validation Service. Possible result code values are: • 1 – Expired Card	17	1 N
48.6	Card Balance Indicator	This field will indicate the state of the card balance (in case of insufficient funds). Possible result code values are: • 0 – Card has zero balance • 1 – Card has positive balance • 2 – Card has negative balance	18	1 N
48.7	Message Reason Code	This field is used in reversals (04xx) to indicate the response code of original transaction. This code will be used in reversals initiated by i2c as a result of processing failure of authorizations which are already approved by the Authorization Host. The key possible values includes: **03** – Invalid merchant **05** – System malfunction **57** – Transaction not permitted to cardholder **59** – Suspected Fraud / Limits Violation Other possible values may include all values of Field 39.	19-20	2 AN
48.8	Application Transaction Counter (ATC)	It will contain 5 digit ATC value. Default Value 00000.	21-25	5 N
48.9	Process Mode	It will contain process mode. Possible Values: • SMS • DMS • AXS (Represents STAR Access network)	26-28	3 AN
48.10	Expire Pre Auth Reversal Message Indicator.	This will only applicable for Reversal messages x4xx. Possible values: • Y • N Value Y represent that the respective x4xx is the reversal messages of Pre Authorization transaction automatically generated by i2c System to expire the authorization for which no clearing / completion message receive from network after N number of configured days.	29-33	1 N

Card Status Result Codes	
Card Status	**Result Code**
Already Active Card	1
Pick Up – No Fraud	2
Pick Up – Fraud Account	3
Restricted Card	4
Lost Card	5
Stolen Card	6
Inactive Card	7
Suspected Card	8
Pre-active Card	9
Closed Card	A

Data Element 054 – Additional Amounts Codes Table

Data Element 054 – Positions 1–2: Account Type	
Code	**Definition**
00	Not Specified or Default Account
10	Savings Account
20	Checking Account
30	Credit Card Account
40	Universal Account

Data Element 054 – Positions 3–4: Amount Type	
Code	**Definition**
00	Unknown
01	Ledger Balance
02	Available Balance
03	Amount Owing
04	Amount Due
05	Account Available Credit
06	Amount Currency Conversion Assessment
07	Over Limit Fee

08	Over Payment Fee
10	Healthcare Eligibility Amount
11	Prescription Eligibility Amount
16	Credit Line
17	Prepaid Online Bill Pay Fee Amount or POS balance/ATM overdraft protection balance
18	Beginning Balance
20	Amount Remaining this Cycle
40	Amount Cash Back
41	Amount Goods and Services
42	Amount Surcharge
44	Amount, anticipated
56	Hold Amount
57	Original Amount or Pre-Authorized Amount
58	Authorized Amount (StarAccess)
59	Floor Limit
72	Fee Amount: Added in Card-Holder Billing Amount i.e. DE 06.
80	Co-pay Amount
90	Available Credit or Check Amount
91	Credit Limit or Original amount/Tip or Gratuity for Service
93	Cash Deposit Amount
94	Check Deposit Amount
95	Foreign Exchange Fee
96	Merchant Local Currency/Cash Benefit Amount
98	Courtesy Amount
99	Original Cash Back Amount
73	Interchange Fee
43	Total Authorization Amount (in case of Incremental Authorization total accumulative amount)
46	ATM Excess Usage Fee
47	Currency Conversion Excess Usage Fee

Data Element 061 – Point-of-Service Data Codes Table

Data Element 061 – Position 1 (Attendance Indicator)	
Code	**Definition**
0	Attended
1	Unattended
2	No terminal used (voice/audio response unit [ARU] authorization)
9	Unknown/data not available
R	Reserved for National or Private Use

Data Element 061 – Position 2 (Operator Indicator)	
Code	**Definition**
0	Customer-operated
1	Card acceptor-operated
2	Administrative

Data Element 061 – Position 3 (Terminal Location Indicator)	
Code	**Definition**
0	On premise
1	Off premise
2	On premises of cardholder (Home PC)
3	No terminal used
4	On premises of card acceptor facility [Card-Holder terminal including Home PC, mobile phone, PDA]
6	Off cardholder premised, unattended
9	Unknown data not available

Data Element 061 – Position 4 (Cardholder Presence Indicator)	
Code	**Definition**
0	Customer present

1	Customer not present
2	Mail/Facsimile order (customer not present)
3	Telephone order
4	Customer not present, standing order/recurring payment
5	Cardholder not present (Electronic order [home PC, Internet, mobile phone, PDS])
8	Pre-Authorized purchase
9	Unknown data not available
S	Installment Payment
R	Reserved
A	CardHolder not present Stand-In Authorization

Data Element 061 – Position 5 (Card Presence Indicator)

Code	Definition
0	Card present
1	Card not present
8	Pre-Authorized purchase
9	Unknown / data not available
R	Reserved
2	Amex contactless Transaction
3	Digital Wallet – Conatctless Initiated
4	Digital Wallet – Application Initiated
5	Issuer Originated Payments

Data Element 061 – Position 6 (Card Retention Indicator)

Code	Definition
0	Device does not have card retention capability
1	Device has card retention capability
9	Unknown data not available

Data Element 061 – Position 7 (Transaction Status Indicator)

Code	Definition

0	Original presentment
1	First representment
2	Second representment
3	Third representment
4	Previously authorized request
5	Resubmission
6	Merchant-approved Purchase
7	Time Based Payment Authorization Request or CDC inquiry request
8	Pre-authorization request/Card Validation/Account Status Check
9	Debit MasterCard Stand-In
A	Purchase with Cash back
B	Single transaction of a mail/phone order
C	Recurring transaction
D	Installment payment
E	Unknown classification
F	Secure electronic commerce transaction
G	Non-authenticated security transaction at a 3-D Secure-capable merchant, and merchant attempted to authenticate the cardholder using 3-D Secure
H	Non-authenticated Security Transaction
I	Non-secure transaction
J	Not Applicable
K	Account Status Inquiry Service
L	Non-SET trans from SET-enabled merchant
M	Secure Code Phone Order
N	ATC Update
R	Reserved

Data Element 061 – Position 8 (Transaction Security Indicator)

Code	Definition
0	No security concern
1	Suspected fraud
2	Identification verified
3	Electronic commerce transaction with digital signature
4	Non-secure/Security unknown electronic commerce transaction

5	Secure electronic transaction with cardholder certificate
7	Channel-encrypted electronic commerce transaction
8	CVV validated and valid
9	CVV validated and invalid
A	Cardholder verified by Biometrics
B	Unknown
C	Chip Transaction Indicator present
D	Acquirer indicates that Card Authentication may not be reliable.
E	V.I.P. indicates acquirer inactive for Card Authentication.
F	V.I.P. indicates issuer inactive for Card Authentication.
R	Reserved

Data Element 061 – Position 9-10 (Terminal Type Indicator)

Code	Definition
00	Administrative terminal
01	POS terminal
02	ATM
03	Home terminal
04	ECR
05	Dial terminal/Call Center Operator
06	Fuel machine/ Travelers Check Machine
07	Fuel Machine
08	POS script machine
09	Coupon machine
10	Ticket machine
11	Franchise teller/Point of Banking terminal
12	Personal banking
13	Public utility
14	Vending
15	Self-service
16	Authorization
17	Payment
18	VRU
19	Smart phone

20	Interactive television
21	Personal Digital Assistant (PDA)/Mobile Device
22	Screen phone
23	Electronic commerce
24	Transponder (IBM-only) / MICR terminals at POS (Tandem-only)
26	Off Premise
27	Not a CAT transaction
28	Authorized Level 1 CAT: automated dispensing machine with PIN or ATM
29	Authorized Level 3 CAT: limited amount terminal
30	Authorized Level 4 CAT: In-flight Commerce
31	Unspecified
32	Reserved
33	Unattended customer terminal
34	Travelers Check Machine
35	MICR terminal at teller
36	Internet Terminal
37	POS terminal allows partial pre-authorizations
38	Multimedia Terminal
39	Manual Transactions at Bank Counter
40	Personal Computer
41	Mobile Phone
42	I type fixed phone (Telephone without PIN pad)
43	II type fixed phone
44	Wireless POS
45	CDRS
46	Merchant's Terminal
47	Setup Box
48	Batch File Processing System
49	Authorized Level 2 CAT
99	Unknown

Data Element 061 – Position 11 (Terminal Input Capability Indicator)

Code	Definition
00	Unknown
01	Manual, no terminal
02	Magnetic stripe

03	Bar code
04	OCR
05	ICC
06	File
07	Contact-less read capability via Mag stripe rules
08	Contact-less read capability via Chip rules
09	Mag stripe reader and key entry/Terminal does not read card data
10	Mag stripe reader and key entry and EMV-Compatible ICC reader
11	Contact-less M/Chip (Proximity Chip) Terminal supports PayPass M/Chip and PayPass mag-stripe transactions. The terminal also may support contact transactions; however, this value must only be used for Contact-Less Transactions.
12	EMV specification (compatible chip reader) and magnetic stripe reader. This terminal can also support contact-less transactions; however, these values must only be used for contact transactions.
13	Key entry only
14	EMV specification (compatible chip reader) only. This terminal can also support contact-less transactions; however, this value must only be used for contact transactions.
15	MICR read (POS Check Service), U.S. Only
16	MICR read and image-capable (POS Check Service), U.S. Only
17	Terminal does not read card data
18	Radio Frequency Identification (RFID)
19	Secure Electronic Transaction (SET) with certificate
20	SET without certificate
21	Channel-encrypted Electronic Commerce Transaction (SSL)
22	Non-secure Electronic Commerce Transaction
23	Mobile Device
24	F (No Value)
25	Secure Cardless Entry

Data Element 061 – Position 13 (Chip Condition Codes)

Code	Definition
0	Not applicable to fallback transactions.
1	This value applies to fallback transactions. Transaction was initiated from a magnetic stripe with a service code beginning with 2 or 6 and the last read at VSDC terminal was a successful chip read or was not a chip transaction.
2	This value applies to fallback transactions. Transaction was initiated at a chip-capable

	terminal from a magnetic stripe that contains service code 2 or 6, and the previous transaction initiated by that terminal was an unsuccessful chip read.

Data Element 061 – Position 14 (Special Condition Indicator)

Code	Definition
0	Default Value
9	Payment on existing debt
1	Electronic Commerce with security
2	Electronic Commerce without security
4	In-Flight Transaction
7	Purchase of Cryptocurrency
8	Quasi Cash

Data Element 061 – Position 15 (Chip Transaction Indicator)

Code	Definition
0	Not applicable; subsequent sub-fields are present When an Early Data option acquirer, or a Full Data option acquirer, submits Early Data, field 60.6 must contain zero (0) or be excluded from the message.
1	This value is sent by acquirers using either the standard third bitmap or field 55 to submit chip data.
2	This value is sent by acquirers using the expanded third bitmap for their chip data. The value 2 applies only to acquirers; V.I.P. changes it to 1 before the request is forwarded to the issuer.
3	V.I.P. (not the acquirer) inserts this code and downgrades the transaction by dropping chip data section.
4	V.I.P inserts this code based on the presence of a Visa issued token.

Data Element 061 – Position 16 (Cardholder ID Method Indicator)

Code	Definition
0	Not specified
1	Signature
2	PIN
3	Unattended terminal, no PIN pad
4	Mail/Telephone/Electronic Commerce

5	TransQPS Action (Quick payment Service), I will pay without signature
10	Biometric
11	Offline PIN
12	Pattern Recognition
13	Device Code / Other

Data Element 061 – Position 17 (Chip Card Authentication Reliability Indicator)

Code	Definition
0	Not specified
1	Acquirer indicates that Card Authentication may not be reliable
2	Switch indicates acquirer inactive for Card Authentication.
3	Switch indicates issuer inactive for Card Authentication.
4	Switch Center indicates that the transaction has used Token Service provided by the network itself.

Data Element 061 – Position 18 (Mail/Phone/Electronic Commerce and Payment Indicator)

Code	Definition
0	Not Applicable
1	Unknown/Unspecified
2	Not an e-commerce transaction
3	Single transaction of a mail/phone order
4	Recurring transaction
5	Installment payment
6	Secure electronic commerce transaction
7	Non-authenticated security transaction at a 3-D Secure-capable merchant, and merchant attempted to authenticate the cardholder using 3-D Secure
8	Non-authenticated Security Transaction
9	Non-secure transaction
A	In-App Authentication
B	Electronic commerce transaction with digital signature
C	Secure electronic transaction with cardholder certificate
D	Secure electronic transaction without cardholder certificate

Data Element 061 – Position 19 (Interactive Mode Identifier)	
Code	**Definition**
0	Default
1	Internet
2	Text Message (SMS)
3	Voice (IVR)
4-9	Reserved
K	Failed CUPSecure safe authentication, and does not adopt the security technology of encryption.
E	Channel-encrypted electronic commerce transaction
F	UnionPay safe entry mode authentication conducted, and cardholder security information is input successfully
G	Certification of Issuer SAA direct authentication authorization conducted, and the SAA authentication authorization is successful
H	Authentication of Issuer SA direct status verification conducted, and the cardholder status verification is successful
I	Tried to conduct the issuer direct status verification
J	Failed CUPSecure safe authentication, but adopt the security technology of channel
L	Issuer Authentication Mode in card-no-present self-service transactions
M	Issuer Non-Authentication Mode in card-no-present self-service transaction
N	Static UCAF Value (Switch assigned static AAV)
O	Issuer Risk based Decision
P	Aquirer Risk based Decision
Q-Z	Reserved

Data Element 108 – Receiver/Sender Data Table

DE 108 – TLV Fields Details when DE-63.7 = 'VISA':

Sub Elements of DE-108 when DE-63.7 = 'VISA'				
Tag	**Length**	**Value**	**Format**	**Content of Sub-Element**
01	16	Sender Reference Number	AN	Contains a transaction reference number that is provided by the originator or acquirer and can be used to uniquely identify the entity funding the transaction.
02	34	Sender Account Number	AN	Contains the account number of the entity funding the transaction.
03	30	Sender Name	AN	Contains the name of the entity funding the transaction.
04	35	Sender Address	AN	Contains the address of the entity funding the transaction.
05	25	Sender City	AN	Contains the city of the entity funding the transaction.
06	2	Sender State	AN	Contains the geographical state or province of the entity funding the transaction. Sender State is required when Sender Country in Tag 07 contains **124** (Canada) or **840** (U.S.). This field is optional otherwise.
07	3	Sender Country	AN	Contains the country of the entity funding the transaction. **Format**: 3-digit ISO country code.
08	2	Source of Funds	AN	Indicates the method used by the sender to fund an OCT. The tag is required in all domestic and cross-bordermoney transfer OCTs destined to U.S. recipient issuers. Values are: **01** = Visa credit **02** = Visa debit **03** = Visa prepaid **04** = Cash **05** = Debit/deposit access accounts other than those linked to a Visa card (includes checking / savings accounts and proprietary debit/ Automated Teller Machine (ATM) cards) **06** = Credit accounts other than those linked to a Visa card (includes credit cards and proprietary credit lines)
09	20	Claim Code	AN	**Visa Mobile Prepaid (VMP) Transaction**: Tag contains the third-party request reference number. VMP transactions are supported for certain countries in the AP, CEMEA, and LAC regions only. For a

				given transaction, the issuer, acquirer, and merchant must be within the same country.
0A	30	Recipient Name	AN	Contains the name of the entity receiving the funds.
0B	20	Confirmation Number	AN	
0C	25	Recipient City	AN	Contains the city of the entity receiving the funds.
0D	3	Recipient Country	N	
0E	3	Proprietary Account Type	AN	Contains the country of the entity receiving the funds. **Format**: 3-digit ISO country code.
0F	12	Proprietary Amount	N	
10	5-10	Sender postal Code	AN	Contains the postal code of the entity funding the transaction.

DE 108 - Sub Field 01 Details when DE-63.7 = 'MASTERCARD':

Sub Element 01 of DE-108 [Receiver/Recipient Data] when DE-63.7 = 'MASTERCARD'			
Sub Field No.	**Sub Field Name**	**Sub Field Length**	**Data Representation**
01	First Name	2	ans…35; LLVAR
02	Middle Name	2	ans-1
03	Last Name	2	ans…35; LLVAR
04	Street Address	2	ans…50; LLVAR
05	City	2	ans…25; LLVAR
06	State/Province Code	2	ans…3; LLVAR
07	Country	2	ans-3
08	Postal Code	2	ans…10; LLVAR
09	Phone Number	2	ans…20; LLVAR
10	Date of Birth	2	n-8
11	Account Number	2	n…20; LLVAR
12	Identification Type	2	n-2
13	Identification Number	2	ans…25; LLVAR
14	Identification Country Code	2	ans-3
15	Identification Expiration Date	2	n-8
16	Nationality	2	ans-3
17	Country of Birth	2	ans-3
18	Account Type	2	n-2

DE 108 - Sub Field 02 Details when DE-63.7 = ‘MASTERCARD’:

Sub Element 02 of DE-108 [Sender Data] when DE-63.7 = ‘MASTERCARD’			
Sub Field No.	**Sub Field Name**	**Sub Field Length**	**Data Representation**
01	First Name	2	ans…35; LLVAR
02	Middle Name	2	ans-1
03	Last Name	2	ans…35; LLVAR
04	Street Address	2	ans…50; LLVAR
05	City	2	ans…25; LLVAR
06	State/Province Code	2	ans…3; LLVAR
07	Country	2	ans-3
08	Postal Code	2	ans…10; LLVAR
09	Phone Number	2	ans…20; LLVAR
10	Date of Birth	2	n-8
11	Account Number	2	n…20; LLVAR
12	Identification Type	2	n-2
13	Identification Number	2	ans…25; LLVAR
14	Identification Country Code	2	ans-3
15	Identification Expiration Date	2	n-8
16	Nationality	2	ans-3
17	Country of Birth	2	ans-3
18	Account Type	2	n-2

DE 108 - Sub Field 03 Details when DE-63.7 = ‘MASTERCARD’:

Sub Element 03 of DE-108 [Transaction Reference Data] when DE-63.7 = ‘MASTERCARD’			
Sub Field No.	**Sub Field Name**	**Sub Field Length**	**Data Representation**
01	Unique Transaction reference	2	ans…19; LLVAR
02	Additional Message	2	ans…65; LLVAR
03	Funding Source	2	n…2
04	Participation ID	2	ans…30; LLVAR
05	Transaction Purpose (Possible Values are listed in below table)	2	n…2

DE108.03.05: Possible Values for Transaction Purpose when DE-63.7 = ‘MASTERCARD’

Possible value	
Value	**Definition**
00	Family Support
01	Regular Labor Transfers (expatriates)
02	Travel & Tourism
03	Education
04	Hospitalization & Medical Treatment
05	Emergency Need
06	Savings
07	Gifts
08	Others
09	Salary
10 - 15	Reserved

DE 108 - Sub Field 04 Details when DE-63.7 = ‘MASTERCARD’:

Sub Element 04 of DE-108 [Language Description] when DE-63.7 = ‘MASTERCARD’			
Sub Field No.	**Sub Field Name**	**Sub Field Length**	**Data Representation**
01	Language Identification	2	ans…2
02	Language Data	2	b…50; LLVAR

DE 108 - Sub Field 05 Details when DE-63.7 = ‘MASTERCARD’:

Sub Element 05 of DE-108 [Digital Account Information] when DE-63.7 = ‘MASTERCARD’			
Sub Field No.	**Sub Field Name**	**Sub Field Length**	**Data Representation**
01	Digital Account reference Number	2	n…19; LLVAR
02	Mastercard Merchant Presented QR Receiving Account Number	2	ans…34; LLVAR

Data Element 111 – Additional Data Table

Elements of DE-111 when DE-63.7 = 'VISA'				
Sub Field No.	**Sub Field Name**	**Visa Bit No.**	**Position**	**Format (ASCII)**
111.1	Authorization characteristics indicator	62.1	1	1 AN
111.2	Transaction identifier	62.2	2-16	15 N
111.3	Validation code	62.3	17-20	4 AN
111.4	Market-specific data indicator 2	62.4	21	1 AN
111.5	Duration	62.5	22-23	2 N
111.6	Purchase identifier	62.7	24-49	26 AN
111.7	Date; auto rental check-out, lodging check-in	62.8	50-55	6 N
111.8	No show indicator	62.9	56	1 AN
111.9	Extra charges	62.10	57-62	6 N
111.10	Multiple clearing sequence number	62.11	63-64	2 N
111.11	Multiple clearing sequence count	62.12	65-66	2 N
111.12	Restricted ticket indicator	62.13	67	1 AN
111.13	Total amount authorized	62.14	68-79	12 N
111.14	Requested payment service	62.15	80	1 AN
111.15	Chargeback rights indicator	62.16	81-82	2 AN
111.16	Electronic commerce goods indicator	62.19	83-84	2 AN
111.17	Merchant verification value	62.20	85-94	10 N
111.18	Online risk assessment risk score and reason codes	62.21	95-98	4 AN
111.19	Online risk assessment condition codes	62.22	99-104	6 AN
111.20	Card-level results	62.23	105-106	2 AN
111.21	Network ID	63.1	107-110	4 N
111.22	Message reason code	63.3	111-114	4 N
111.23	STIP/Switch reason code	63.4	115-118	4 N
111.24	Visa acquirer's business id	63.8	119-126	8 N
111.25	Fraud data	63.9	127-140	14 ANS
111.26	Reimbursement attribute	63.11	141	1 ANS
111.27	Merchant volume indicator	63.18	142-143	2 N
111.28	Fee program indicator	63.19	144-146	3 AN

111.29	Charge indicator	63.21	147	1 ANS
111.30	Stand In Trans Indicator (Possible Values)		148	1 N
111.31	Transaction Unique Identifier		149-154	6 AN
111.32	Token Device Id	125.03	155-218	64 AN
111.33	Token Device No	125.04	219-233	15 N
111.34	Token Device Name	125.05	234-253	20 AN
111.35	Token Device Type (Possible Values)	125-01	254-255	2 AN
111.36	Token ID	123.01	256-274	19 AN
111.37	Token Type (Possible Values)	123.07	275-276	2 AN
111.38	Token Status (Possible Values)	123.08	277	1 AN
111.39	Token Authorization Request (TAR) Indicator (Possible Values)		278	1 N
111.40	Token Notification Type (Possible Values)		279-282	4 N
111.41	Token OTP Code (spaced padded on left)	43.1	283-590	8 AN
111.42	Token OTP Expiry Date Time (Format: YYMMDDhhmm)	NA	291-300	10 N
111.43	Replacement PAN	127.41 tag 01	301-319	19 AN
111.44	Replacement PAN Expiration Date (Format: YYMM)	127.41 tag 02	320-323	4 N
111.45	Partial Authorization Indicator	60.10	324	1N
111.46	Chargeback Flag		325	1AN
111.47*	Cardholder Verification Method Identifier		326	1 N
111.48*	Cardholder Verification Method Value		327-390	64 AN
111.49	Bound Device Index	123.80	391-392	2 AN
111.50*	Token User Identifier	123.81	393-403	11AN
111.51*	Token User Application Type	123.82	404-405	2 AN
111.52	3D Secure Indicator	126.20	406	1 ANS
111.53	CAVV Result Code	44.13	407	1 ANS
111.54	E-Commerce and payment indicator	60.8	408-409	2 N
111.55	E-Commerce Security Indicator	63.6	410	1 ANS
111.56	CAVV Data	126.9	411-451	40 AN
111.57	Wallet Type		451-455	5 AN

111.47 – Cardholder Verification Method Identifier

The cardholder verification method identifier represents the verification method selected by the cardholder during the token provision process when a Yellow path is opted and OTP (One-Time Password) is selected as a step-up authentication method.

The possible values can be:

- Cell Phone
- Email

111.48 – Cardholder Verification Method Value

This field will contain the content of the selected cardholder verification method. For example, if value 1 i.e., Cell Phone is selected in Field 111.47, then this field will contain the cardholder's phone number on which on which OTP has to be sent. Similarly, if value 2 i.e., Email is selected in Field 111.47, then will contain cardholder's email address on which email has to be sent.

111.49- Bound Device Index

This field will contain the index number from the Visa database where the device ID is stored. The value will be a one-byte hexadecimal value in the range of **01**–**63** (Decimal 1–99).

111.51- Token User Application Type

This field will contain the application type of the token user. This entity can be the merchant, a marketplace, or a check out host. The application type is one of the following valid values:

- **00** (Unknown)
- **01** (Web)
- **02** (Mobile web)
- **03** (Mobile application)
- **04** (Marketplace application)
- **05** (Voice application)
- **06** (Biometric application)
- **07**–**FF** (Reserved)

Sub Elements of DE-111 when DE-63.7 = 'MASTERCARD'

Sub Field No.	Field Name	MC Bit No.	Position	Format (ASCII)
111.1	Account category	48.38	1	1 AN
111.2	Electronic commerce merchant/cardholder certificate serial number	48.40	2-41	40 AN

111.3	Electronic commerce certificate qualifying information	48.41	42-136	95 ANS
111.4*	Electronic commerce indicators	48.42	137-143	7 N
111.5	Universal cardholder authentication field (UCAF)	48.43	144-175	32 ANS
111.6	Mobile Program Indicators	48.48	176-248	73ANS
111.7	Original Switch Serial Number	48.59	249-257	9 N
111.8	POS Data, extended condition codes*	48.61	258-262	5 N
111.9	Trace ID	48.63	263-277	15 ANS
111.10	Transit program	48.64	278-281	4 N
111.11	Implied decimal	48.70	282-286	5 N
111.12	Issuer chip authentication	48.72	287-302	16 AN
111.13	MasterCard electronic transaction indicator	48.76	303	1 A
111.14	Payment transaction type indicator	48.77	304-306	3 AN
111.15	Chip CVR/TVR bit error results listing	48.79	307-356	50 AN
111.16	PIN Service code	48.80	357-358	2 A
111.17	Maestro PIN-less program indicator	48.81	359	1 AN
111.18*	Address verification service request	48.82	360-361	2 N
111.19*	Address verification service response	48.83	362	1 N
111.20	Merchant advice code	48.84	363-364	2 AN
111.21	Card validation code result	48.87	365	1 AN
111.22	Magnetic stripe compliance status indicator	48.88	366	1 AN
111.23	Magnetic stripe compliance error indicator	48.89	367	1 AN
111.24	CVC 2 Value	48.92	368-370	3 N
111.25	Program participation indicator	48.94	371-398	28 ANS
111.26	MasterCard promotion code	48.95	399-404	6 AN
111.27	MasterCard corporate fleet card id/driver number	48.98	405-410	6 N
111.28	MasterCard corporate fleet card vehicle number	48.99	411-425	15 AN
111.29	Stand In Trans Indicator (Possible Values)		426	1 N
111.30	Transaction Unique Identifier		427-432	6 AN
111.31	Token Device Id	NA	433-496	64 AN
111.32	Token Device No	124.191	497-511	15 N
111.33	Token Device Name	120.92	512-531	20 AN
111.34	Token Device Type (Possible Values)	NA	532-533	2 AN
111.35	Token ID	120.1 Or 120.24 Or 48.33 tag 02	534-552	19 AN
111.36	Token Type (Possible Values)	120.253 Or 124.195	553-554	2 AN
111.37	Token Status (Possible Values)		555	1 AN
111.38	Token Authorization Request (TAR)		556	1 N

	Indicator (Possible Values)			
111.39	Token Notification Type (Possible Values)		557-560	4 N
111.40	Token OTP Code (spaced padded on left)	120.38	561-568	8 AN
111.41	Token OTP Expiry Date Time (Format: YYMMDDhhmm)	120.46	569-578	10 N
111.42	Replacement PAN	NA	579-597	19 AN
111.43	Replacement PAN Expiration Date (Format: YYMM)	NA	598-601	4 N
111.44*	Customer's Activation Code DistributionMethod Preference	120.6	602-766	165 ANS
111.45	Chargeback flag (For details, see Appendix-E)		767	1AN
111.46	On-behalf Service (OBS) (For details, see Appendix-E)	48.71	768-807	40 ANS
111.47	Fraud Scoring Data (For details, see Appendix-E)	48.75	808-839	32 AN
111.48*	Incremental Authorization Indicator		840	1AN
111.49	Final Auth Indicator	48.61	841	1 N
111.50	Issuer Transaction Transformation Flag		842	1 N
111.51	Network Billing Amount	6	843-854	12 N
111.52	Network Billing Exchange Rate	10	855-862	8 N
111.53	On Demand Acquirer ID		863-866	4 N
111.54	File Update Code	91	867	1 AN
111.55	File Name	101	868-884	17 ANS
111.56	Primary Account Card Sequence Number	120	885-887	3 ANS

POS Data, extended condition codes:

Sub field – 1: Partial Approval Terminal Support Indicator

Sub field – 2: Purchase Amount Only Terminal Support Indicator

Sub field – 3: Real time Substantiation Indicator

Sub field – 4: Reserved for Future Use

Sub field – 5: Final Authorization Indicators

111.4* Electronic Commerce Indicators

Contains the electronic commerce indicators representing the security level and cardholder authentication associated with the transaction. This subfield must be present in all Authorization Request/0100 messages

for electronic commerce transactions. This subfield consists of further three sub-fields SF1, SF2 and SF3. SF1 and SF2 have length 3-N with 3 different positions & SF3 has length 1-N. Each position has possible values.

Possible Values of Position 1 of SF1:

0 = Reserved for existing Mastercard Europe/Visa definitions

1 = Reserved for future use

2 = Chanel

3-8 = Reserved for future use

9 = None (no security protocol)

Possible Values of Position 2 of SF1:

0 = Reserved for future use

1 = Cardholder certificate not used

2 = Processed through Masterpass

4 = Digital Secure Remote Payment Transaction

5–9 = Reserved for future use

Possible Values of Position 3 of SF1:

0 = UCAF data collection is not supported by the merchant

1 = UCAF data collection is supported by the merchant, and UCAF data should be available

2 = Issuer Authenticated

3 = UCAF data collection is supported by the merchant.

4 = Reserved for future use

5 = Issuer risk based decisioning

6 = Merchant Risk Based Decisioning

7 = Partial shipment or recurring payment. Liability will depend on the original UCAF values provided and matching with the initial transaction.

Subelement 111.4, subfields 2 and 3 are only present in the Financial Transaction Request, Response/0210 message provided by Mastercard to the acquirer if an Security Level Indicator (SLI) downgrade occurred.

Issuers will not see subfields 2 or 3 in the Financial Transaction Request/0200 messages.

111.18* (Address Verification Service Request)

Indicates that verification of the cardholder billing address is requested in the authorization message and this field must be present in authorization request message whenever cardholder address verification is required.

Possible Values:

52 = AVS and Authorization Request/0100

111.19* (Address Verification Service Response)

Contains the AVS verification response code in the Authorization Request Response message.

Possible Values:

A = Address matches, postal code does not.

B = Visa only. Street address match. Postal code not verified because of incompatible

formats. (Acquirer sent both street address and postal code.)

C = Visa only. Street address and postal code not verified because of incompatible

formats. (Acquirer sent both street address and postal code.)

D = Visa only. Street address and postal code match.

F = Visa only. Street address and postal code match. Applies to U.K. only.

G = Visa only. Non-AVS participant outside the U.S.; address not verified for international

transaction.

I = Visa only. Address information not verified for international transaction.

M = Visa only. Street addresses and postal code match.

N = Neither address nor postal code matches.

P = Visa only. Postal codes match. Street address not verified because of incompatible

formats. (Acquirer sent both street address and postal code.)

R = Retry, system unable to process.

S = AVS currently not supported.

U = No data from issuer/Authorization Platform

W = For U.S. addresses, nine-digit postal code matches, address does not; for address outside the U.S., postal code matches, address does not.

X = For U.S. addresses, nine-digit postal code and address matches; for addresses outside the U.S., postal code and address match.

Y = For U.S. addresses, five-digit postal code and address matches.

Z = For U.S. addresses, five-digit postal code matches, address does not.

111.44*

There will be only one method contained within this field. This field will only be present if the cardholder provides a choice.

Activation Code Distribution Method Type (n-1)

Possible Values are:

1 = Masked mobile phone number

2 = Masked email address

3 = Automated call center phone number

4 = Call center phone number

5 = Website

6 = Mobile application

7 = Masked voice call phone number

Activation Code Distribution Method Value (ans…164)

See below examples:

"**1(###) ### 4567"**

1 = Masked mobile phone number

The "1" will be followed by the masked mobile phone number.

"**2a***d@anymail.com"**

2 = Masked email address

The "2" will be followed by the consumer's masked email address (the issuer will mask according to their own format).

“**3(555) 123 4567”**

3 = Automated call center phone number

The “3” will be followed by the phone number. This phone number is not masked.

“4(555) 123 8901”

4 = Call center phone number

The “4” will be followed by the phone number. This phone number is not masked.

“5http://www.anybank.com”

5 = Website

The “5” will be followed by the issuer’s website URL.

“6com.anybank.mobileapp”

6 = Mobile app

The “6” will be followed by the issuer’s mobile app information, the content of which depends upon the mobile device operating system.

“7(###) ### 2345”

7 = Masked voice call phone number

The “7” will be followed by the masked voice call phone number.

111.48*: Incremental authorization Indicator

Possible Values: Y/N

[will be received in Authorization messages (x1xx) only, If Incremental Auth then → ‘Y’, else → ‘N’]

Sub Elements of DE-111 when DE-63.7 = ‘EFUNDS’

Sub Field No.	Field Name	FIS Bit No.	Position	Format (ASCII)
111.1	Partial Authorization Indicator	63.40	1	1 AN
111.2	Stand In Trans Indicator (Possible Values)		2	1 N
111.3	Transaction Unique Identifier		3-8	6 AN
111.4	Token Device Id	NA	9-72	64 AN
111.5	Token Device No	NA	73-87	15 N
111.6	Token Device Name	NA	88-107	20 AN
111.7	Token Device Type (Possible Values)		108-109	2 AN
111.8	Token ID	NA	110-128	19 AN
111.9	Token Type (Possible Values)		129-130	2 AN

111.10	Token Status (Possible Values)		131	1 AN
TBD	Token Authorization Request (TAR) Indicator (Possible Values)		TBD	1 N
TBD	Token Notification Type (Possible Values)		TBD	4 N
TBD	Token OTP Code (spaced padded on left)	NA	TBD	8 AN
TBD	Token OTP Expiry Date Time (Format: YYMMDDhhmm)	NA	TBD	10 N
TBD	Replacement PAN	NA	TBD	19 AN
TBD	Replacement PAN Expiration Date (Format: YYMM)	NA	TBD	4 N
111.11	Chargeback flag		132	1AN
111.12	Incremental Authorization Flag	60	133	1AN
111.13	Multi-Clearing Sequence	124	134	2N
111.14	Multi-Clearing Count	124	136	2N

Sub Elements of DE-111 when DE-63.7 = 'STAR'				
Sub Field No.	**Field Name**	**STAR Bit No.**	**Position**	**Format (ASCII)**
111.1	Partial Authorization/Approval Indicator	63.7	1	1 AN
111.2	Stand In Trans Indicator		2	1 N
111.3	Transaction Unique Identifier		3-8	6 AN
111.4	Chargeback flag		9	1 AN
111.5*	Incremental Authorization	110.2	10	1 AN
111.6*	Multiple Transaction Sequence	110.6	11-13	3 N
111.7*	Multiple Transaction Count	110.7	14-16	3 N
111.8	Pseduo-Terminal Id	63.1	17-22	6 AN
111.9	Interchange Program Identifier	104.2	23-25	3 N
111.10	STAR® Verification Value	104.3	26-35	10 AN
111.11	Market Indicator	104.4	36	1 AN
111.12	Merchant Aggregation Indicator	104.5	37	1 AN
111.13	Transaction Aggregation Indicator	104.6	38	1 AN
111.14	Money/Funds Transfer/Prepaid Load Definition	104.7	39	1 AN
111.15*	Transaction Description	104.8	40-41	2 AN
111.16	Purchase Identifier	110.3	42-67	26 AN
111.17*	STAR® Predictive Fraud Score	110 Tag SF	68-70	3 N
111.18*	STAR® Predictive Fraud Reason Code	110 Tag SF	71-72	2 AN

111.5*: Incremental authorization Indicator

Possible Values: Y/N

[will be received in Authorization messages (x1xx) only, If Incremental Auth then → 'Y', else → 'N']

111.6*: Multiple Transaction Sequence

If there are multiple completions, the number of completion that this record represents.

111.7*: Multiple Transaction Count

Indicates the total number of completions expected in a multi-clearing scenario.

111.15*: Transaction Description

Possible values and their corresponding detail for this field:

AA	Account to Account
BB	Business to Business
BP	Business to Person
OG	Online gambling (winnings) – for future use
PP	Person to Person

111.17*: Predictive Fraud Score

Represents a score ranging from **000 to 999**. The higher the value, more likely it is to be a fraudulent transaction.

111.18*: Predictive Fraud Reason Code

Reflects the reason code that supports the STAR predictive fraud score value.

Sub Elements of DE-111 when DE-63.7 = 'UNIONPAY'

Sub Field No.	Field Name	UnionPay Bit No.	Position	Format (ASCII)
111.1	Minor Unit of Transaction Currency	60.3.3	1-3	3 AN
111.2	Partial Authorization Indicator	60.3.4	4	1 AN
111.3	Transaction Medium	60.3.6	5	1 AN
111.4	IC card application type	60.3.7	6	1 AN
111.5	Account Attribute	60.3.8	7-8	2 AN
111.6	Card Level	60.3.9	9	1 AN
111.7	Card Product	60.3.10	10-11	2 AN
111.8	Transaction Cancellation Indicator		12	1 AN
111.9	Original MTI of Cancellation Transaction		13-16	4 AN
111.10	OTP Code (spaced padded on left)		17-26	10 AN
111.11	Token OTP Expiry Date Time (Format:		27-36	10 AN

	YYMMDDhhmm)			
111.12	OTP Business Type		37	1 AN
111.13	ID Number	61.1	38-59	22 AN
111.14	CVN Rsult Code	61.2	60	1 AN
111.15	PVV Result Code	61.3	61	1 AN
111.16	CVN2 Result Code	61.4.3	62	1 AN
111.17	ARQC Authentication Result	61.5	63	1 AN
111.18	Card-Holder Mobile Number	61.6.AM.9.2	64-83	20 AN
111.19	OTP Generate and Send Indicator		84	1 AN

111.8* (Transaction Cancellation Indicator)

This field will contain 1 char transaction cancellation indicators with possible values:

- 0 → Transaction is a not cancellation transaction.
- 1 → Transaction is a cancellation advice of an earlier approved transaction.
- 2 → Transaction is a reversal of cancellation advice.

This indicator is only applicable for reversal 0220 and 0420 transactions. It will indicate if a transaction is cancellation or cancellation reversal transaction.

Union Pay has a unique functionality where they can cancel any previously sent ISO pre-authorization or financial message e.g. 01XX and 02XX.

For authorization host i2c will send cancellation/cancellation reversal transactions with MTI 0220/0420 and 20 transaction type along with flag in DE- 111.8 transaction cancellation indicator and DE 111.9 Original MTI of Cancellation Transaction.

If a cancellation of 01xx transaction is received to authorization host than they should cancel pre-authorization and release funds, and for cancellations of 02xx transactions they should credit their respective systems.

If a reversal of cancellation of 01xx transaction is received to authorization host than they should reacquire funds for said amount, and for reversal of cancellation of 02xx transactions they should reverse earlier credited 0220 transactions.

111.3* (Transaction Medium)

This field will contain 1 char transaction medium indicators with possible values:

- 0 → Unknown
- 1 → Magnetic stripe card transaction
- 2 → Chip card transaction via chip
- 3 → Magstripe transaction of chip and magstripe hybrid card
- 4 → Virtual card transaction
- 5 → QRC-based transaction
- 6 → Biological traits transaction
- 7 → Card-not-present transaction

NOTE: This field is used for identification on QR Code based transactions. For QR code transaction transaction medium must be 5 and Pan Entry mode must be in 03,04,93,94.

111.19 OTP Generation Indicator

This field indicates whether to generate and send generated OTP to card holder. Possible values:

- 0 → Do not generate or match OTP
- 1 → Generate OTP
- 2 → Match OTP

111.12 OTP Business Type

This field determine business type of OTP is used in this transaction. Below are given values:

- 0 → No OTP present
- 1 → E-Commerce OTP
- 2 → QR Transaction OTP
- 3 → Digital Wallet Tokenization OTP (Reversed for Future)

Sub Elements of DE-111 when DE-63.7 = 'DISCOVER'

Sub Field No.	Field Name	Discover Bit No.	Position	Format (ASCII)
111.1	Transaction Status Indicator	61.7	1	1 ANS
111.2	Transaction Identifier	48.11	2-16	15 ANS
111.3	Chargeback flag		17	1 AN
111.4	Stand In Trans Indicator		18	1 N
111.5	Transaction Unique Identifier		19-24	6 N
111.6	Partial Authorization/Approval Indicator	61.2	25	1 N
111.7	Incremental Authorization	61.7	26	1 N

Partial Authorization/Approval Indicator

Position 2: Partial Approval Indicator	
Code	**Definition**
0	Partial Approval Not Supported
1	Partial Approval Supported: Merchandise can be partially approved Cash Over can be partially approved
2	Partial Approval Supported: Merchandise can be partially approved Cash Over must be fully approved or declined
3	Partial Approval Supported: Merchandise must be fully approved or declined Cash Over can be partially approved
4	Partial Approval Supported: Merchandise must be fully approved or declined Cash Over must be fully approved or declined

Incremental Authorization:

This field indicates whether the auth is incremental one or not. If value in “I” then value 1 will be send to Authhost otherwise 0.

Position 7: POS Transaction Status Indicator	
Code	**Definition**
0	Normal Request (original presentment)
4	Pre-authorized Request
A	Re-authorize for Full Amount
D	Delayed Card Sale
E	Resubmission of Card Sale
G	Transit Aggregated Transaction
I	Incremental Authorization

N	No-Show Charge
P	Partial Shipment
R	Recurring Payment
S	Installment Payment
U	Unscheduled Payment

Sub Elements of DE-111 when DE-63.7 = 'FISERV'				
Sub Field No.	**Field Name**	**Fiserv Bit No.**	**Position**	**Format (ASCII)**
111.1	Stand-In Transaction Indicator	N/A	1	1 ANS
111.2	Transaction Unique Identifier	N/A	2-7	6 ANS

Data Element 125 - SUPPORTING INFORMATION

Sub Elements of DE-125 when DE-63.7 = 'VISA'				
Tag	**Length**	**Value**	**Format**	**Content of Sub-Element**
Dataset ID: 68, Token Data				
1F31	4	Elapsed Time To Live	N	This tag contains the elapsed time in hours since the current limited-use key (LUK) is provisioned on the device.
1F32	3	Count of Number of Transactions	N	This tag contains the cumulative count of transactions for the current limited-use key (LUK).
1F33	7	Cumulative Transaction Amount	N	This tag contains the cumulative total of transaction amounts in USD for the current limited-use key (LUK).
01	13–19	Token	AN	Ignore this tag. It is already included in DE 111.
02	2	Token Assurance Level	AN	Reserved for future use. This field contains spaces.
03	11	Token Requestor ID	N	This tag contains the token requestor ID.
04	Up to 19	Primary Account Number, Account Range	ANS	Ignore this tag. It is already included in DE 02.
05	Up to 32	Token Reference ID	AN	This tag contains the token reference ID.
06	4	Token Expiration	N	This tag will contain the token expiration date. The

		Date		date is in yymm format, where yy = year (00–99) and mm = month (01–12).
07	2	Token Type	AN	Ignore this tag. It is already included in DE 111.
08	1	Token Status	AN	Ignore this tag. It is already included in DE 111.
0A	1	Last Updated By	AN	This tag is present in the response when the token is located.
0B	32	PAN Reference ID	ANS	This tag contains a unique reference ID generated by Visa for the card account number. This tag is required in 0302 Token File Inquiry Messages if Field 2—Primary Account Number is not present.
1A	6–8	Activation Code	AN	Ignore this tag. It is already included in DE 111.
1B	12	Activation Code Expiry Date/Time	N, BCD	Ignore this tag. It is already included in DE 111.
1C	2	Activation Code Verification Attempts	N, BCD	This tag contains the number of attempts to verify the current activation code.
1D	2	Number of Activation Codes Issued	N, BCD	This tag contains the total number of token activation codes issued.
10	2	Visa Token Score	N	This tag contains the degree of risk associated with the token. The valid values are from 01–99.
11	2	Visa Token Decisioning	AN	This tag contains the results of the token provisioning decision. The valid values are: 00 = Provision and activate. 05 = Do not provision. 85 = Provision inactive state – requires further consumer authentication before activation.
12	2	Number of Active Tokens	N	This tag contains the number of device tokens currently active for this PAN.
13	2	Number of Inactive Tokens	N	This tag contains the number of device tokens currently inactive (device tokens that have not been activated) for this PAN.
14	2	Number of Suspended Tokens	N	This tag contains the number of device tokens that were activated but are suspended for payments for this PAN.
1E	6	Token Activation Date/Time	TLV	Token activation date and time in yymmddhhmmss format expressed in GMT.

80	1	Bound Device Index	TLV	Index number from the Visa database where the device ID is stored. Value can be 01-63 (in hexadecimal format). (Decimal 1-99).
81	1-11	Token User Identifier	TLV	Contains unique value that identifies the token user. Token user is an entity that initiates a payment request. Applicable for e-commerce transactions (device and Card-on-File token types).
82	1	Token User Application Type	TLV	Application type of token user. Entities can be a merchant, a marketplace, or a check out host. Application types: 00 = Unknown 01 = Web 02 = Mobile web 03 = Mobile application 04 = Marketplace application 05 = Voice application 06 = Biometric application 07-FF = Reserved
83	1	Token Authentication Factor A	TLV	Authentication factor used by token requestors and merchants to authenticate cardholder at time of transaction. Applicable for e-commerce transactions (device and Card-on-File token types). Authentication Values: 00 = No authentication method acquired 01 = Username/password 02 = Passcode or password Consumer Device Cardholder Verifi cation Method (CDCVM): 10 = Passcode 11 = Password 12 = Pattern 13 = Biometric fingerprint 14 = Biometric facial recognition 15 = Biometric iris recognition 16 = Biometric voice recognition 17 = Behavioral biometric One Time Passcode (OTP): 18 = Device unlocked (CDCVM unknown) 30 = Short message system (SMS) 31 = Email 32 = Hardware token without user verification

				33 = Hardware token with user verifi cation 34 = Soft token 35 = Any other method 40 = Knowledge based authentication 41 = Out of band (OOB) authentication 42 = Local authentication Fast Identity Online (FIDO): 50 = Possession only. No user verifi cation. 51 = With user verification (biometric) 52 = With user verification (passcode/password) 60 = SE based token: cryptogram generated from a SE device for a davice-bound token was provided, establishes possession factor. 61 = Device bound token: device bound token (token reference) was provided by token requestor along with proof of device used for binding token, establishes possession factor. In Europe, token user identifier may be used to support dynamic linking requirements of PSD2/RTS.
84	1	Token Authentication Factor B	TLV	Authentication factor used by token requestors and merchants to authenticate cardholder at time of transaction. Applicable for e-commerce transactions (device and Card-on-File token types). Authentication Values: 00 = No authentication method acquired 01 = Username/password 02 = Passcode or password Consumer Device Cardholder Verifi cation Method (CDCVM): 10 = Passcode 11 = Password 12 = Pattern 13 = Biometric fingerprint 14 = Biometric facial recognition 15 = Biometric iris recognition 16 = Biometric voice recognition 17 = Behavioral biometric One Time Passcode (OTP): 18 = Device unlocked (CDCVM unknown) 30 = Short message system (SMS) 31 = Email 32 = Hardware token without user verification 33 = Hardware token with user verifi cation 34 = Soft token

				35 = Any other method 40 = Knowledge based authentication 41 = Out of band (OOB) authentication 42 = Local authentication Fast Identity Online (FIDO): 50 = Possession only. No user verifi cation. 51 = With user verification (biometric) 52 = With user verification (passcode/password) 60 = SE based token: cryptogram generated from a SE device for a davice-bound token was provided, establishes possession factor. 61 = Device bound token: device bound token (token reference) was provided by token requestor along with proof of device used for binding token, establishes possession factor. In Europe, token user identifier may be used to support dynamic linking requirements of PSD2/RTS.
85	3	Token Authentication Amount	TLV	Payment amount made visible by the token requestor to consumer at time of purchase. Applicable for e-commerce transactions (device and Card-on-File token types). In Europe, token user identifier may be used to support dynamic linking requirements of PSD2/RTS.
86	6	Token requestor – token service provider ID	TLV	Unique value that identifies the service provider for a token requestor. A token service provider is the integration partner for token requestors for provisioning and cryptogram requests. Applicable for e-commerce and Card-on-File transactions.
Dataset ID: 01, Token Device				
01	2	Device Type	TLV	Ignore this tag. It is already included in DE 111.
02	3	Device Language Code	TLV	This tag contains a three-character language code that conforms with ISO 639 standards. An example would be eng (English).
03	Up to 48	Device ID	TLV	Ignore this tag. It is already included in DE 111.
04	Up to 15	Device Number	TLV	Ignore this tag. It is already included in DE 111.
05	16	Device Name	TLV	Ignore this tag. It is already included in DE 111.
06	Up to 25	Device Location	TLV	This tag contains the obfuscated geographic location of the device or the coarse location of the device. Location is latitude/longitude with up to 4 digits of precision; for instance +37.7799/-122.4290. Precision is rounded off to a

				less granular level e.g. +37/-122 or +37.78/-122.43.
07	15	IP Address	TLV	This tag contains the IP address of the device at the time of the provisioning request. The value will be in the format: 255.255.255.255. Each octet (255) may be 1–3 digits in length.
Dataset ID: 02, Wallet Provider				
03	1	Wallet Provider Risk Assessment	TLV	This tag contains one of the following valid values: 0 = Unconditionally approved. 1 = Conditionally approved with further verification. 2 = Not approved.
04	10	Wallet Provider Risk Assessment Version	TLV	This tag contains the Wallet Provider Risk Assessment Version.
05	2	Wallet Provider Device Score	TLV	This tag contains the value of 1–5, with 5 being the most trusted.
06	2	Wallet Provider Account Score	TLV	This tag contains the value of 1–5, with 5 being the most trusted.
07	30	Wallet Provider Reason Codes	TLV	This tag contains up to 15 reason codes of 2 bytes each. The valid values are: **01** = Cardholders' wallet account is too new relative to launch. **02** = Cardholders' wallet account is too new relative to provisioning request. **03** = Cardholders' wallet account/card pair is newer than date threshold. **04** = Changes made to account data within the date threshold. **05** = Suspicious transactions linked to this account. **06** = Account has not had activity in the last year. **07** = Suspended cards in the secure element. **08** = Device was put in lost mode in the last 7 days for longer than the duration threshold. **09** = The number of provisioning attempts on this device in 24 hours exceeds threshold. **0A** = There have been more than the threshold number of different cards attempted at provisioning to this phone in 24 hours. **0B** = The card provisioning request contains a distinct name in excess of the permitted threshold. **0C** = The device score is less than 3. **0D** = The account score is less than 4.

				0E = Device provisioning location outside of the cardholder's wallet account home country. **0G** = Suspect fraud.
08	2	PAN Source	TLV	This tag contains one of the following valid values: **01** = Key-entered. **02** = On file. **03** = Mobile banking app.
09	32	Wallet Account ID	TLV	This tag contains the Wallet Account ID.
0A	Up to 32	Wallet Account E-mail Address	TLV	This tag contains the Wallet Account E-mail Address.
Dataset ID: 40, Terms and Conditions				
01	64	Terms and Conditions Verification	AN	This field contains the terms and conditions data when field 63.3 contains message reason code 3700.
02	32	Issuer Terms and Conditions Date/Time	AN	This field contains the date and time.
Dataset ID: 58, Original Token Data				
80	13-19	Original Token	AN	This field contains the original token number used for provisioning of a new token.
81	2	Original Token Assurance Level	AN	This field contains the Assurance Level of original token.
82	11	Original Token Requestor ID	N	This field contains the original token Requestor ID.
83	Upto 32	Original Token Ref ID	AN	This field contains the original token ref ID.
84	2	Original Token Type	AN	This field will contain the token type of the source token used for provisioning a new token. Valid values are: • 01 (ECOM/COF (e-commerce/card on file)) • 02 (SE (secure element)) • 03 (CBP (cloud-based payment)) • 05 (E-commerce enabler)
85	2	Original Device Type	AN	This field will contain the device type of the source token used for provisioning a new token. Valid values are: • 00 (Unknown) • 01 (Mobile phone) • 02 (Tablet) • 03 (Watch)

				• 04 (Mobile phone or tablet) • 05 (Personal computer) • 06 (Household device) • 07 (Wearable device) • 08 (Automobile device)
86	Upto 48	Original Device ID	ANS	This field will contain the device ID of the source token used for provisioning a new token.
01	3	PAN Issued Date	TLV	This tag contains the PAN Issued Date.
02	3	PAN Activation Date	TLV	This tag contains the date of activation of the card.
Dataset ID: 67, Token Verification Result Code				
08	1	Token Verification Result Code	TLV	• 1 = TAVV cryptogram failed validation • 2 = TAVV cryptogram passed validation • 3 = DTVV or Visa-defined format cryptogram passed validation • 4 = DTVV or Visa-defined format cryptogram passed validation The TAVV-only cryptogram option is applicable for token transactions without 3DS data
Dataset ID: 41, Replacement PAN Data				
01	13-19	Replacement PAN	TLV	This field is required when the PAN contained in Field 2—Primary Account Number is being replaced with a new PAN.
02	4	Replacement PAN Expiration Date	TLV	This field contains the expiration date of the new PAN in tag 01 or updatedexpiration date of the existing PAN. Format = yymm.
Dataset ID: 56, Device Parameter				
01	24	Device IMEI	TLV	This tag will contain the hardware ID of the device. NOTE This field will be included in the 0600 Token notification online request message when Field 63.3—Message Reason Code contains the value of 3700 (Token create).
02	1	OS ID	TLV	This tag contains the ID of Operating System during Provisioning.
03	1	Provisioning attempts on the device	TLV	This tag will contain the number of provisioning attempts on the device within the last 24 hours.
04	1	Account-To-Device	TLV	This tag will contain the number of days the device

		Bounding Age		was used by this account.
05	2	Device Country	TLV	This tag will contain the two-character alpha ISO country code of the device at the time of provisioning.
06	1	Token Protection Method	TLV	This tag will describe how the tokens are protected on the device. Valid values are: • 1 (Software) • 2 (Transaction execution environment (TEE)) • 3 (Secure element (SE)) • 4 (Cloud)
07	1	Presentation Type	TLV	This tag will contain the token presentment mode. Valid values are: • 1 (Near field communication (NFC)—Host card emulation (HCE)—or secure element (SE)) • 2 (Magnetic secure transmission) • 3 (QR–Consumer device) • 4 (QR–Consumer cloud)
08	24	Device Serial Number	TLV	This tag will contain the serial number of the mobile device.
09	1	Location Source	TLV	This tag will contain the source used to identify the consumer's location. Valid values are: • 1 (WiFi) • 2 (Cellular) • 3 (GPS) • 4 (Other)
0A	5	Device TimeZone	TLV	This tag will contain the device time zone.
0B	1	Device TimeZone Setting	TLV	This tag will indicate how the time zone setting was obtained. Valid values are: • 1 (Network set) • 2 (Consumer set)
0C	24	Device Bluetooth Media Access Control	TLV	This tag will contain the MAC address for Bluetooth.
0D	1	OS Type	TLV	This tag will indicate the operating system running on the device. Valid values are: • 1 (Android) • 2 (iOS) • 3 (Windows) • 4 (Blackberry) • 5 (Tizen) • 6 (Other)

Dataset ID: 57, Wallet Parameter

01	2	Wallet Provider PAN Age	TLV	This tag will contain the number of days that the user's PAN has been on file for the user.
02	2	User Account Age	TLV	This tag will contain the number of days since the user account for this user exists.
03	2	Wallet Account Age	TLV	This tag will contain the number of days since the user created the wallet account or started using the account.
04	2	Days Since Last Activity	TLV	This tag will contain the number of days since the last activity on the account.
05	2	Number Of Transactions, Last 12 months	TLV	This tag will contain the number of transactions on this account within the last 12 months.
06	2	Days Since Last Account Change	TLV	This tag will contain the number of days since account settings were changed.
07	1	Suspended Cards in Account	TLV	This tag will contain the number of cards suspended on the account
08	2	Wallet Account Country	TLV	This tag will contain the two-character alpha ISO country code of the account holder
09	1	Number Of Active Tokens	TLV	This tag will contain the number of active tokens on this account
0A	1	Number Of Devices With Active Token	TLV	This tag will contain the number of devices for this user with the same token.
0B	1	Number Of Active Tokens on All Devices	TLV	This tag will contain the number of active tokens for this user across all devices
0C	1	Consumer Entry Mode	TLV	This tag will indicate how the card information was entered on the device. Valid values are: • 1 (Key-entered) • 2 (Camera captured) • 3 (Unknown)
80	2	Wallet Account Email Address Age	TLV	Number of days email address exists (0000 - 9999).
81	1	Wallet Provider Phone Score	TLV	Value between 1 - 5, where 1 is least trusted and 5 is most trusted.

Sub Elements of DE-125 when DE-63.7 = 'MASTERCARD'				
Sub Field No.	**Field Name**	**MC Bit No.**	**Position**	**Format (ASCII)**
125.1	Token Expiration Date		1-4	4 N
125.2	Token Service Provider Identification		5-5	1 A
125.3	Token Assurance Level		6-7	2 N
125.4	Token Requestor ID		8-18	11 N
125.5	Contactless Usage		19-19	1 N
125.6*	Card on File Electronic Commerce Usage		20-20	1 N
125.7	Mobile/Digital Wallet Electronic Commerce Usage		21-21	1 N
125.8	Correlation ID		22-35	14 AN
125.9	Number of Active Tokens for the Primary Account Number		36-37	2 ANS
125.10	Issuer Product Configuration ID		38-47	10 ANS
125.11	Consumer Language		48-49	2 A
125.12	Final Tokenization Decision		50-50	1 ANS
125.13	Final Tokenization Decision Indicator		51-51	1 ANS
125.14	T&C Identifier		52-83	32 ANS
125.15	T&C Date and Time		84-93	10 ANS
125.16	Number of Activation Attempts		94-94	1 ANS
125.17	Token Unique Reference		95-142	48 ANS
125.18	Primary Account Number Unique Reference		143-190	48 ANS
125.19	Tokenization Event Indicator		191-191	1 N
125.20	Tokenization Event Reason Code		192-193	2 AN
125.21	Event Requestor		194-194	1 ANS
125.22	Primary Account Number Source		195-195	1 AN
125.23	Payment Application Instance		196-243	48 ANS
125.24	Device Source IP Address		244-255	12 ANS
125.25	Wallet Service Provider Account ID Hash		256-319	64 ANS
125.26	Cardholder Name		320-346	27 ANS

125.27	Wallet Service Provider Tokenization Recommendation		347-347	1 AN
125.28	Wallet Service Provider Tokenization Recommendation Standard Version		348-349	2 AN
125.29	Wallet Service Provider Device Score		350-350	1 N
125.30	Wallet Service Provider Account Score		351-351	1 N
125.31	Wallet Service Provider Tokenization Recommendation Reason Codes		352-357	6 ANS
125.32	Device Location		358-366	9 ANS

***Tlv Fields of DE-125 when DE-63.7 = 'MASTERCARD'**

Tag	Length	Value	Format	Content of Sub-Element
Dataset ID: 01, Wallet Program Data				
01	3	Wallet Identifier	TLV	The Wallet Identifier is added for MDES transactions when it is available, which identifies the wallet through which the MDES token was initiated. 103 - Apple Pay 216 - Google Pay 217 - Samsung Pay 327 - Merchant tokenization program
02	2	Token Transaction Identifiers	TLV	This subelement will contain, when available, the calculated Token Transaction Identifier to identify the transaction. Token Transaction Identifier is to be retained and used to provide the transaction details associated with an original purchase and subsequent reversal messages. The Token Transaction Identifier is only sent to issuers participating in the Mastercard Digital Enablement Service.
Dataset ID: 02, PAN Mapping File Information				
01	1	Account Number Indicator	TLV	(Account Number Indicator) indicates the type of PAN mapping account. **C** → Mastercard Digital Enablement Service secure element token **E** → Embossed account number provided by issuer **F** → Mastercard Digital Enablement Service static token **H** → Mastercard Digital Enablement Service cloud-based payments token **L** → Pay with rewards loyalty program operator [LPO] card

02	19	Account Number PAN	TLV	This Subfield contains the PAN mapping account number.
03	4	Expiration Date	TLV	This Subfield contains the expiration date of the PAN Mapping File Information. • **Acquirer Message** = contains the expiration date when – the issuer provided one for a PAN mapping record added to the MCC106 MDES PAN Mapping File – A transit transaction response contains MCC 4111, 4131, 4784, and 7523, or – The Mastercard Digital Enablement Service was applied. • **Issuer Message** = contains Contactless card/device expiration date, or virtual card expiration date, or Mastercard Digital Enablement Service token expiration date, only if acquirer provided in DE 14 • **Issuer and acquirer response message** = contains embossed Expiration date in response to transit transactions
04	2	Token Assurance Level	TLV	This Subfield contains a value indicating the confidence level of the token to PAN/cardholder binding.
05	11	Token Requester ID	TLV	This Subfield contains the ID assigned by the Token Service Provider to the Token Requestor. *- Contains the ID assigned by the Token Service Provider to the Token Requestor. The Token Requestor ID is optional for all token types.*
06	19	PAN Account Range	TLV	This Subfield contains the PAN Account Range.
07	2	Storage Technology	TLV	(Storage Technology) describes the Storage Technology of a requested or created token.
08	3	Payment Account Data	TLV	(Payment Account Data) contains unique, non-financial reference information associated with the PAN or token used to initiate the transaction.
Dataset ID: 03 Token Related Data				
01		Token Expiration Date	TLV	Expiration date that is embossed, encoded, or both on the card that represents the cardholder primary account number (primary account number). Format: YYMM

02	Token Service Provider Identification (TCN)	TLV	M = Mastercard Digital Enablement Service
03	Token Assurance Level	TLV	Assurance level assigned to the token (value between 00 and 99).
04	Contactless Usage	TLV	Contains value indicating if the token is permitted for use in contactless transactions. Values: • 0 = Token is not permitted for use in contactless transactions • 1 = Token is permitted for use in contactless transactions
05	Card on file electronic commerce usage	TLV	Contains value indicating if the token is permitted for use in card on file electronic commerce transactions. Values: • 0 = Token is not permitted for use in Card on File electronic commerce transactions • 1 = Token is permitted for use in card on file electronic commerce transactions
06	Mobile / digital wallet electronic commerce usage	TLV	Contains value indicating if the token is permitted for use in mobile/digital wallet electronic commerce transactions. Values: • 0 = Token is not permitted for use in mobile/digital wallet electronic commerce transactions • 1 = Token is permitted for use in mobile/ digital wallet electronic commerce transactions
07	Number of active tokens for the PAN	TLV	Number of active or suspended tokens for the primary account number digitized to consumer devices. Space-filled when token present in DE 48, subelement 33, subfield 2 (Account Number) in an 0100 Tokenization Complete Notification message is provisioned to a server. Presence of this field is conditional
08	Issuer product configuration id	TLV	The unique product configuration identifier applied to the token, as provided by the issuer, identifying a particular set of card art, texts, and other product related data, that were provided during the issuer enablement or maintenance process.

			Presence of this field is conditional.
09	Consumer language	TLV	Language preference selected by the consumer. Presence of this field is conditional.
0A	Final Tokenization Decision	TLV	The final tokenization decision that was used in the tokenization of the card. • 1 = Approve • 2 = Approve but requires additional authentication Presence of this field is conditional.
0B	Final Tokenization Decision Indicator	TLV	The element of the Service that was responsible for determining the final tokenization decision: • 1 = Tokenization Eligibility Response • 2 = Tokenization Authorization Response • 3 = Issuer pre-defined tokenization rules • 4 = Mobile Application Presence of this field is conditional.
0C	T&C Identifier	TLV	Identifier associated with the version of terms and conditions accepted by the consumer. Presence of this field is conditional.
0D	T&C Date And Time	TLV	Date and time that the consumer accepted the terms and conditions of the Service, specified in UTC units. Format: YYMMDDhhmm
0E	Number Of Activation Attempts	TLV	Number of activation code entry attempts by the cardholder. Space-filled when DE124, SF14 (Token Type) value is F. Presence of this field is conditional.
1A	Token Unique Reference (TCN)	TLV	Service-allocated unique reference to the token.
1B	PAN Unique Reference	TLV	Service-allocated unique reference to the tokenized Primary Account Number at the wallet level.
1C	Tokenization Event Indicator	TLV	Value indicating the event that has occurred on the Mastercard Digital Enablement Service for the token 3 = Deactivate 4 = Deleted from consumer device 6 = Suspend 7 = Resume 8 = Tokenization Exception Event 9 = Replacement

1D	Tokenization Event Reason Code	TLV	If the Tokenization Event Indicator contains value 8 (Tokenization Exception Event), this field contains a value indicating the event reason. If the Tokenization Event Indicator contains a value of 3 (Deactivate), 6 (Suspend), or 7 (Resume), this field will not be present. • 00 = Activation code retries exceeded • 01 = Activation code expired or invalidated • 02 = Activation code entered incorrectly by cardholder
	Event Requestor		If the Tokenization Event Indicator contains a value of 3 (Deactivate), 6 (Suspend), or 7 (Resume), this field will contain a value indicating the party that requested the event. If the Tokenization Event Indicator contains a value of 8 (Tokenization Exception Event) this field will be space filled. • 0 = Indicates the Tokenization Event was requested by the Wallet Provider or Token Requestor • 1 = Indicates the Tokenization Event was requested by the Funding Account issuer • 2 = Indicates the Tokenization Event was requested by the Cardholder • 3 = Indicates the Tokenization Event was requested in relation to a systematic event triggered by Mobile PIN Validation security (applicable to Tokenization Event Indicator value of 6 (Suspend), or 7 (Resume) only) • 4 = Indicates the Tokenization Event was requested in relation to a systematic event triggered by Mobile PIN Change Validation security (applicable to Tokenization Event Indicator value of 6 (Suspend), or 7 (Resume) only) • 5 = Reserved for future use • 6 = Reserved for future use • 7 = Reserved for future use • 8 = Reserved for future use • 9 = Reserved for future use
1E		TLV	
Dataset ID: 04, PAN Mapping File Information			
01	Primary Account	TLV	Identifies the method which the cardholder is

	Number Score		attempting to tokenize a primary account number with one of the following values: 1 = Card on file 2 = Card added manually 3 = Card added via application
02	Payment Application Instance ID	TLV	Identifier associated with the payment application installed onto a device.
03	Device Source IP Address	TLV	Variable length IP address. Each octet of the IP address is converted to hex, and joined into one string, with the order maintained.
04	Wallet Provider Account ID Hash	TLV	When provided by the Wallet Provider, the issuer may use this hash value to match against known identifiers for the cardholder; for example, their email addresses on file. If the hash values match, this may aid an issuer's digitization decision by providing additional factors to help verify that the Wallet Provider account holder is indeed their cardholder, or to differentiate between primary and secondary cardholders.
05	Cardholder name	TLV	This field may be present and contain the name of the cardholder. The format is either LASTNAME/FIRSTNAME with the names delimited by a slash "/" (Example: SMITH/JOE) or the format is FIRSTNAME LASTNAME (Example: JOE SMITH). If the cardholder's name is longer than 27 positions, the data will be truncated to the maximum length of 27.
06	Wallet provider Tokenization Recommendation	TLV	Tokenization decision suggested by the Wallet Provider. One of the following values: 0 = Decline 1 = Approve 2 = Require additional authentication
07	Wallet provider Tokenization Recommendation Standard Version	TLV	The version of the standards the Wallet Provider is using to determine the suggested tokenization recommendation.
08	Wallet Provider Device Score	TLV	Score assigned by Wallet Provider for the device. Value between 1 and 5.

09	Wallet Provider Account Score	TLV	Score assigned by Wallet Provider for the primary account number. Value between 1 and 5.
0A	Wallet Provider Tokenization Reccomendation Reason Codes	TLV	Code indicating the specific reason the Wallet Provider is suggesting the tokenization recommendation. The data of this field is a hex-encoded bitmap, whereby each bit corresponds to a specific Reason Code. The bitmap is big-endian with the least significant bit corresponding to Reason Code 01, with the next least significant bit corresponding to Reason Code 02, and so on. For example, if Reason Codes 01, 05, and 16 were encoded, the bitmap would be 00000000100000000000100001 and the hex value of this field would be 008011. If the Wallet Provider has no reason, this field will contain spaces.
0B	Device Location	TLV	Latitude and longitude where the device the consumer is attempting to tokenize a card onto is located. Device Location Latitude – an-4; hexadecimal encoded degrees with 2 decimal places Device Location Longitude – an-4; hexadecimal encoded degrees with 2 decimal places Device Location Lat/Long Sector – n-1 – one of the following values: 1 = Latitude = N, Longitude = W 2 = Latitude = N, Longitude = E 3 = Latitude = S, Longitude = W 4 = Latitude = S, Longitude = E This field will contain spaces if the Wallet Provider has not provided this information.

125.6* (Card on File Electronic Commerce Usage)

Contains value indicating if the token is permitted for use in card on file electronic commerce transactions.

Possible Values:

0 = Token is not permitted for use in Card on File electronic commerce transactions.

1 = Token is permitted for use in Card on File electronic commerce transactions.

Sub Elements of DE-125 when DE-63.7 = 'UNIONPAY'				
Tag	Length	Value	Format	Content of Sub-Element
Dataset ID: QR, Token Data				
01	3	QRC Use Case Indicator	ANS	Valid values: 100- Consumer-presented QRC, purchase transaction. 210- Merchant-presented QRC, purchase transaction. 211- Merchant-presented QRC, purchase transaction, debit card only. Example: purchasing financial products. 220- Merchant-presented QRC, ATM cash withdrawal. 212- Merchant-presented QRC, purchase transaction in small businesses. 231- P2P QRC-based Payment, primary credit transaction. 232- P2P QRC-based Payment, account funding transaction,
02	20	QRC Voucher Number	ANS	Generated by UnionPay system. The payment index is unique permanently. It is used to locate a transaction.
03	34	C2B Payment Code	ANS	The information contained in the Consumer-presented QRC.
04	11	Wallet ID 1	ANS	Assigned by UPI. It indicates the Wallet ID of payer.
05	11	Wallet ID 2	ANS	Assigned by UPI. It indicates the Wallet ID of payee.

Sub Elements of DE 125 when DE63.7 = 'DISCOVER'

Sub Field No	Field Name	Discover Bit No	Data set	TAG	Format	Values
125.1	Token Requestor ID	106	61	02	16 AN	This tag will contain the ID of Token Requestor. This tag may not be present to all Merchant / Acquirers.
125.2	Token Assurance	106	61	03	2 AN	This tag will contain a

	Level					value that indicates the confidence level of the Payment Token to PAN Cardholder binding. Contact your Discover Account Executive for further clarification on the use of this field.
125.3	PAN Data	106	61	04	19 AN	Contains Primary Account data for the tokenized Account. Acquirers and Merchant Processors must not forward PAN data to Merchants. This tag may not be present to all Merchant / Acquirers. Contact your Discover Network Account Executive for further clarification on the use of this field.
125.4	Payment Token Number	106	61	05	19 AN	This is the Payment Token number.
125.5	Token Expiry Date	106	61	06	4 AN	The expiration date of the Payment Token. Format = YYMM.
125.6	PAN Expiration Date	106	61	13	4 AN	The PAN expiration date for the Primary Account Number. Format = YYMM
125.7	Token Network Transaction Identifier	106	61	14	64 AN	This tag will contain a unique Transaction ID generated by Discover Digital Platform.
125.8	Token ID	106	61	18	64 AN	Service-allocated unique reference to the token.
125.9	Token Domain Type	106	61	20	2 AN	Contains a value indicating the type of Payment Token present. 01 ECOM/COF- E-Commerce/Card-on-File 02Secure Element 03HCE / Cloud-Based Payment 04CBP (Cloud Based

						Payment)
125.10	Device Type	106	62	01	2 AN	This tag contains the device type. Possible values: 125.10 Possible values of device types 92
125.11	Device ID	106	62	06	64 AN	A stable persistent hardware identifier of the device (e.g. the secure element identifier (SEID) provided by the digital wallet).
125.12	Full Phone Number	106	62	08	20 AN	A full phone number, if provided by the digital wallet.
125.13	Device Name	106	62	10	64 ANS	Commercial name (model) of the device, as defined by the device provider
125.14	Device Location	106	62	12	35 ANS	This tag contains the geographic location of the device. Location is latitude/longitude rounded to nearest whole digit; for example, +37/-121. May present when function code is 641
125.15	Device IP Address	106	62	13	35 ANS	This tag contains the IP address of the device at the time of the provisioning request. May present when function code is 641. This value will be in the format: 255.255.255.255. Each octet (255) may be 1–3 digits in length. (align with V+ data in Field 63)
125.16	Account Risk	106	63	05	2 AN	A value of 01–05, with a value of 05 as the most trusted
125.17	Device Risk	106	63	04	2 AN	A value of 01–05, with a value of 05 as the most trusted
125.18	Risk Reason	NA	NA	NA	3 N	Identified risk reason code for identifying provision risk color

125.19	Phone no. (Last 4)	NA	NA	NA	4 N	User phone number if available (Last)
125.20	Provisioning Risk	NA	NA	NA	10 AN	Risk rating based on experience with the customer and device being provisioned. Possible values are GREEN YELLOW ORANGE RED
125.21	Token Notification Type	NA	NA	NA	4 N	Specific operation that needs to performed on the Token associated with the tokenId
125.22	Correlation Id	NA	NA	NA	64 ANS	This is a value that is returned by the Issuer. This allows the Issuer to tie together Verify Card calls with Provision Credential calls as these happen asynchronously.
125.23	OTP	NA	NA	NA	8 AN	OTP code entered by user / received from network
125.24	Cardholder Verification Method Identifier	NA	NA	NA	1 N	
125.25	Cardholder Verification Method Value	NA	NA	NA	64 AN	
125.26	Token Authorization Request (TAR) Indicator	NA	NA	NA	1 N	If 1 it means the request is Token authorization request.
125.27	Billing Address	NA	NA	NA	128 ANS	Full Billing Address of the Cardholder
125.28	Billing Zip	NA	NA	NA	24 ANS	Full postal code of the Customer
125.9	Token Status	NA	NA	NA	1 N	Token Status
125.30	Replacement DPAN Expiry	NA	NA	NA	4 ANS	Replacement DPAN Expiry
125.31	Replacement PAN	NA	NA	NA	19 ANS	Replacement PAN
125.32	Wallet Type	NA	NA	NA	5 AN	Token Wallet Type

125.10 Possible values of device types

Device Type	Description
00	Card (default)
01	Mobile Network Operator (MNO) controlled removable secure element (SIM or UICC) personalized for use with a mobile phone or smartphone
02	Key fob Data Element
03	Watch using a contactless chip or a fixed (nonremovable secure element not controlled by the MNO.
04	Mobile Tag
05	Wristband
06	Mobile Phone Case or Sleeve
07	Mobile phone or smartphone with a fixed (nonremovable) secure element controlled by the MNO, for example, code division multiple access (CDMA).
08	Removable secure element not controlled by the MNO, for example, memory card personalized for used with a mobile phone or smartphone.
09	Mobile phone or smartphone with a fixed (nonremovable) secure element not controlled by the MNO.
10	MNO controlled removable secure element (SIM or UICC) personalized for use with a tablet or ebook. 11, Tablet or E-Book with a fixed (non-removable) secure element controlled by the MNO.
12	Removable secure element not controlled by the MNO, for example, memory card personalized for use with a tablet or e-book 13, Tablet or e-Book with fixed (non-removable) secure element not controlled by the MNO.
14	Mobile Phone or Smartphone with a payment application running in a host processor. 15, Tablet or e-Book with a payment application running in a host processor.
16	Mobile Phone or Smartphone with a payment application running in the Trusted Execution Environment (TEE) of a host processor.
17	Tablet or e-Book with a payment application running in the TEE of a host processor.
19	Watch with a payment application running in a host processor.
20	Card Added for use when the device type is used only to indicate the form factor.
21	Mobile phone
22	Tablet computer or e-reader
23	Watch or Wristband. Includes a fitness band, smart strap, disposable band, watch add-on, and security/ID band.
24	Sticker
25	PC or laptop
26	Device Peripheral. Includes Mobile phone case or sleeve.
27	Tag. Includes key fob or mobile tag.
28	Jewelry. Includes ring, bracelet, necklace, and cuff links.
29	Fashion Accessory Handbag, bag charm, and glasses
30	Garment; Dress
31	Domestic Appliance Includes refrigerator, washing machine.
32	Vehicle Includes vehicle and vehicle attached devices.
33	Media/Gaming Device Includes a set top box, media player, and television.
34	Reserved for future form factors.
35	Cloud
36	Other
37	Household device
38	Wearable device
39	Automobile device
40-99	Reserved for future form factors. Any value in this range may occur within form factor and transaction data without prior notice.

Tag	Length	Value	Format	Content of Sub-Element
Dataset ID: 01, Request Header				
	1-64	Request ID	TLV	A unique reference for Request. This should be freshly generated by the client for every API Call. This enables easier troubleshooting of issues between the MPP and the NWP
01	1-64	Session ID	TLV	This is a Unique Identifier created by the MPP to represent a provisioning attempt for an Account on a device. It is used to tie together the activity across the different APIs up until the point that there has been a successful provisioning. Required for following APIs only Account Eligibility Verify Card Provision Credentials • OOB Contact Channels • OOB Contact Channel • OOB Authentication • OOB Authentication Validation
02	16	Program ID	TLV	This tag contains the cumulative count of transactions for the current limited-use key (LUK).This is a unique identifier that identifies the product and the institution participating in the scheme. The value to be sent will be provided by NWP.
Dataset ID: 02, User Context				
01	1-100	Wallet ID	TLV	The Wallet ID passed in the request
02	1-64	Device ID	TLV	The Device ID passed in the request
03	1-100	User ID	TLV	The User ID passed in the request
Dataset ID: 03, Account Eligibility Context				
01	1-64	Terms & Condition ID	TLV	The identifier for the version of the terms and conditions that are to be accepted by the user during this provision cycle. The actual T&Cs are retrieved by calling the Resource API.
02	1-64	Terms & Condition Accepted Date	TLV	This Tag Contains the Terms and Condition Accepted Date
03	19	PAN	TLV	The Primary Account Number representing the Account that is to be boarded onto the wallet.
04	4	PAN ID	TLV	
05	3	Expiry Date	TLV	The Expiry Date of the card in format *MMYY.*

06	1-64	CardHolder Name	TLV	Full name of the Cardholder. The Cardholder name can contain special characters such as diacritic marks (umlauts, cedillas, accents) or Emoji characters so it is difficult to restrict the values on this. The transport will validate that it is a UTF-8 character.
07	128	Billing Address	TLV	Full Billing Address of the Cardholder
08	24	Billing Postal Code	TLV	Full Billing Zip of the Customer
09	20	Source	TLV	This indicates which method was used to capture the user information that is being sent. "add-device" - Provision a companion device using the details of a previously provisioned device "in-app" - This is set when the provision Request is initiated from Card Mobile app "on-file" - This is set when the account is already present "restore" – This is set when is provision is initiated as a result of restore of previously provisioned pan. E.g., a new device registered with wallet account with previously digitalized pan. "user-input" – User manually
0A	1	Capture Method	TLV	Capture Method • Camera • Manual
Dataset ID: 04, Device Context				
01	1-64	device bluetooth mac	TLV	Device bluetooth MAC address (e.g., 00-16-68 or 00-16-68-2B-40-90 or 00:16:68:2B:40:90 or 0016682B4090 or 00.16.68.2B.40.90)
02	1-64	device brand	TLV	Brand of the device. Eg. "Google" for nexus devices ,"Samsung" for Samsung devices
03	2	device country	TLV	Country where the device was purchased (iso 3166-1 alpha-2)
04	64	device id type	TLV	Type of the device id from which it is sources. E.g., TEE
05	15-32	device ip	TLV	IP Address of the device
06	1-64	device manufacturer	TLV	Mobile Manufacturer (Google, Samsung etc)
07	1-64	device model	TLV	Device Model (Galaxy 56,LG, G4, HTC etc)
08	1-100	device name	TLV	User Assigned Device Name
09	1-64	device os build	TLV	Device OS build version (9.3.2, 4.1.1. etc)
10	1-64	device os type	TLV	Device OS type (Android, Windows, Symbian etc)
11	1-32	device os version	TLV	Mobile operating system version (Android 4.4.2, Kitkat 5.0.3, etc...)
12	1-32	device time zone	TLV	Device time zone. example: "GMT-08:00"

13	4-35	device time zone settings	TLV	true if user lets timezone be set timezone Network, false if user set own timezone.
14	1-3	device type	TLV	Type of device 1 – Mobile 2 – Tablet 3 – Watch 2 5 – Phone_Tablet 6 – PC/Mac 7 - Cloud 99 – Other
15	1-20	device user id	TLV	Device User ID
16	2-4	imei	TLV	Last 2 or 4 digits. Issuer app can query for IMEI / MEID through standard android API. Issuer can then compare their independently derived knowledge of the IMEI/MEID to the last 2 or 4 characters that are sent. Customer service can use IMEI last 2 or 4 characters in support scenarios to verify they are speaking with the holder of the device, and to disambiguate a device.
17	10	language	TLV	Code for identifying the device language. Based on IEFT BCP 47. If not provided, this will be defaulted to en-US.
18	1-16	latitude	TLV	Coordinates (latitude) of the device when it is being provisioned
19	1-64	location source	TLV	Source from which location of the device is identified e.g., WiFi, Cellular, GPS
20	1-16	longitude	TLV	Coordinates (longitude) of the device when it is being provisioned
21	5-64	parent device id	TLV	A stable persistent hardware identifier of the parent device that survives factory resets (e.g., Device id of the phone when watch is provisioned)
22	4	phone number	TLV	User phone number if available (Last)
23	2-4	serial number	TLV	The last 2 to 4 digits of the device Serial number
Dataset ID: 05, User Provision Context				
01	1-300	email address	TLV	Device profile email Address. This will be obfuscated if supplied.
02	1-4	email address age	TLV	Age of profile email id in weeks
03	2	email address country	TLV	Country of device at time of provisioning (iso 3166-1 alpha-2)
04	1-64	hashed email address	TLV	Hashed Email Address / Account Id

Dataset ID: 06, Risk Context				
01	1	account risk	TLV	MPP risk rating based on experience with the customer account. Numeric score from 1-5. 1 – Highest Risk, Lowest Confidence. 5 – Lowest Risk, Highest Confidence.
02	1	device risk	TLV	MPP risk rating based on experience with the device being provisioned. Numeric score from 1-5. 1 – Highest Risk, Lowest Confidence. 5 – Lowest Risk, Highest Confidence.
03	1-10	provisioning risk	TLV	MPP risk rating based on experience with the customer and device being provisioned. Possible values are GREEN YELLOW ORANGE RED
04	1-2	age of device usage by account	TLV	Number of weeks since the device was used by the wallet account. Max value is 99.
05	1-2	age of last account activity	TLV	Number of weeks since last activity by the wallet account (provision, refresh, lifecycle events from the wallet account across Networks/Issuers). Max value is 99.
06	1-2	age of last account change	TLV	Number of weeks since the last change to the wallet account. Max value is 99.
07	1-4	age of tokenized card	TLV	Number of weeks since another card from the same issuer was tokenized on a device. Max value is 9999.
08	1-4	age of wallet account	TLV	Age of user's financial relationship with mobile platform (in weeks)
09	1-4	card on file tenure	TLV	Age of card on file (in weeks). Applicable only for card-on file use cases
0A	2	country during provision	TLV	Country of device at time of provisioning (iso 3166-1 alpha-2)
0B	1-3	number of tokens account	TLV	Number of Tokens for the wallet account across devices. Max value is 999.
0C	1-3	number of tokens device	TLV	Number of Tokens on physical device.
0D	1-2	suspended tokens in account	TLV	Number of suspended Tokens in the wallet account. Max value is 99.
0E	1-2	total provisioning	TLV	Number of provisioning attempts on the device for

		attempts		the last 24 hours. Max value is 99.
11	1-4	total transaction count for year	TLV	Total number of transaction count by the wallet account in the past 12 months (at the account level across devices, Networks, partners etc). Max value is 9999.
12	1-3	risk reason code	TLV	MPP identified risk reason code for identifying provision risk color.
Dataset ID: 06, Token Context				
01	12-19	token	TLV	The tokenized Account Number representing the Account that is to be boarded onto the wallet. This is the Account Number that will used for tokenized Transactions.
02	4	Token expiry Date	TLV	The expiry Date of the Token in format MMYY.
03	32-64	Token id	TLV	This is an opaque identifier for the Token in the wallet associated with the programId.
04	2	Token type	TLV	A classification of the type of Token being passed 01 - Card on File (individual Merchant) 04 – CBP (Cloud Based Payment)
05	1-32	Selected channel identifier	TLV	Unique identifier of the out-of-band contact channel selected by the user. This is the value of one of the identifiers returned in the getOOBContactChannels Response.

Data Element 109 – Advice Reason Code Table

Sub Elements of DE 109 when DE63.7 = 'MASTERCARD' and 48.9 = 'SMS'				
Sub Field No	**Field Name**	**MC Bit No**	**Position**	**Format**
109.1	Message Reason Code	60.1	1-3	3N
109.2	Message Reason Code Detail	60.2	4-7	4N
109.3	Detail Text	60.3	8-60	53 ANS
109.4	Additional Text	60.4	61-100	40 AN

Sub Elements of DE 109 when DE63.7 = 'MASTERCARD' and 48.9 = 'DMS'				
Sub Field No	**Field Name**	**MC Bit No**	**Position**	**Format**
109.1*	Message Reason Code	N/A	1-7	7N

109.1*: Multi-Clearing Indicators

- Multi-Clearing → '**1403'** (If Field 109 **contains** value '1403', It is a multi-clearing)
- Final Clearing → '**1404'** (If field 109 **contains** value '1404', it is the last clearing in multiclearing cycle)

Sub Elements of DE 109 when DE63.7 = 'STAR' and 48.9 = 'AXS'				
Sub Field No	**Field Name**	**STAR Bit No**	**Position**	**Format**
109.1*	Advice/Reversal Reason Code	60	1-6	AN-6

109.1*

Represents the advice/reversal reason code. Issuers may use specific advice reason codes to notify acquirer of the reason for a decline on a recurring payment authorization.

Position 1-2: Indicates which reason code is present	• **80** = Reversal Reason present • **40** = Advice Reason present • **C0** = Both reversal and advice reason subfields are present.
Position 3-4: Depending upon the previous field, this field contains either a valid advice/reversal reason code.	• **RR** (A valid reversal reason code) • **AA** (A valid advice reason code)
Position 5-6: Present only if the first two positions contain 'C0', then reversal code is present at position 3-4 and advice reason code in at these two positions.	• **C0RRAA** (where RR is reversal reason code & AA is advice reason code)

Sub Elements of DE 109 when DE63.7 = 'DISCOVER'				
Sub Field No	Field Name	DISCOVER Bit No	Position	Format
109.1	Message Reason Code	25	1-2	2 N

Possible values with description:

Reversal Reason Codes	
Code	Definition
00	Customer Cancellation
01	Unspecified; No Action Taken
02	Suspected Malfunction
03	Format Error; No Action Taken
04	Completed Partially
05	Original Amount Incorrect
06	Response Received Too Late
07	Card Acceptor Device (POS Device) Unable to Complete Transaction
13	Unable to Deliver Message to Point of Sale (POS)
14	Suspected Malfunction/Card Retained
16	Suspected Malfunction/Track 3 Not Updated
17	Suspected Malfunction/No Cash Dispensed
18	Timed-Out at Taking Money/No Cash Dispensed
19	Timed-Out at Taking Card/Card Retained and No Cash Dispensed
20	Invalid Response; No Action Taken
21	Timed-Out Waiting for Response
22	Invalid Card Product Code
51	Return (of goods or services)
52	Credit Adjustment
Advice Reason Codes	
Code	Definition
62	Invalid Card Product Code
63	Merchant is not in Inclusion Table
64	Reserved
65	Reserved
66	Issuer unavailable
67	Issuer's rules failed
68	AVS verification failed
69	Reserved
70	Mobile Passcode not verified
71	Mobile Transaction Amount exceeds stand-in limit

72	Network Declined: Suspected Fraud
73	Automated Fuel Dispenser - final Card Sale amount
74	Host Capture - final Card Sale amount

Administrative Transaction Request Reason Codes	
Code	Definition
80	Instant Credit Support – Consumer
81	Application Status – Consumer
82	Authorized User Inquiry – Consumer
83	Account Inquiry – Consumer
84	Account Maintenance – Consumer
90	Instant Credit Support - Business
91	Application Status – Business
92	Authorized User Inquiry – Business
93	Mobile Passcode not verified Account Inquiry – Business
94	Account Maintenance – Business

Sub Elements of DE 109 when DE63.7 = 'FISERV'				
Sub Field No	Field Name	FISERV Bit No	Position	Format
109.1	Message Reason Code	25	1-4	4N

Possible values of Field-109 with description for FISERV:

Advice Reason Codes (For 01xx and 02xx messages)	
Code	Definition
1000	Stand-in processing at the card issuer's option
1001	Stand-in because card issuer was signed off
1002	Stand-in because card issuer timed out on original request
1003	Stand-in because card issuer was unavailable
1004	Terminal processed
1005	ICC processed
1006	Under floor limit
1007	Stand-in processing at the acquirer's option

1008	Credit adjustment
1376	Default value

Advice Reason Codes (For 04xx messages)	
Code	**Definition**
4000	Customer/Merchant cancellation
4001	Unspecified
4002	Suspected malfunction
4003	Format error; no action taken
4004	Completed partially (under dispense)
4005	Original amount incorrect
4006	Response received too late (late response reversal)
4007	Card acceptor device unable to complete transaction
4013	Unable to deliver message to point of service
4014	Acquirer denial suspect fraud
4021	Time out waiting for response (early reversal)

Appendix D – Sample Messages

Sample Network Request/Response Messages (0800, 0810)

Request Message [0800] (ASCII format)

```
006708008220000008000000040000000000000004091115300880019099160880010 81
```

Where,

Message length (4-bytes): 0067

MTI (4-bytes): 0800

Bitmaps (32 bytes): 8220000008000000040000000000000

Data Elements (31 bytes): 0409111530088001909916088001081

Parsed Data Elements:

DE 007 = 0409111530

DE 011 = 088001

DE 037 = 909916088001

DE 070 = 081

Response Message [0810] (ASCII format)

```
00690810822000000A000000040000000000000004091115300880019099160880010 0081
```

Where,

Message length (4-bytes): 0069

MTI (4-bytes): 0810

Bitmaps (32 bytes): 822000000A000000040000000000000

Data Elements (33 bytes): 0409111530088001909916088001000 81

Parsed Data Elements:

DE 007 = 0409111530

DE 011 = 088001

DE 037 = 909916088001

DE 039 = 00

DE 070 = 081

Request Message [0800] (Bytes format)

Request Message (represented in Hex):
003330383030822000000080000000400000000000000030323236303932363536303838303031393035373134303838303031303831

Where,
Message length (2-bytes): 0033 (51 bytes)
MTI (4-bytes): 30383030 (0800)
Bitmaps (16 bytes): 82200000008000000040000000000000
Data Elements (31 bytes): 30323236303932363536303838303031393035373134303838303031303831

Parsed Data Elements:
DE 007 = 0226092656
DE 011 = 088001
DE 037 = 905714088001
DE 070 = 081

Response Message [0810] (Bytes format)

Request Message (represented in Hex):
0035303831308220000000A000000040000000000000003032323630393236353630383830303139303537313430383830303130303831

Where,
Message length (2-bytes): 0035 (53 bytes)
MTI (4-bytes): 30383130 (0810)
Bitmaps (16 bytes): 822000000A000000040000000000000000
Data Elements (33 bytes):
3032323630393236353630383830303139303537313430383830303130303831

Parsed Data Elements:
DE 007 = 0226092656
DE 011 = 088001
DE 037 = 905714088001
DE 039 = 00
DE 070 = 081

Sample Authorization Request/Response Messages (0100, 0110)

Request Message [0100] (represented in Hex):

01F830313030F67A449108E0A40A0000000004020000313531303031393438363837333635363430303030
303030303030303030303530303030303030303030303030353031303030313232313332393138363130303230
303030313633373231383239313830313232303132323535343139303230304430303030303030303036303
030303030383032323133303136333732544524D4944303143415244204143434550544F5220204143515
549524552204E414D4520202020202020202020202043495459204E414D4520202020434155534138343030
383430303230303037323834304430303030303030303031303030313630303030303030303034303230
303030373030303032202020203132333435363132333435363132332020202020202020202030202020
202020202020202020202020202020202020202056495341202020202020202031353130303139343836383
373336353634313534203132333435363132333435363132332020202020303020202020202020202020202020
202020202020202020202020202020303030303030203030303030303030303030203030303030303030303030
303020202020203030303030303030303030202020202020202020202020303030323030303030303030303030
303030303030202020202020202020202020202020203030202020203037363838393932

Parsed Message [0100]:
DE-2 [100194868736564]
DE-3 [000000]
DE-4 [000000050000]
DE-6 [000000050100]
DE-7 [0122132918]
DE-10 [61002000]
DE-11 [016372]
DE-12 [182918]
DE-13 [0122]
DE-15 [0122]
DE-18 [5541]
DE-22 [902]
DE-25 [00]
DE-28 [D00000000]
DE-32 [000000]
DE-37 [802213016372]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-43 [ACQUIRER NAME CITY NAME CAUSA]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736564]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 0002000000000000000000 0768892]

Response Message [0110] (represented in Hex):

01CE30313130F67A00910EC0A40A0000000004020000313531303031393438363837333635363430303030
303030303030303030303530303030303030303030303030353031303030313232313332393138363130303230
303030313633373231383239313830313232303132323035304430303030303030303036303030303030383030
323231333031363337323030313234353531544524D4944303143415244204143434550544F5220203834
303834303032303030373238343044303030303030303030313030303136303030303030303034303230
303030303730303030322020202031323334353631323334353631323320202020202020202020203020202
020202020202020202020202020202020202020202056495341202020202020202031353130303139343836
383733363536343135342031323334353631323334353631323320202020203030202020202020202020202020
202020202020202020202020202020202030303030303020303030303030303030303020303030303030303030

303030202020202030303030303030303030202020202020202020202020303030323030303030303030303030303030303030202020202020202020202020202020202020303020202020303736383839 32

Parsed Message [0110]:

DE-2 [100194868736564]
DE-3 [000000]
DE-4 [000000050000]
DE-6 [000000050100]
DE-7 [0122132918]
DE-10 [61002000]
DE-11 [016372]
DE-12 [182918]
DE-13 [0122]
DE-15 [0122]
DE-25 [00]
DE-28 [D00000000]
DE-32 [000000
DE-37 [802213016372]
DE-38 [001245]
DE-39 [51]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736564]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 0002000000000000000000 0768892]

Sample Authorization Advice Request/Response Messages (0120, 0130)

Request Message [0120 (represented in Hex):

01FA30313230F67A44D108E0A40A00000000040200003135313030313934383638373336353634303030303
030303030303030303030353030303030303030303030303530313030303132323133333333303036313030323030
0303031363337343138333330303031323230313232353534313930323030303044303030303030303030303
63030303030303830323231333031363337345445524D4944303143415244204143434550544F522020414
3515549524552204E414D452020202020202020202020202043495459204E414D4520202020434155534138
343038343030323030303732383430443030303030303030303031303030313630303030303030303030343032
30303030303730303030322020202031323334353631323334353631323320202020202020202020202020203020
20202020202020202020202020202020202020202020202056495341202020202020202031353130303139343838
363837333635363431353420313233343536313233343536313233202020202030302020202020202020202020
20202020202020202020202020202020202030303030303020303030303030303030302030303030303030303030
30303030202020202020303030303030303030303020202020202020202020202020203030303230303030303030
303030303030303030202020202020202020202020202020303020202020303938343730370

Parsed Message [0120]:

DE-2 [100194868736564]
DE-3 [000000]
DE-4 [000000050000]
DE-6 [000000050100]
DE-7 [0122133300]
DE-10 [61002000]
DE-11 [016374]
DE-12 [183300]
DE-13 [0122]
DE-15 [0122]
DE-18 [5541]
DE-22 [902]
DE-25 [00]
DE-26 [00]
DE-28 [D00000000]
DE-32 [000000]
DE-37 [802213016374]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-43 [ACQUIRER NAME CITY NAME CAUSA]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736564]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 000200000000000000000
00 0984707]

Response Message [0130] (represented in Hex):

01C830313330F67A00910AC0A40A00000000040200003135313030313934383638373336353634303030303
030303030303030303030353030303030303030303030303530313030303132323133333333303036313030323030
030303136333734313833333030303132323031323230304430303030303030303030363030303030303038303
2323133303136333734353154455244D4944303143415244204143434550544F522020383430383430303230323
030303732383430443030303030303030303031303030313630303030303030303030343032303030303037303
03030322020202031323334353631323334353631323320202020202020202020202020203020202020202020202
0202020202020202020202020202020202056495341202020202020202031353130303139343836383733363536

4313534203132333435363132333435363132332020202020303020202020202020202020202020202020202
0202020202020202020303030303030203030303030303030303020303030303030303030303030302020202
0203030303030303030303020202020202020202020202020203030303230303030303030303030303030303
0202020202020202020202020202020203030202020202030393834373037

Parsed Message [0130]:

DE-2 [100194868736564]
DE-3 [000000]
DE-4 [000000050000]
DE-6 [000000050100]
DE-7 [0122133300]
DE-10 [61002000]
DE-11 [016374]
DE-12 [183300]
DE-13 [0122]
DE-15 [0122]
DE-25 [00]
DE-28 [D00000000]
DE-32 [000000]
DE-37 [802213016374]
DE-39 [51]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736564]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 00020000000000000000 00 0984707]

Sample Financial Request/Response Messages (0200, 0210)

Request Message [0200] (represented in Hex):

01FA30323030F67A44D108E0A40A000000000402000031353130303139343836383733363635343030303
030303030303030303035303030303030303030303035303130303031323231333331343136313030323030
03030313633337333138333134313031323230313232353534313930323030303044303030303030303030303
6303030303030383032323133303136333373354455524D494430314341524420414343455054F522020414
3515549524552204E414D4520202020202020202020202020202043495459204E414D452020202020434155534138
3430383430303230303037323834304430303030303030303031303030313630303030303030303030343032
303030303037303030303220202020313233343536313233343536313233202020202020202020202020203020
2020202020202020202020202020202020202020202020205649534120202020202020202031353130303139343 8
3638373336363534313534203132333435363132333435363132332020202020303020202020202020202020
2020202020202020202020202020202020203030303030302030303030303030303030302030303030303030303030
3030303020202020202030303030303030303030302020202020202020202020202020303030323030303030303030
303030303030303030202020202020202020202020202020202020203030202020202030393035343430

Parsed Message [0200]:

DE-2 [100194868736654]
DE-3 [000000]
DE-4 [000000050000]
DE-6 [000000050100]
DE-7 [0122133141]
DE-10 [61002000]
DE-11 [016373]
DE-12 [183141]
DE-13 [0122]
DE-15 [0122]
DE-18 [5541]
DE-22 [902]
DE-25 [00]
DE-26 [00]
DE-28 [D00000000]
DE-32 [000000]
DE-37 [802213016373]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-43 [ACQUIRER NAME CITY NAME CAUSA]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736654]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 0002000000000000000 00 0905440]

Response Message [0210] (represented in Hex):

01D230323130F67A40910EC0A40A000000000402000031353130303139343836383733363635343030303
030303030303030303035303030303030303030303035303130303031323231333331343136313030323030
0303031363333733313833313431303132323031323235353431303044303030303030303030303636303030303
030383032323133303136333733303031323435353154455524D494430314341524420414343455054F522
0203834303834303032303030373238343044303030303030303030313030303136303030303030303030303
4303230303030303037303030303220202020313233343536313233343536313233202020202020202020202
0302020202020202020202020202020202020202020202020202020565495341202020202020202020313531303031 3
93438363837333636353431353420313233343536313233343536313233202020202020303020202020202020202

02020202020202020202020202020202020303030303020303030303030303030302030303030303030303030202020202030303030303030303030202020202020202020202020303030323030303030303030303030303030303030202020202020202020202020202020202020303020202020303930353434 30

Parsed Message [0210]:

DE-2 [100194868736654]
DE-3 [000000]
DE-4 [000000050000]
DE-6 [000000050100]
DE-7 [0122133141]
DE-10 [61002000]
DE-11 [016373]
DE-12 [183141]
DE-13 [0122]
DE-15 [0122]
DE-18 [5541]
DE-25 [00]
DE-28 [D00000000]
DE-32 [000000]
DE-37 [802213016373]
DE-38 [001245]
DE-39 [51]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736654]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 0002000000000000000000 0905440]

Sample Financial Advice Request/Response Messages (0220, 0230)

Request Message [0220] (represented in Hex):

01FA30323230F67A44D108E0A40A0000000004020000313531303031393438363837333636353430303
03030303030303030303035303030303030303030303030353031303030313232313333333353737363130303232303
03030313633337353138333333537303132323031323235353431393032303030304430303030303030303030303
630303030303038303232313333031363337355445524D494430314341524420414343455054F522020414
3515549524552204E414D4520202020202020202020202020202043495459204E414D45202020202043415534138
34303834303032303030373238343044303030303030303030313030303136303030303030303030303430
32
303030303037303030303220202020313233343536313233343536313233202020202020202020202020203020
20202020202020202020202020202020202020202020202020564953412020202020202020203135313030313934
38
36383733363635343135342031323334353631323334353631323320202020203030202020202020202020202020
20202020202020202020202020202020202020202030303030303020303030303030303030303020303030303030303030
30303030202020202020303030303030303030303020202020202020202020202020203030303230303030303030303030
30303030303030303020202020202020202020202020202020202020203030202020202030202020202020

Parsed Message [0220]:
DE-2 [100194868736654]
DE-3 [000000]
DE-4 [000000050000]
DE-6 [000000050100]
DE-7 [0122133357]
DE-10 [61002000]
DE-11 [016375]
DE-12 [183357]
DE-13 [0122]
DE-15 [0122]
DE-18 [5541]
DE-22 [902]
DE-25 [00]
DE-26 [00]
DE-28 [D00000000]
DE-32 [000000]
DE-37 [802213016375]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-43 [ACQUIRER NAME CITY NAME CAUSA]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736654]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 00020000000000000000
00 0]

Response Message [0230] (represented in Hex):

01CE30323330F67A00910EC0A40A000000000402000031353130303139343836383733363635343030303
30303030303030303030303035303030303030303030303030303530313030303132323133333333353737363130303230
30303031363333735313833333353730313232303132323030443030303030303030303036303030303030303830
32323133303136333373530303132343535315445524D494430314341524420414343455054F5220203834
30383430303230303037323834304430303030303030303030313030303136303030303030303030303034303230
30303030373030303032202020203132333435363132333435363132332020202020202020202020202030202020
20202020202020202020202020202020202020202020202020564953412020202020202020203135313030313934383
6
38373336363534313534203132333435363132333435363132332020202020303020202020202020202020202020

202020202020202020202020202020303030303030203030303030303030302030303030303030303030303030303030202020202020303030303030303030302020202020202020202020203030303230303030303030303030303030303030303030202020202020202020202020202020203030202020203020202020202020

Parsed Message [0230]:
DE-2 [100194868736654]
DE-3 [000000]
DE-4 [000000050000]
DE-6 [000000050100]
DE-7 [0122133357]
DE-10 [61002000]
DE-11 [016375]
DE-12 [183357]
DE-13 [0122]
DE-15 [0122]
DE-25 [00]
DE-28 [D00000000]
DE-32 [000000]
DE-37 [802213016375]
DE-38 [001245]
DE-39 [51]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736654]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 0002000000000000000000 0]

Sample Reversal Request/Response Messages (0420, 0430)

Request Message [0420] (represented in Hex):

01FA30343230F67A44910AE0A40A000000000402000031353130303139343836383733363736383030303
030303030303030303030323030303030303030303030303230313030303132323133343434333631303035303
030303136333830313834343433303132323031323235353431393032303044303030303030303030036303
030303030383032323133303136333830303054455 24D494430314341524420414343455054F522020414
3515549524552204E414D452020202020202020202020202043495459204E414D452020202043415553413 8
34303834303032303030373238343044303030303030303030313030303136303030303030303030343032
303030303037303030303220202020313233343536313233343536313233202020202020202020202020203020
2020202020202020202020202020202020202020202020205649534120202020202020202031353130303139343 8
363837333637363831353420313233343536313233343536313233202020202030302020202020202020202020
2020202020202020202020202020202020202020303030303030203030303030303030303020303030303030303030
303030302020202020203030303030303030303030202020202020202020202020202030303032303030303030303030
30303030303030303020202020202020202020202020202020202030302020202030363836343931

Parsed Message [0420]:

DE-2 [100194868736768]
DE-3 [000000]
DE-4 [000000020000]
DE-6 [000000020100]
DE-7 [0122134443]
DE-10 [61005000]
DE-11 [016380]
DE-12 [184443]
DE-13 [0122]
DE-15 [0122]
DE-18 [5541]
DE-22 [902]
DE-25 [00]
DE-28 [D00000000]
DE-32 [000000]
DE-37 [802213016380]
DE-39 [00]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-43 [ACQUIRER NAME CITY NAME CAUSA]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736768]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 00020000000000000000 00 0686491]

Response Message [0430] (represented in Hex):

01F930343330F67A00910EE0A40A000000000402000031353130303139343836383733363736383030303
030303030303030303030323030303030303030303030303230313030303132323133343434333631303035303
030303136333830313834343433303132323031323230304430303030303030303036303030303030303038303
2323133303136333830303031323435303054455 24D494430314341524420414343455054F52202041435
1554952455 2204E414D452020202020202020202020202043495459204E414D4520202020434155534138 34
3038343030323030303732383430443030303030303030303031303030313630303030303030303034303230
30303030373030303030322020202031323334353631323334353631323320202020202020202020202020302020
20202020202020202020202020202020202020202020202056495341202020202020202020313531303031393438 36

383733363736383135342031323334353631323334353631323320202020203030202020202020202020
2020202020202020202020202020202020203030303030302030303030303030303030302030303030303030
3030302020202020303030303030303030302020202020202020202020202020303030323030303030303030
303030303030302020202020202020202020202020202030302020202020303638363439 31

Parsed Message [0430]:
DE-2 [100194868736768]
DE-3 [000000]
DE-4 [000000020000]
DE-6 [000000020100]
DE-7 [0122134443]
DE-10 [61005000]
DE-11 [016380]
DE-12 [184443]
DE-13 [0122]
DE-15 [0122]
DE-25 [00]
DE-28 [D00000000]
DE-32 [000000]
DE-37 [802213016380]
DE-38 [001245]
DE-39 [00]
DE-41 [TERMID01]
DE-42 [CARD ACCEPTOR]
DE-43 [ACQUIRER NAME CITY NAME CAUSA]
DE-49 [840]
DE-51 [840]
DE-54 [0072840D000000000100]
DE-61 [0000000004020000]
DE-63 [0002 123456123456123 0 VISA]
DE-102 [100194868736768]
DE-111 [123456123456123 00 000000 0000000000 000000000000 0000000000 00020000000000000000 00 0686491]

Sample Token Notification Message (0620, 0320)

Request Message [0620] (represented in Hex):

03D230363230C22000000A00000204000000000020008313531303031343137383836353236313530383239
931323538343430313236303636323432313230313236303630303037303030303220202020202020202
0202020202020202020202020202020202020202020203020202020202020202020202020202020202020202
02056495341202020202020202020383930333233203030303030303030303030303030302020202020203030202
0202020202020202020202020202020202020202020202020202020303030303030203030303030303030302
030303030303030303030303030202020202020303030303030303030303030202020202020202020202020203030303
233373131303030303030303030303030202020202020202020202020202020205A3030202020202030202020202
020313233343536373839313233343536373839313233343536373839313233343536373839313233343536373839313233343353
637383931323320202020202020202020202020202020202020203535353530303030303030303030303030693263204D6
F62696C65202020202020202020202020303134303633323731313237303030313138303030305A5A4130343330
30202020202020202020303030303030303030303020202020202020202020202020202020202020202020202030303030303035
30360200590220F1F2F3F4F5F6F7F8F9F1F2F3F4F5F6F7F8F9F1F2F3F4F5F6F7F8F9F1F2F3F4F50706F
0F5F0F9F0C30601F30920F7F8F9F7F8F9F7F9F8F7F7F8F9F7F8F9F7F9F8F7F7F8F9F7F8F9F7F9F8F7F
7F80301F70802F0F10A01F80100730203C5D5C7070EF5F54BF2F5F54BF2F5F54BF2F5F50404F5F5F5F
50B01F206084EF3F76160F1F2F10102F0F10901F70330F1F2F3F4F5F6F7F8F9F1F2F3F4F5F6F7F8F9F1
F2F3F4F5F6F7F8F9F1F2F3F4F5F6F7F8F9F1F2F3F4F5F6F7F8F9F1F2F30801F50A01F8050A89F28340
D496828993856800DE0202F2F21F3102F7F21D02F4F41B0CF7F7F7F7F7F7F7F7F7F7F7F7F71401F40702
E9E91F3203F6F0F01F3305F1F0F0F0F00409F0F0F0F0F0F0F0F0F01102F8F80B19E56060F0F0F0F0F0F
0F0F0F0F0F0F0F0F0F0F0F1F2F3F4F5F60604F2F3F1F20110F4F0F6F3F2F7F1F1F2F7F0F0F0F1F1F813
01F20C20F0F1F2F3F4F5F6F7F8F9F0F1F2F3F4F5F6F7F8F9F0F1F2F3F4F5F6F7F8F9F0F1030BF4F0F0
F0F0F0F0F0F0F5F50801C11001F90A01F01C02F5F51A06F6F6F6F6F6F61201F30520F1F2F3F4F5F6F7
F8F9F1F2F3F4F5F6F7F8F9F1F2F3F4F5F6F7F8F9F1F2F3F4F5400044021AD496956B40F0F740D683A3
40F2F0F2F040F1F07AF2F57AF2F1F70126E38889A2C689859384E6899393C39695A3818995E3859994A
2C19584C396958489A3899695A2

Request Message [0302] (represented in Hex):

01D130333032C2200000080000020000000000002000031363533383735373130303030303436393930383333
3031363338353939373130303436646576313639373130303430373030303032202020202020202020202020
2020202020202020202020202020202020202020202030202020202020202020202020202020202020202020202020202020
564953412020202020202020203332332030303030303030303030303030303030302020202020203030202020202020
20202020202020202020202020202020202020202020202020203030303030302030303030303030303030302030303030
30303030303030302020202020203030303030303030303030303020202020202020202020202020203030303032303030
30303030303030303030303030302020202020202020202020202020202020202020202020303020202020203020202020202020202020
2020202020202020202020202020202020202020202020202020202020202020202020202020202020202020202020202020202020
20202020202020202020202020202020202020202030303030303030303030303030303030303030302020202020202020202020
20202020202020202020202020203030303030303030303030303030303030303030303030202020303030303030202020202020
2020202030303030303030303030303030303435323031303939303030303030303031392020202032303132

Sample DE-111 – Additional Data

Sample DE-111 (Fixed Format) for Visa

325Y0000000000000010000H0700000000000000000000000000000000000000000000000000000000000A00D 0123456789000000000A 0002000090011234567800000000000000000101S0 000000000000000 00000 0000000000 00000

Sample DE-111 for MasterCard

767Z400502010 0103210 0101102010031300112345678900412000000000010 00000000000000MD 0000010101 010000000 C01 N52001 YA000 000000123456 0679847 000000000000000 00000 0000000000 0000

Data Element 80 Dispute Action Information Tag 05 Decline Reasons

Reject Reason ID	Reject Reason Title	Reject Reason Description
1	Authenticated via OTP (UCAF)	The disputed transaction(s) was/were authenticated via OTP, indicating the transactions were validated from profile registered phone number or email address
2	Authenticated via CHIP	The disputed transaction(s) was/were authenticated with CHIP, indicating your card was physically used to perform these disputed transactions
3	Authenticated via CHIP & PIN	The disputed transaction(s) was/were authenticated with CHIP and PIN or Chip read transactions indicating your card was physically used to perform disputed transaction(s)
4	CVV Code Used	The disputed transaction(s) was/were authenticated with CVV code indicating your card information was used to perform disputed transaction(s)
5	Web Account Created After OTP Authentication	The web account was created after authentication with OTP indicating the account creation was validated from profile registered phone number or email address
6	No Balance Inquiry	No Balance Inquiry was observed prior to disputed charge
7	No Decline/Bad PIN	No Decline/Bad PIN was observed prior to disputed charge
8	No PIN Reset	No Reset PIN was observed prior to disputed charge
9	No NSF Declines	No NSF was observed after the disputed charge
10	No Declines after Card Reported	No declined transactions observed after the card was reported
11	No Declines after Card Reissue Request	No declined transactions observed after the card re-issue request was initiated
12	PIN Authenticated via Registered Phone/Email	Reset/Setup PIN was authenticated from profile registered phone number or email address
13	Trans Reviewed by CH through Web	The transaction(s) & other details were reviewed by cardholder through Web Account in disputed date range
14	Trans Reviewed by CH through Mobile	The transaction(s) & other details were reviewed by cardholder through Mobile App in disputed date range
15	Trans Reviewed by CH through IVR	The transactions & other details were reviewed by cardholder through IVR in disputed date range
16	Disputed Trans made on DD Date	The disputed transaction(s) were made on the same day the Direct Deposit was received
17	Valid Presentment Received	The re-presentment document(s) received from the merchant was/were reviewed and found valid to decline this dispute
18	ATM Provided Proof	The ATM provided proof of successful withdrawal(s)
19	Merch Successfully Delivered	The services/merchandise were successfully delivered to the profile address
20	Merchant History	The account history has non-disputed transaction(s)

		of the same merchant that were made prior to the disputed transaction(s)
21	Family Fraud	A potential Family Fraud case according to the information analyzed in the merchant documents
22	Normal Spending Trend	The recent spending trend on the card is observed as normal
23	PIN Changed with Registered Phone	The same phone number which is available on cardholder profile was used to change PIN
24	Merch Docs have Same Last Name	The merchant re-presentment document(s) show the same last name which is on cardholder profile
25	Reported After 120 Days	The disputed transaction(s) are reported after 120 days of transaction date(s)
26	Trans made within 7-mile Radius	The disputed transaction(s) were made within 7-mile radius from the profile address
27	Cancel by Cardholder	The cardholder himself/herself called the customer support and requested for cancellation of reported dispute.
28	Credit Issued by Merchant/Credit Adjustment by Merchant	The merchant has issued the credit and no further action required for reported dispute.
29	No Chargeback Rights	No Chargeback Rights
30	Valid Document Received (via email)	The merchant has sent documentation via email/fax to show proof of charge
31	Card Activated via Registered Phone	The card was activated using the registered number on the account
32	Card Still in Use (Lost/Stolen)	The card is reported as lost/stolen but is still in use
33	AVS Match	The Address on the merchant documents is a full match to the registered address
34	Cancellation of Services Failed	Based on merchant documents cancellation of the product/service was failed
35	The card in Possession not Lost/Stolen	The card has not been reported as lost/stolen and is in possession
36	No Evidence of Double Charge	No evidence of a double charge is observed
37	Cardholder Unauthorized Dispute Pattern	A pattern of multiple Unauthorized disputes filed is observed
38	Additional CP Transaction not Disputed (Lost/Stolen)	There are additional card present transactions in the same time frame that are left undisputed
39	Claim Filed in Error	The dispute was incorrectly filed
40	Friendly Fraud	A potential Friendly Fraud case according to the information analyzed

Appendix E – Possible Values of New Sub-fields in DE-111

Stand In Trans Indicator

- 0 (Default Value)
- 1 (AuthHost Timed Out)
- 2 (AuthHost Down)

Token Type

- 01 (ECOM/COF- E-Commerce/Card-on-File)
- 02 (Secure Element)
- 03 (Cloud-Based Payment)
- 05 (E-Commerce Enabler)

Token Status

- B (Active for payment)
- I (Inactive for payment (not yet active))
- S (Temporarily suspended for payments)
- F (Permanently deactivated for payments)
- D (Discard for payment)

Token Device Type

Device Type	Description
00	Card (default)
01	Mobile Network Operator (MNO) controlled removable secure element (SIM or UICC) personalized for use with a mobile phone or smartphone
02	Key fob Data Element
03	Watch using a contactless chip or a fixed (nonremovable secure element not controlled by the MNO.
04	Mobile Tag
05	Wristband
06	Mobile Phone Case or Sleeve
07	Mobile phone or smartphone with a fixed (nonremovable) secure element controlled by the MNO, for example, code division multiple access (CDMA).
08	Removable secure element not controlled by the MNO, for example, memory card personalized for used with a mobile phone or smartphone.
09	Mobile phone or smartphone with a fixed (nonremovable) secure element not controlled by the MNO.
10	MNO controlled removable secure element (SIM or UICC) personalized for use with a tablet or ebook. 11, Tablet or E-Book with a fixed (non-removable) secure element controlled by the MNO.
12	Removable secure element not controlled by the MNO, for example, memory card personalized for use with a tablet or e-book 13, Tablet or e-Book with fixed (non-removable) secure element not controlled by the MNO.
14	Mobile Phone or Smartphone with a payment application running in a host processor. 15, Tablet or e-Book with a payment application running in a host processor.
16	Mobile Phone or Smartphone with a payment application running in the Trusted Execution Environment (TEE) of a host processor.
17	Tablet or e-Book with a payment application running in the TEE of a host processor.
19	Watch with a payment application running in a host processor.
20	Card Added for use when the device type is used only to indicate the form factor.
21	Mobile phone
22	Tablet computer or e-reader
23	Watch or Wristband. Includes a fitness band, smart strap, disposable band, watch add-on, and security/ID band.
24	Sticker
25	PC or laptop
26	Device Peripheral. Includes Mobile phone case or sleeve.
27	Tag. Includes key fob or mobile tag.
28	Jewelry. Includes ring, bracelet, necklace, and cuff links.
29	Fashion Accessory Handbag, bag charm, and glasses
30	Garment; Dress
31	Domestic Appliance Includes refrigerator, washing machine.
32	Vehicle Includes vehicle and vehicle attached devices.
33	Media/Gaming Device Includes a set top box, media player, and television.
34	Reserved for future form factors.
35	Cloud
36	Other
37	Household device
38	Wearable device
39	Automobile device
40-99	Reserved for future form factors. Any value in this range may occur within form factor and transaction data without prior notice.

Token Authorization Request Indicator

- 0 (Not a TAR Request)
- 1 (TAR Request)

Token Notification Type

- 4300 (Token Completion Notification: Green Path)
- 4301 (Token Completion Notification: Yellow Path)
- 4302 (Token Completion Notification: Yellow Path Call Center)
- 4304 (Token Completion Notification: Red Path)
- 4305 (Token Creation Only Notification)
- 4401 (Token Event Notification: Deactivate Token)
- 4402 (Token Event Notification: Suspend Token)
- 4403 (Token Event Notification: Resume Token)
- 4306 (Token Event Notification: Token Data Update / Token Expiration Update)
- 4307 (Token Event Notification: Exception / Invalid OTP)

Chargeback Flag (Data Element 111.45)

- 0 Chargeback Transaction
- 1 Chargeback Cancellation Transaction
- 2 Representment Transaction
- 3 Representment Reversal Transaction
- 4 2nd Chargeback Transaction
- 5 2nd Chargeback Cancellation Transaction
- 6 Arbitration Transaction
- 7 Arbitration Reversal Transaction
- 8 Chargeback Preauth Transaction
- 9 2nd Chargeback Preauth Transaction
- A Chargeback Preauth Cancellation Transaction
- B 2nd Chargeback Preauth Cancellation Transaction
- C Chargeback Special Adjustment Transaction
- D Chargeback Adjustment
- E Chargeback Adjustment Reversal

On-behalf Service (Data Element 111.46)

Data Element 111.46 is mapped to Mastercard Data Element 48, Sub-element 71. This sub-element identifies the type of Mastercard on-behalf service performed on the transaction. There are 3 sub-fields of this sub-element.

No.	Field Name	Subfield Length	Description
1	On-behalf Service Indicator	2	It contains the on-behalf service indicator. (see below the list of possible on-behalf service indicators)
2	On-behalf Result 1	1	It indicates the results of the service processing.
3	On-behalf Result 2	1	It contains the on-behalf result 2 indicator value.

Below are the possible results for Fraud Scoring On-behalf Service:

Subfield 1 (OB Service) Values	Subfield 2 (OB Result 1) Values
18 = Fraud Scoring Service	C = Fraud Scoring Service was performed successfully
	U = Fraud Scoring Service was not performed successfully

Fraud Scoring Data (Data Element 111.47)

Data Element 111.47 is mapped to Mastercard Data Element 48, Subelement 75. Mastercard fraud scoring solution provides customers & issuers an opportunity to enroll in Expert Monitoring Real time Fraud Scoring Service & Fraud Rules Manager respectively to assess the fraud scoring of a financial transactions.

No.	Field Name	Subfield ID	Subfield Length	Description
1	Fraud Assessment Score	01	03	Fraud Scoring System provides the risk score of 000-999 where 000 indicates the least likely fraudulent transaction and 999 indicates the most likely fraudulent transaction.
2	Score Reason Code	02	02	Fraud Scoring System provides the Score Reason Code, an alphanumeric code identifying the data used to derive the fraud score. **Score | Reason Code Description** **XX** | Suspicious transaction **YY** | Four or more swiped transactions on a self-service terminal in the past two days **ZZ** | Suspicious activity during the past three days
3	Rules Score	03	03	Fraud Rule Manager Service provides the rule adjusted score of 000–999, where 000 indicates the least likely fraudulent transaction and 999 indicates the most likely fraudulent transaction.
4	Rule Reason Code 1	04	02	Fraud Rule Manager Service provides the Rule Reason Code, an alphanumeric code that identifies the data used to derive the Rule Adjusted Score.
5	Rule Reason Code 2	05	02	Fraud Rule Manager Service provides the Rule Reason Code, an alphanumeric code that identifies the data used to derive the Rule Adjusted Score.

Data received in this field will be in TLV (Tag-Length-Value) format.

Sample data: 0103049020208

This will be parsed as follows:

Tag:01, Length:03, Value: 049

Tag:02, Length:02, Value: 08

Appendix F – Token Activation / OTP Notification Message Identification

Token Activation / OTP Notification message can be identified with following fields, in addition to OTP code in DE 111:

MTI = 0120, Filed 32 = 746922, Field 41 = 11111111, Field 42 = 111111111111111.

Appendix G – Token Provisioning – Send OTP Request

Administrative request (Token Provisioning – Send OTP) Request message will contain following mandatory information:

MTI = 0600

Field 02 = PRIMARY ACCOUNT NUMBER

Field 07 = LOCAL TRANSMISSION DATE TIME

Field 18 = 7299

Field 22 = 01

Field 25 = 66

Field 32 = 746922

Field 41 = 11111111

Field 42 = 111111111111111

Field 63 = VISA [switchType at position 59 –> total length 70]

Field 111 = Contains OTP, OTP Expiry DateTime, Cardholder Verification Method Identifier & Value

OTP Expiry Date Time (Value will be in GMT)

Expected response codes in DE39 in response.

Success = 00

Format Error = 30

Transaction not allowed = 57

System malfunction = 96

Refer to Card Issuer = 01

Appendix H – Token Transactions Flow

Token Messages
Message with **MTI 0100** with **TAR** indicator in DE 111.
Token Activation Message with **MTI 0120** with Access Code (OTP) and Code Expiry in DE 111. [Optional only if TAR qualifies for yellow path]
Token Complete Notification with MTI 0620 with indication in DE 111. Token Notification Type with following values: 4300 (Green Path) 4301 (Yellow Path OTP) 4302 (Yellow Path Call Center) 4304 (Red Path) 4305 (Token Creation Only)
Token Event Notification with MTI 0620 with indication in DE 111. Token Notification Type with following values: 4401 (Token Deactivate F) 4402 (Token Suspend S) 4403 (Token Resume B) 4306 (Token Data Update / Token Expiration Update)
PAN replacement message (in case of PAN reissued with new number) with MTI 0302 with indication in DE 111. Replacement PAN (New PAN) Replacement PAN Expiration Date

Appendix I – Token Creation Green/Red/Yellow Path Identification from Issue Perspective

Green Path:

TAR Message with DE 39 = 00.

Yellow Path:

TAR Message with DE 39 = 85.

Red Path:

TAR Message with DE 39 = 05.

Appendix J – Message Type Identifiers

MTI	Description
0100	Authorization Request
0110	Authorization Response
0100	Token Provisioning – Send OTP Request
0110	Token Provisioning – Send OTP Response
0120	Token OTP Notification
0130	Token OTP Notification Response
0120	Advice Authorization Request
0130	Authorization Advice Response
0200	Financial Transaction Request
0210	Financial Transaction Response
0220	Financial Transaction Advice
0230	Financial Transaction Response
0302	File Update Request
0312	File Update Request Response
0420	Reversal Advice
0430	Reversal Advice Response
0600	Administrative Request
0620	Administrative Advice
0630	Administrative Advice Response
0800	Network Management Request (Mandatory for TCP/IP Communication)
0810	Network Management Response (Mandatory for TCP/IP Communication)

Appendix K – Anticipated Amount Transaction

Anticipated amount verification transactions are Account verification transactions with anticipated amount which is used to confirm the account has availability to accept purchases.

Host which are system of records or have balance maintained at their end must confirm the anticipated amount, and sending the appropriate response code. Host must not hold funds during the processing of an anticipated amount verification transaction.

A new amount type code 44 is used to identify anticipated amounts in Field 54.

When both the account and anticipated amount are validated by the host, the response message will contain the existing value of 00 (Approved) in Field 39—Response Code.

When only the account is validated, the response message will contain one of the following values in Field 39—Response Code:

- 85 (Approved – Account Verification)
- X6 (Valid account but amount not supported)

Anticipated Amount verification transactions Identification:

- A 0100 Account verification request
- Field 4—Amount, Transaction contains all zeros
- Field 25—Point-of-Service Condition Code contains the existing value of **62** (Account Verification w/o Auth; product eligibility inquiry without authorization)
- Field 54—Additional Amounts contains an anticipated amount type code.
- Field 63.7 = “VISA”.

