SMARTVISTA FRONT END

EXTERNAL INTERFACE SPECIFICATION
ISO8583 HOST2HOST INTERFACE SPECIFICATION

18.01.2021 18:41:14

Contents

OVERVIEW

This document describes specifications for the SmartVista Front – End (SVFE) Host2Host external message protocol. The protocol can be used to provide authorization, financial and information services to card processing hosts or transaction concentrators.

The current software releases are implementing an external message based on the International Organization for Standardization (ISO) 8583-2:1993 standard.

The message specifications in this manual are applicable to the ISO-based external message only.

HOST2HOST COMMUNICATION PROTOCOL

Host2Host Interface supports the TCP/IP transport protocol.

TCP/IP is a point to point communication protocol with a delivery guarantee and data sequence guarantee. The connection party, which initiates a connection, is a TCP/IP client. The connection party, which accepts the connection, is a TCP/IP server. TCP/IP client establishes connection identifying a target application with an IP address of the host and a port number within that host. If the connection is dropped by any reason it should be re-established by the client application.

SVFE host can act in a TCP/IP connection as a client or as a server depending on the host configuration. For data transmission TCP/IP uses sessions. Each session is a bi-directional data stream. SVFE protocol uses a single TCP/IP session to transfer data between hosts in both directions. The continuous TCP/IP data stream is split into frames. Each ISO – 8583 message is sent in a separate frame. A Frame consists of a 2-byte length header and a message body. The header contains the length of the following message. The high byte of value is transmitted first, and the low byte of value is transmitted second.

2 bytes	N bytes
Message Length = N	ISO – 8583 Message

HOST2HOST ISO-8583 MESSAGE TYPES

Message Class: Authorization
1100 Authorization Request
1110 Authorization Response
1120 Authorization Advice
1121 Authorization Advice Repeat
1130 Authorization Advice Response

Message Class: Financial
1200 Financial Request
1210 Financial Response
1220 Financial Advice
1221 Financial Advice Repeat
1230 Financial Advice Response

Message Class: Reversal
1420 Reversal Advice
1420 Reversal Advice Repeat
1430 Reversal Advice Response

Message Class: Administrative
1600 Administrative Request
1610 Administrative Response

Message Class: Network Management
1804 Network Management Request
1814 Network Management Response

1. Authorization Messages

1100 – Authorization Request

Message Type: 1100
Description: Authorization Request (1100) message requests approval authorization or guarantee for the transaction to proceed. Processing does not post the transaction to account for reconciliation; it only puts a hold on account. This message is issued if the acquirer request was sent using DMS – Dual Message System. Offline clearing file is required for final reconciliation and posting transaction to account. Authorization Response (1110) is expected in return for 1100 message, either approving or denying the request.

1110 – Authorization Response

Message Type: 1110
Description: Authorization Request Response (1110) is returned in response to Authorization Request (1100) to approve or deny the request.

1120 – Authorization Advice

Message Type: 1120

Description: Authorization Advice (1120) advises of a previously completed transaction. Format and contents of fields at 1120 message are the same as at 1100 message. Each 1120 message must be acknowledged with 1130 message.

1121 – Authorization Advice Repeat

Message Type: 1121
Description: Authorization Advice Repeat (1121) is identical to 1120 message, except that it denotes to the receiver that it is a possible duplicate message. Format and contents of fields at 1121 message are the same as at 1120 message. This message is used when an expected acknowledgement to 1120 message was not received.

1130 – Authorization Advice Response

Message Type: 1130
Description: Authorization Advice Response (1130) is used to acknowledge the receipt of 1120 or 1121 message. Format and contents of fields at 1130 message are the same as at 1110 message.

2. Financial Messages

1200 – Financial Request

Message Type: 1200
Description: Financial Request (1200) message requests approval for financial transaction. If transaction is approved, it is posted to the account immediately; no further offline file exchange is intended. This message is issued if the acquirer request was sent using SMS – Single Message System. Format and contents of fields at 1200 message are the same as at 1100 message. Financial Response (1210) is expected in return for 1200 message, either approving or denying the request.

1210 – Financial Response

Message Type: 1210
Description: Financial Request Response (1210) is returned in response to Financial Request (1200) to approve or deny the request. Format and contents of fields at 1210 message are the same as at 1110 message

1220 – Financial Advice

Message Type: 1220
Description: Financial Advice (1220) advises CBS of a previously completed at SVFE (Stand-In processing) financial transaction. Format and contents of fields at 1220 message are the same as at 1200 message. Each 1220 message must be acknowledged with 1230 message.

1221 – Financial Advice Repeat

Message Type: 1221
Description: Financial Advice Repeat (1221) is identical to 1120 message, except that it denotes to the receiver that it is a possible duplicate message. Format and contents of fields at 1221 message are the same as at 1220 message. This message is used when an expected acknowledgement to 1220 message was not received.

1230 – Financial Advice Response

Message Type: 1230
Description: Financial Advice Response (1230) is used to acknowledge the receipt of 1220 or 1221 messages. Format and contents of fields at 1230 message are the same as at 1210 message.

3. Reversal Messages

1420 – Reversal Advice Request

Message Type: 1420
Description: Reversal Advice Request (1420) is advice to cancel part or all of a previously approved transaction. Reversal Advice Response (1430) is expected in return for 1420 message, either approving the request.

1421 – Reversal Advice Repeat

Message Type: 1421
Description: Reversal Advice Repeat (1421) is identical to 1420 message, except that it denotes to the receiver that it is a possible duplicate message. Format and contents of fields at 1421 message are the same as at 1420 message. This message is used when an expected acknowledgement to 1420 message was not received.

1430 – Reversal Response
Message Type: 1430
Description: Reversal Response (1430) is used to acknowledge the receipt of 1420 or 1421 message.

4. Administrative Messages

1600 – Administrative Request

Message Type: 1600
Description: Administrative Request (1600) is used to change card status, activate card, block card, validate card, inquire for card status, for cardholder name or for other service action. Service Transaction Response (1610) is expected in return for 1600 message, either approving or denying the request.

1610- Administrative Response

Message Type: 1610
Description: Service Transaction Response (1610) is used to acknowledge the receipt of 1600

5. Network Management Messages

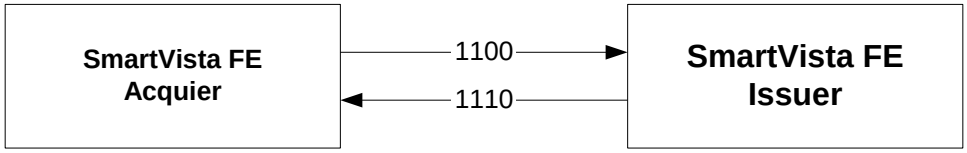
1804 – Network Management Request
Message Type: 1804
Description: Network Management Request (1804) message is used to perform echo tests. 1804 message always requires 1814 message in response.

1814 – Network Management Response
Message Type: 1814
Description: Network Management Response (1814) message is returned in response to Network Management Request (1804) message.

HOST2HOST ISO – 8583 MESSAGE FLOWS

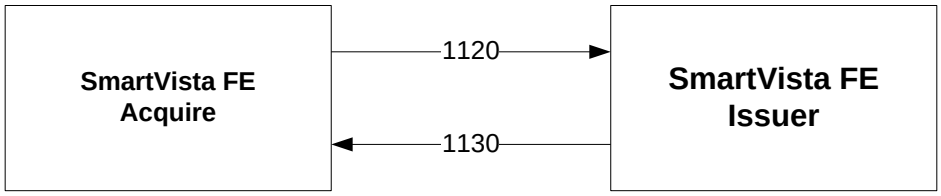
1. Authorization Messages

Authorization messages are used when the original acquirer request has been received via the DMS (Dual-Message system), or in case of US-ON-US non-financial requests (for a list of cases when the authorization message is sent for US-ON-US transaction see chapter Data Fields, part 4.3).
As a result, CBS should not post the transaction to account for final reconciliation, it should only put a hold on a cardholder's account.



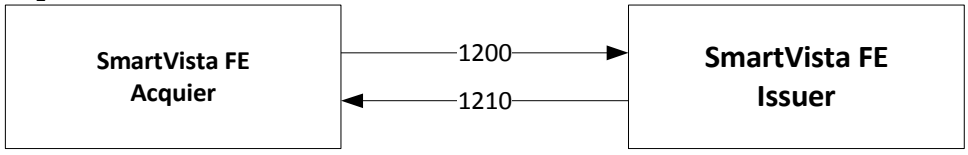
2. Authorization Advice Messages

Message 1120 is sent to advice the CBS of a Dual-message authorization for which SmartVista has stood in, or to advice the CBS of an offline authorization.



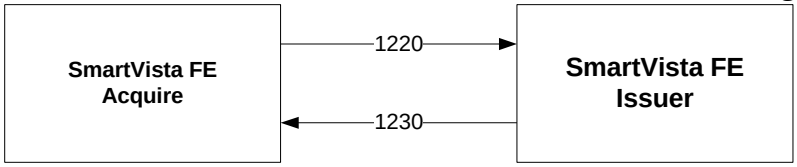
3. Financial Messages

Financial **messages are used when the original acquirer request has been received via the SMS (Single-Message system) and for financial US-ON-US requests (**for a list of cases when the authorization message is sent for US-ON-US transaction see chapter Data Fields, part 4.3.
As a result, CBS should post the transaction to ac**count for final reconciliation and make a full financial processing upon receiving the financial message. No further offline exchange is implied.**



4. Financial Advice Messages

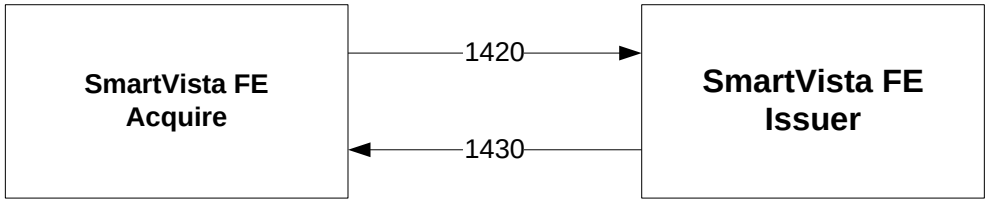
Message 1220 is sent to advice the CBS of a completed Single-message financial transaction for which SmartVista has stood in, or to advice the CBS of a Single-message offline transaction.



5. Reversal Messages

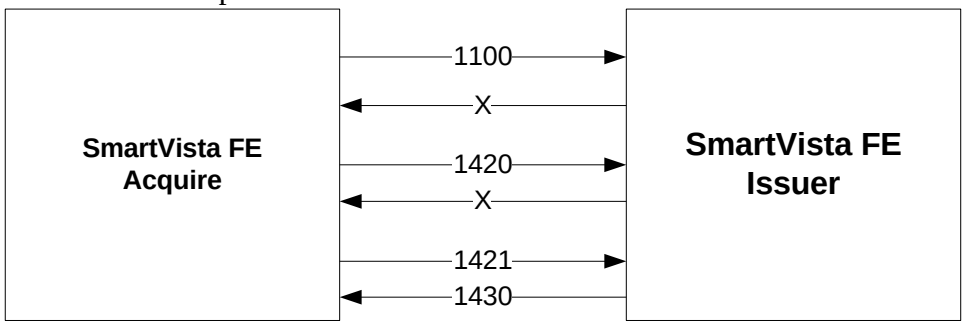
5.1. Normal processing

SVFE sends 1420/1421 messages in case a request when authorization cancellation or financial transaction cancellation has been received from terminal devices and payment networks, or in case of authorization cancellation in SVFE system in stand-in mode.
Message 1420 is sent 5 seconds after sending the message 1100/1200, for which there was no response.

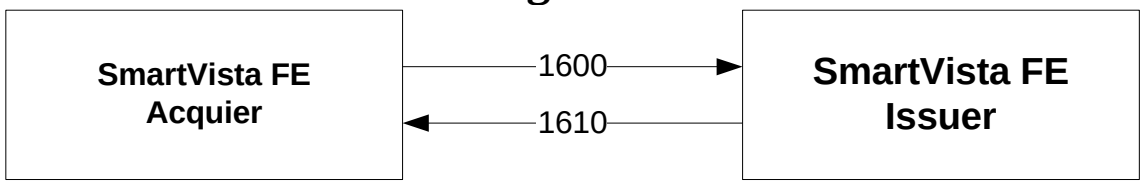


Time-out processing

Message 1421 is sent 60 seconds after sending the message 142X, for which there was no response. Message 1421 is sent not more than three times. If after sending the last message 1421 there was still no response, the authorization request or financial request, for which there was no response, is considered to be processed in stand-in mode.

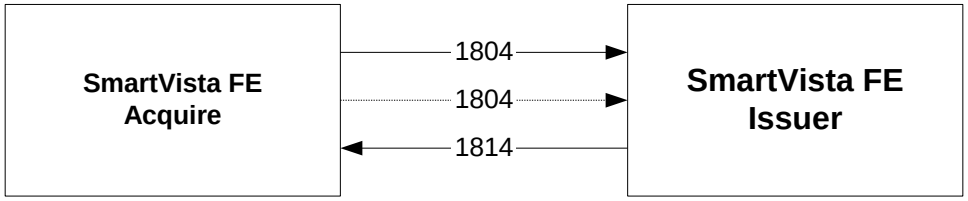


6. Administrative Messages



7. Network Management Messages

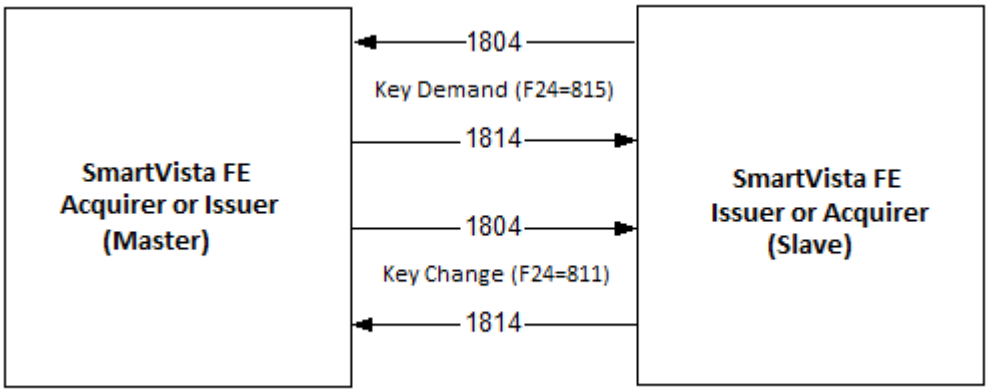
Sign-on, Sign-off and Echo Test messages flow



Key Change, Key Demand messages flow

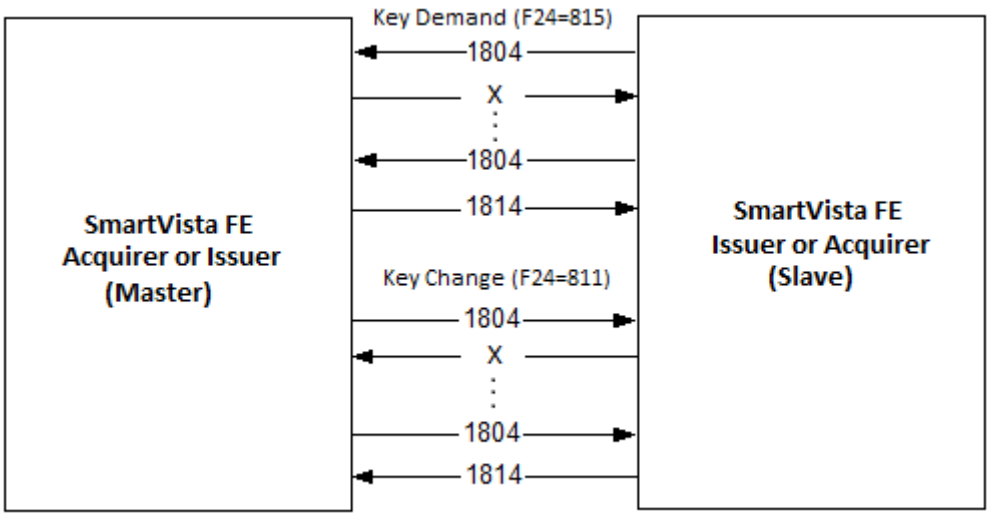
Key change procedure can be initiated by the both master (system responsible for key generation) and slave systems. When it is initiated by the master, Key Change message 1804 (with Field 24 = 811) will be sent to the slave system. Message Key Change contains information about the new key parameters in the Field 53 and data of new key in the Field 96. Slave should answer to the request with Key Change response message 1814. If some problems occur during the key change procedure on the slave side, master will also return back the previous value of key on the negative response from slave.
Also the slave system can be an initiator of key exchange, in this case the slave system should send request message to the master – Key Demand message 1804 (with Field 24 = 815). Field 53 should contain parameters of the requested key. For PIN key only one direction of key can be requested at a time: Acquirer key (field 53, position 3 = 1) or Issuer key (field 53, position 3 = 2), alternatively both Acquirer/Issuer keys can be changed with the single key (field 53, position 3 = 0). When master receives Key Demand request, it will send approval in the Key Demand response message and will immediately send new key in the Key Change message.

Please note: in case when the system operates with the separate Issuer and Acquirer keys, the Issuer key at one side is treated as Acquirer key at the other side, and vice versa.
Thus, when a Slave side initiates the Issuer key exchange request (field 53, position 3 = 2) then the Master system replies back and in the next Key Demand request the Master system sends the new Acquirer key with the respective key type (field 53, position 3 = 1). And when a Slave side initiates the Acquirer key exchange request (field 53, position 3 = 1) then the Master system replies back and in the next Key Demand request the Master system sends the new Issuer key with the respective key type (field 53, position 3 = 1).



Key Change timeout processing

In case of timeout of Key Demand request (response message is not received during 30 seconds), it can be repeated without any restrictions on the amount of repeats.
In case of timeout Key Change request, master system will repeat it after 30 seconds with the same value of key. If response to the Key Change request will be not received after 5 attempts of repeat, key exchange procedure will be aborted by master.


SmartVista FE
Acquirer or Issuer
(Master)
Key Demand (F24=815)
1804
X
1804
1814
Key Change (F24=811)
1804
X
1804
1814
SmartVista FE
Issuer or Acquirer
(Slave)

DATA FIELDS

5.1. Data Field Attributes

Table 1. Data Field Attributes

a	Alphabetic characters only.
N	Numeric digits only.
S	Special characters
an	Alphabetic and numeric characters only.
As	Alphabetic and special characters
ns	Numeric digits and special characters
ans	Alphabetic, numeric, and special characters.
4	Fixed length of 4 characters.
…16	Variable length up to a maximum of 16 characters. All variable length fields will also contain two or three positions at the beginning of the field to identify the number of positions following to the end of that field
b	Binary representation of data.
Bit – Map	8 bytes (64 bits) in binary format. Each bit signifies the presence (1) or the absence (0) in the message of the data field associated with that particular bit
x	“C” for credit, “D” for debit and shall always be associated with a numeric amount data field, i.e., x+n 16 in amount, net reconciliation means prefix “C” or “D” and 16 digits of amount, net reconciliation
z	Tracks 2 and 3 code set as defined in ISO 4909 and ISO 7813

5.2. Data Field Format

Table 2. Data Field Format

MM	Month
DD	Day
YY	Year
hh	Hour
mm	Minute
SS	Second

LL	Length of variable data field that follows, from 01-99. The variable length subelement is two numeric characters.
LLL	Length of variable data field that follows, from 001-999. The variable length subelement is three numeric characters.
VAR	Variable length data field.

5.3. Data Field Presence Conditions

C – Conditional. Field/value is present in the message under certain conditions, which are explained in Data Field Description.

M – Mandatory. Field/value must be present in the message.

O – Optional. Field/value presence in the message is up to the message initiator or the responder.

5.4. Data Field Description

5.1. Field 1: Secondary Bit-Map

1. Format

Bit-Map

2. Description

This field is a bit map indicating the presence or absence of fields in the secondary portion of the message, bits 65-128. This field should only be present if there is at least one field from the secondary range in the message.

5.2. Field 2: Primary Account Number

1. Format

llvar n.. 24

2. Description

This field contains the cardholder's card number.

For transaction A2A Debit this field is used for BIN(Bank Identification Number) of the FI(Financial Institute) corresponding to the account in DE102. For transaction A2A Credit and

Credit Verification this is used for BIN corresponding to the account in DE103. For A2A Debit it is source FI, for A2A Credit and Credit Verification– destination FI.

This field is also used to match a response message with its original message.

5.3. Field 3: Processing Code

1. Format

n 6

2. Description

The processing code is a series of three two-byte codes. The first two bytes (bytes 1 and 2) indicate the type of transaction.

See the following table for valid values.

Transaction Code	SVFE Transaction Type	TRANSACTION DESCRIPTION
00	774	Purchase
00	680	E-POS Purchase (N/A for ME version, use transaction type 774 instead)
00	796	Account/Address Verification
00	773	Credit Verification
01	700	Cash withdrawal
01	715	ATM Cardless Cash withdrawal
01	777	POS Cash Advance (N/A for ME version, use transaction type 700 instead)
01	515	ATM Cash withdrawal (virtual card)
09	776	POS Purchase with Cash Back
10	618	Cash-In
10	705	Cardless Deposit
10	585	ATM Cash-In (on account, N/A for ME version)
10	712	POS Cash Deposit (N/A for ME version, use transaction type 618 instead)
18	736	Pre-authorization
18	677	E-POS Pre-authorization (N/A for ME version, use transaction type 736 instead)
18	671	Manual Purchase Authorization (N/A for ME version, use transaction type 736 instead)
18	670	Manual Cash Pre-authorization (N/A for ME version, use transaction type 736 instead)
20	775	Return or Refund
20	681	E-POS Return or Refund (N/A for ME version, use transaction type 775 instead)
20	669	Manual Return or Refund (N/A for ME version, use

Transaction Code	SVFE Transaction Type	TRANSACTION DESCRIPTION
		transaction type 775 instead)
28	698	Credit Payment
29	785	P2P Credit (Card-to-card credit)
30	807	A2A Credit (Account-to-account credit)
31	702	Balance Inquiry
31	784	POS Balance Inquiry (N/A for ME version, use transaction type 702 instead)
31	757	Balance Inquiry on Screen (N/A for ME version, use transaction type 702 instead)
31	676	E-POS Balance Inquiry (N/A for ME version, use transaction type 702 instead)
31	516	Balance Inquiry (virtual card)
35	651	Cardholder Name Inquiry
37	525	Check Card
39	704	Mini-statement
40	703	Funds Transfer
42	654	Account-to-Wallet (A2W) Transfer
43	655	Wallet-to-Account (W2A) Transfer
45	656	Credit part of Account-to-Wallet (A2W) Transfer
50	781	P2P Debit (Card-to-card debit)
50	692	Payment from account (customer predefined)
50	691	Payment from account (bank predefined)
50	530	Transfer to external account
50	508	Utility Payment
50	511	Check Payment
51	806	A2A Debit(Account-to-account debit)
58	707	Payment from Envelope
88	586	Account List Inquiry
90	667	Manual Cash Completion (N/A for ME version, use transaction type 737 instead)
90	668	Manual Purchase Completion (N/A for ME version, use transaction type 737 instead)
90	669	Manual Refund Completion (N/A for ME version, use transaction type 737 instead)
90	737	Pre-authorization Completion

Transaction Code	SVFE Transaction Type	TRANSACTION DESCRIPTION
90	678	E-POS Completion (N/A for ME version, use transaction type 737 instead)
91	672	Change Card Status
91	493	Block Card
91	644	Activate Card
91	782	Validate Card
92	748	PIN Count Reset
92	751	PIN change
92	752	PIN Auth
92	603	Forced PIN change
93	594	Reset ATM Counters
94	514	Create Virtual Card
95	797	Service On
95	798	Service off
95	526	Service Check
95	517	Service Change
95	485	Adjust service access
95	480	Check service parameters
95	479	Restore service parameters
95	473	Inquire of available service
96	786	Calculate CAVV
96	483	Calculate CVC2/CVV2
96	543	Calculate AAV

The second and third two bytes (bytes 3 and 4, and bytes 5 and 6) indicate the account 1 and account 2 type, respectively.

See the following table for valid values.

ACCOUNT TYPE	ACCOUNT DESCRIPTION
0X	Default (unspecified) account
1X	Savings account
2X	Checking account
3X	Credit account
4X	Others Account
99	No account required

The second byte in each pair (i.e. byte 4 and 6) indicates an order of account that is used in transaction in the list of card accounts with the same type. Valid values are 0-8.

5.4. Field 4: Amount, Transaction

1. Format

n 12

2. Description

Funds requested by the cardholder in the local currency of the acquirer or source location of the transaction, exclusive of amounts, fees.

Deprecated option, ME versions only: In the 1100/1200 balance inquiry request, this field will contain zeroes. In the 1110/1210 balance inquiry response, this field will contain the account balance or zeroes if account balance is negative.

5.5. Field 6: Amount, Cardholder Billing

1. Format

n 12

2. Description

This field contains the transaction amount (Field 4), converted to the currency used to bill the cardholder's account. The conversion rate is in Field 9. No decimal point appears in this field; the decimal place is implied based on the currency. If it is present, the following fields are also required: "Field 9: Conversion Rate, Cardholder Billing".

5.6. Field 9: Conversion Rate, Cardholder Billing

1. Format

n 8

2. Description

This field contains the rate used to convert the transaction amount (Field 4) to the cardholder billing amount (Field 6). The Field 4 amount multiplied by this rate equals the Field 6 amount. The left-most digit denotes the number of positions the decimal separator shall be moved from the right (allowable values are 0 to 7). Positions 2–8 of the field are the actual rate.

For example: 69985022 = 9.985022.

5.7. Field 11: Systems Trace Audit Number

1. Format

n 6

2. Description

A number assigned by a transaction originator to assist in identifying a transaction uniquely. The trace number remains unchanged for all messages within the transaction.

This field is also used to match a response message with its original message.

5.8. Field 12: Time, Local Transaction

1. Format

n 12
YYMMDDhhmmss

2. Description

The local year, month, day, and time the transaction takes place at the card acceptor location in authorization and financial messages.

This field is also used to match a response message with its original message.

5.9. Field 14: Date, Expiration

1. Format

n 4
YYMM

2. Description

Field 14 contains the year and the month after which the card expires. When present, this field is used in requests. It is not used in responses.

5.10. Field 15: Settlement Date

1. Format

n 6

YYMMDD

2. Description

Field contains the SmartVista Front-End Acquirer settlement date.

5.11. Field 18: Merchant Type

1. Format

n 4

2. Description

A code describing the merchant’s type of business product or service. See ISO-8583 standard documentation for the list of valid categories.

5.12. Field 19: Acquiring Institution Country Code

1. Format

n 3

2. Description

This code identifies the country of the acquiring institution for the transaction terminal. Valid values for this field are the ISO numeric country codes.

5.13. Field 22: Point of Service Data Code

1. Format

ans 12

2. Description

A series of codes intended to identify terminal capability, terminal environment and presentation security data. It shall be used to indicate specific conditions that are (or were) present at the time a transaction took place at the point of service and/or when the transaction has been initiated.

See the following table for valid values.

Position	Position Description	Valid Values
1	Card data input capability	0 – Unknown 1 – Manual 2 – Magnetic stripe reader 3 – Bar code reader 4 – OCR reader 5 – EMV compatible ICC reader 6 – Key entry 7 – Magnetic stripe reader and key entry 8 – Magnetic stripe reader, key entry and EMV compatible ICC reader */ 9 – Contactless read A - Contact: ICC; Contactless: magstripe B – Only Contactless: magstripe M – Contact: ICC; Contactless: ICC & magstripe S – Software implemented reader
2	Cardholder authentication capability	0 – No electronic authentication 1 – PIN 2 – Electronic signature analysis 3 – Biometrics 4 – Biographic 5 – Electronic authentication 6 – Other
3	Card capture capability	0 – None 1 – Capture
4	Operating environment	0 – no terminal used 1 – on premises of card acceptor, attended 2 – on premises of card acceptor, untended 3 – Off premises of card acceptor, attended 4 – Off premises of card acceptor, unattended 5 – On premises of card cardholder, unattended 9 – On premises of card cardholder, attended
5	Cardholder presence indicator	0 – Present 1 – Not present, unspecified 2 – Not present, mail order 3 – Not present, telephone order 4 – Not present, standing order (recurring payment) 5 – Not present, electronic order S – Not present, postponed payment
6	Card presence	0 – Not present 1 – Present

Position	Position Description	Valid Values
7	Card data input mode	0 – Unspecified 1 – Manual, no terminal 2 – Magnetic stripe read 3 – BAR read 4 – OCR read 5 – ICC read 6 – Key entered 7 – Contactless ICC read 8 – Contactless magnetic stripe read 9 – Contactless read D – Digital Security Remote Payment S – E-commerce, merchant certificate only T – E-commerce, merchant and cardholder certificate / 3-D Secure transaction U – E-commerce, no security V – E-commerce, channel encryption W – Auto entry from external system
8	Cardholder authentication method	0 – No authentication 1 – PIN 2 – Electronic signature analysis 3 – Biometrics 4 – Biographic 5 – Manual signature 6 – Other manual authentication P - Partial shipment or recurring payment T – E-commerce, UCAF / 3DS authentication is not supported by merchant U – E-commerce, UCAF / 3DS authentication is supported by merchant but is not provided by issuer V – E-commerce, UCAF / 3DS authentication is supported by merchant and is provided by issuer W - E-commerce, UCAF / 3DS 3-D Secure authentication attempted X - E-commerce authentication by merchant
9	Cardholder authentication entity	0 – Not authenticated 1 – ICC 3 – Authorizing agent, online PIN 4 – Merchant/card acceptor, signature 5 – Other S – Merchant suspicious
10	Card data output capability	0 – Unknown 1 – None 2 – Magnetic stripe write 3 – ICC
11	Terminal output capability	0 – Unknown 1 – None 2 – Printing capability only 3 – Display capability only 4 – Printing and display capability
12	PIN capture capability	0 – No PIN capture capability 1 – Unknown 4 – PIN capture capability 4 characters maximum 5 – PIN capture capability 5 characters maximum 6 – PIN capture capability 6 characters maximum 7 – PIN capture capability 7 characters maximum 8 – PIN capture capability 8 characters maximum 9 – PIN capture capability 9 characters maximum

Position	Position Description	Valid Values
		A – PIN capture capability 10 characters maximum B – PIN capture capability 11 characters maximum C – PIN capture capability 12 characters maximum

5.14. Field 23: Card Sequence Number

1. Format

n 2

2. Description

The Card Sequence Number distinguishes among separate cards having the same DE 2 (Primary Account Number [PAN]). Issuers may encode chip cards with Card Sequence Numbers. Acquirers with chip-reading capability may pass this information encoded on the chip in DE 23 of Authorization Request or Financial Request Messages.

5.15. Field 24: Function Code

1. Format

n 3

2. Description

Code indicating the specific purpose of the message within its message class.

See the following table for valid values.

FUNCTION CODE	DESCRIPTION	MESSAGE TYPE
801	Sign-On	1804
802	Sign-Off	1804
811	Key Change (Initiator – creator of key)	1804
815	Key Demand (Initiator - receiver of key)	1804
831	Echo-test	1804

5.16. Field 32: Acquiring Institution Identification Code

1. Format

llvar n.. 11

2. Description

This code identifies the financial institution acting as the acquirer of this cardholder transaction. The acquirer is a member or system user that installed the terminal. The ID can be a Visa BIN, a MasterCard BIN, or another code that identifies the financial institution or branch within SmartVista Front-End. BINs are usually six digits, but the code may be up to 11 digits long. The value length specifies the number of digits in the ID code.

5.17. Field 35: Track 2 Data

1. Format

llvar z.. 37

2. Description

The information encoded on track 2 of the magnetic stripe.

Required only on mag-stripe solution. Required if the card was machine read.

5.18. Field 37: Retrieval Reference Number

1. Format

an 12

2. Description

A reference supplied by the system retaining the original source information and used to assist in locating that information or a copy thereof.

5.19. Field 38: Authorization Identification Response

1. Format

ans 6

2. Description

An Authorization code provided by the issuer when a transaction is approved, or a no-reason-to-decline code provided for successful verifications.

5.20. Field 39: Response Code

1. Format

an 3

2. Description

A code which defines the action taken or to be taken as well as the reason for taking the action.

Response Code	Description
000	Approved or completed successfully\Approve
280	Card is suspicious. Card was locked by fraud monitoring module.
287	Invalid payment parameters
289	Cryptographic error
296	Total transaction counter mismatch
297	Total amount mismatch
299	Common error code for “Change Default Account” transaction
300	The card has Institute number (8 or more) of accounts of this type already, no more allowed.
304	Cardholder has not checking accounts
305	Cardholder has not saving accounts
323	OTP code was not found or is invalid
324	OTP code already used
326	OTP code has expired
327	Incorrect Verification Value for custom 2FA protocol

Response Code	Description
328	Incorrect E-commerce indicator for custom 2FA protocol
329	Incorrect unique identifier for custom 2FA protocol
795	The limit reached for the number of specific operations per card
796	The limit reached for the number of specific operations per account
797	Invalid URN
798	URN timestamp is expired
801	Network didn't respond, timer time-out. It means that SVFE didn't receive response (to original or reversal request) from host or network in specified time period.
802	Issuer inoperative.
803	Call issuer.
804	Not permitted.
805	Error .
806	Transaction not permitted by law.
807	Transaction needs to be entered again.
810	Response received after timeout.
811	Received this transaction before you should usu. Respond the way you did the first time if there is no response code for this.
812	The message received was not within standards.
813	Reconciliation error.
814	Limit reached for total number of transactions in cycle, independent of transaction category. (Activity count limit exceeded)
815	Per transaction limit.
816	Supervisor limit exceeded.
817	Negative auth usage cycle limit exceeded.

Response Code	Description
818	Account restricted, capture card.
819	Card expired, capture card.
820	Excessive pin failures.
821	Wrong Pin, Excessive pin failures.
822	Lost Card – Capture.
823	Stolen Card – Capture.
824	Call Security – Capture.
825	Currency of incoming transaction does not match currency of this iso.
826	Approve with identification.
827	Do not honor transaction.
828	Issuing institution is unknown.
829	Unable to determine authorization method.
830	Primary account number has invalid length.
831	Primary account number has invalid characters.
832	Card issue date is in the future.
833	Incorrect CVV.
834	Disallowed by reciprocity check.
835	PIN processing error.
837	PIN response code undefined.
838	Card status response code undefined.
839	CVV processing error.
840	SV not permitted to stand in.
841	Failed currency conversion.
842	Can’t find or init negative auth usage rec.
843	Address verification failed. This response applies to address

Response Code	Description
	Institute transactions only.
845	EMV date predominance error
847	Pick up card, special condition.
849	Can’t update SV card status.
850	Exception file or other file record not found.
855	Request is in Progress.
856	Card type does not permit the service requested.
857	Requested amount was out of range allowed by the issuer.
858	Processing error (invalid input data, failed DB lookup, etc.) while attempting to process MAC-related HSM command.
859	A MAC verification command was completed, and the outcome was “Mac did not verify.”
860	Card’s aggregate limit exceeded.
861	Card parameters (expiration dates or expiration dates and sequence numbers) in the database and in the transaction data are different
862	Exceeds pin limit; Don’t capture card.
863	Cardholder didn’t insert envelope in time.
865	Deposit in throat customer could get.
866	Deposit in throat customer can’t get.
870	Fee processing error.
871	Incorrect CVV2.
872	CVV2 processing error.
873	Issuing BIN is unknown.
874	Bad Institute limit.
875	Institute limit.
876	Cannot process Institute amount.

Response Code	Description
877	Account already exists.
878	Account locked.
879	Invalid institute account type
880	Error in parsing or retrieving parsed track 2 data.
881	Card is not personificated.
882	Incorrect customer identifier or cardholder identifier.
883	The card is already active.
884	The card has NOT ANY accounts already.
885	The card is personificated already.
886	The card is not active.
887	Stand-In. Exceeded Max amount for transaction.
888	Not found account in transaction currency.
889	CVV2 present indicator shows that CVV2 present, but it does not
890	Verification error of generation ARQC/ARPC
894	Operation is declined because it’s not enough time passed from specified time point
895	Operation is declined due to absence of debts
896	Operation without receipt is not allowed
897	Problem occurred while delivering notes but dispense was successful
900	The card has status «FORCED PIN CHANGE». All transaction are declined until PIN is changed
901	Incorrect PIN, foreign. (do not capture card when SV is the issuer)
902	Cannot process transaction.
903	Cannot process amount. This code is only for truly erroneous amounts, e.g., exceeds machine capabilities or $0 cash withdrawal. Do not use for any sort of min/max limits.

Response Code	Description
904	Invalid PIN, capture card.
905	Bad card (-on_us).
906	Expired card.
907	Don’t recognize acct (foreign).
908	Expired card (foreign).
909	Invalid card, capture.
910	Invalid transaction at match.
911	Cash withdrawal limit reached
912	Cash withdrawal limit exceeded
913	Invalid transaction
914	Invalid account
915	Insufficient funds
916	Unable to process
917	Card’s ATM or POS cycle limit exceeded.
918	Invalid financial institute.
928	Account restricted.
931	Suspect reversal.
932	Forced post: no account on file.
933	Cannot process transaction – REG E.
934	Forced post: Bad card (on_us)..
936	Warm card, deny but don’t capture.
938	Account’s ATM or POS cycle limit exceeded.
939	No such response code from network.
940	Couldn’t find original transaction when processing a reversal.
941	Invalid Merchant ID.

Response Code	Description
942	Invalid Store number
943	Invalid Terminal Number.
945	Batch totals from POS term are wrong.
948	No second account for transfer
950	Host response received after timeout.
951	File update error.
952	Fraud is suspected.
953	Card is restricted.
954	Hot card, capture.
955	Date stamp in transaction is invalid.
956	Customer not enrolled for payment transactions
957	This company has not enrolled with bank as one for which the bank will collect payments
958	Cutoff is in progress.
959	System Malfunction.
961	timeout expired
962	update – timeout expired
963	reversal – timeout expired
965	buffer_c doesn't match buffer_b
968	Original amount incorrect.
969	Pre-Authorization transaction has unsuccessful code of completion
971	Account has been closed
972	Not usable yet–account is new
973	Account is dormant
974	External (non-SV) application not ready

Response Code	Description
975	File not accessible
976	Pending reversal, further transactions are not allowed
977	Withholding tax pending, transactions not allowed
978	Invalid branch.
979	Invalid account type.
980	Invalid new pin check for pin change transaction
981	Bad second card. Used in ATM P2P transaction
982	Pre-Authorization transaction is reversed
983	Pre-Authorization transaction already has transaction of completion
984	Time between transaction of completion and Pre-Authorization transaction has exceed
985	Amount between transaction of completion and transaction of Pre-Authorization more than fixture in percentage terms
986	Error while processing Pre- Authorization and Completion
987	Requested Service not allowed, EMV TVR has critical denial bits switched
988	Service not available at that time.(Communication or another problems)
989	Transaction not permitted EMV. Offline Decline.
991	Original transaction of Pre-Authorization has no been found for transaction of Completion
992	No ATM canisters are available.
993	Invalid ATM Payment Institution
994	Call Acquire Security, No Capture.
997	Service not allowed for client

5.21. Field 41: Card Acceptor Terminal Identification

1. Format

ans 8

2. Description

A code that uniquely identifies a particular terminal at the card acceptor's location. An identification code of less than eight positions must be left-justified and the remainder of the field space-filled. This field is mandatory if the terminal id is available.

5.22. Field 42: Card Acceptor Identification Code

1. Format

ans 15

2. Description

Code identifying the merchant which defines the point of transaction in both local and interchange environments.

5.23. Field 43: Card Acceptor Name and Location

1. Format

LLLVAR ans …136

2. Description

The name and location of the card acceptor. This field is required in authorization requests, advice messages and related reversal requests for all card-read transactions. It contains the information necessary for printing on customer account statements and on credit card billing statements.

The format is "name>street>city>state>country>postal code", where is

Field	Data	Description
Name	Ans ..40	the terminal name
Street	Ans ..31	the street in which the transaction-originating terminal is located
City	Ans ..31	the city in which the transaction-originating terminal is located
State	Ans ..15	the state in which the transaction-originating terminal is located

Country	Ans ..3	the 3-character ISO alpha country code (upper case) for the country where the terminal is located
Postal Code	Ans ..9	the postal code in which the transaction-originating terminal is located

> – the one-character, subfield separator.

5.24. Field 45: Track 1 Data

1. Format

llvar z.. 76

2. Description

This data element carries the information encoded on track 1 of the magnetic stripe of the card, as defined in ISO 7813. For magnetic stripe-read transactions, if track 2 is not provided, this field must be present and contain the data encoded on track 1 of the magnetic stripe.

For magnetic stripe-read transactions, Track-1 Data may be provided along with Track 2 Data (Field 35) as well as alone.

5.25. Field 48: Additional Data

1. Format

lllvar ans …999

Tag data format: 3 bytes for each tag name + 3 bytes for each tag length + tag data

2. Description

This field is used to carry SmartVista Front-End internal information. There is a number of tags packed in field 48. The tags have the TLV structure. It means they are repeated groups of Tag IDs, Tag Lengths and Tag Values.

Banking Production Center may occasionally introduce new Field 48 tags between SVFE releases to facilitate special processing. Banking Production Center requires members using SVFE Host2Host specification to be able to successfully process various online messages that may contain new unannounced Field 48 tags.

Refer to Appendix A (Field 48).

5.26. Field 49: Currency Code, Transaction

1. Format

n 3

2. Description

This field is used in any message related to a cardholder transaction that contains one or more of the amount fields listed above, even when the amount is zero. This field is also used in balance inquiry requests, even when the value of field 4 equals zero. This code specifies the currency in which the acquirer wants the balance amount to be expressed.

5.27. Field 51: Currency Code, Cardholder Billing

1. Format

n 3

2. Description

This field contains a 3-digit numeric code that identifies the currency used by the issuer to bill the cardholder's account.

5.28. Field 52: Personal Identification Number (PIN) Data

1. Format

LLVAR ans … 16

2. Description

Field contains PIN BLOCK in HEX-DEC format. Used to identify the cardholder at the point of service. For devices with a Pin Pad connected, this field should contain the PIN information to be verified. If the transaction is not associated with a PIN, this field should not be present.

5.29. Field 53: Security Related Control Information

1. Format

LLVAR n..16

2. Description

Field contains information about the key, which is being sent in the field 96 in the Key Change request message. Also this field is used to request new key with the specified parameters by message – Key Demand request (initiated by receiver of key). Subfields of the field 53 are listed in the below table:

Position	Format	Position Description	Valid Values
1	N1	Key type	1 – PIN key 2 – MAC key (currently not supported)
2	N1	Key length	1 – Single length DES 2 – Double length 3DES
3	N1	Key direction	0 – Both Acquirer and Issuer (key is the same for both direction) 1 – Acquirer key only 2 – Issuer key only Note that in case of using of separate Acquirer/Issuer keys, the direction of the key should be considered from the point of view of the Master system (which generates new keys). Please refer to the Key Change message flow for more details
4..16	N13	Reserved for future use	Can be filled with zeroes or unused

5.30. Field 54: Additional Amounts

1. Format

lllvar ans…999

2. Description

This field is used to carry SmartVista Front-End account balance information. There is a number of tags packed in Field 54. The tags have the TLV structure. It means they are repeated groups of Tag IDs, Tag Lengths and Tag Values.

Banking Production Center may occasionally introduce new Field 54 tags between SVFE releases to facilitate special processing. Banking Production Center requires members using SVFE Host2Host specification to be able to successfully process various online messages that may contain new unannounced Field 54 tags.

Refer to .Appendix B (Field 54)

5.31. Field 55: EMV Data

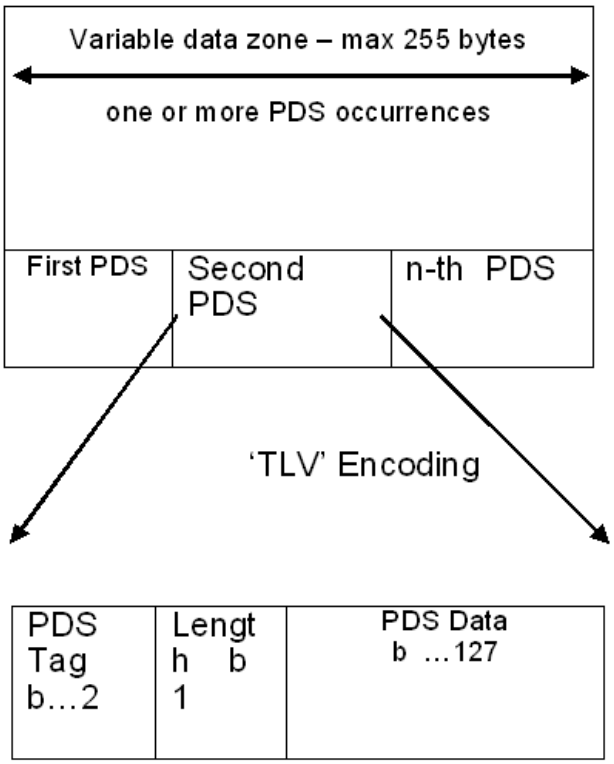
1. Format

Lllvar b …255

2. Description

EMV Data is used to transport chip-specific data over the payment network. It contains various data captured by the chip terminal as part of a chip transaction. Field 055 is used only for Chip Full Grade transactions.

Banking Production Center requires members using SVFE Host2Host specification to be able to successfully process various online messages that may contain new unannounced EMV tags.



Field/PDS	Attribute	Bytes	Values
Tag '5F2A'	b 16	2	Transaction Currency Code – Tag '5F2A' – Taken from terminal initialization table or chip card. Mandatory for Authorization and Financial Request Message (1100/1200).
Tag '5F34'	n 2	1	Application Primary Account Number (PAN) Sequence Number, Identifies and differentiates cards with the same PAN
Tag '82'	b 16	2	Application Interchange Profile – Tag '82' – Specifies the application functions that is supported by the card. The terminal attempts to execute only those functions that the ICC supports.Mandatory for Authorization and Financial Request Message (1100/1200).
Tag '84'	b Var	..16	Application Identifier (AID) / Dedicated File (DF) Name – Tag '84' – Taken from the application (application specific data)Optional for Authorization and Financal Request Message (1100/1200).

Field/PDS	Attribute	Bytes	Values
Tag ‘91’	b Var	16	Issuer Authentication Data – Tag ‘91’ – (Response Message) –Sent by the issuer if on-line issuer authentication is required. Optional for Authorization or Financial Response Message (1110/1210).
Tag ‘95’	b 40	5	Terminal Verification Result (TVR) – Tag ‘95’ – Status of the different functions as seen by the terminal during the processing of a transaction. Mandatory for Authorization and Financial Request Message (1100/1200). Mandatory for Reversal Request Message (1420) if Issuer Authentication failed (final value).
Tag ‘9A’	n 6	3	Transaction Date – Tag ‘9A’ – Formatted as ‘YYMMDD’. Taken from terminal clock. Mandatory for Authorization and Financial Request Message (1100/1200).
Tag ‘9C’	n 2	1	Transaction Type – Tag ‘9C’ – Taken from the transaction data. Mandatory for Authorization and Financial Request Message (1100/1200).
Tag ‘9F02’	n 12	6	Transaction Amount – Tag ‘9F02’ – Taken from transaction data. Mandatory for Authorization and Financial Request Message (1100/1200).
Tag ‘9F03’	n 12	6	Amount Other-Tag ‘9F03’ – A secondary amount associated with the transaction representing a cashback amount. Mandatory for Authorization and Financial Request Message (1100/1200) in case cashback transaction and ‘9F03’ was provided by terminal.
Tag ‘9F09’	b 16	2	Terminal Application Version Number – Tag ‘9F09’ – Taken from the application (application specific data)Optional for Authorization and Financal Request Message (1100/1200).
Tag ‘9F10’	b Var	..32	Issuer Application Data (IAD) –Tag ‘9F10’ – Retrieved from the card Mandatory for Authorization and Financial Request Message (1100/1200) if provided by ICC. Must contain all data which is provided by ICC. Mandatory for Reversal Request Message (1420) if provided by ICC and Issuer Authentication failed (final value). Must contain all data which is provided by ICC.

Field/PDS	Attribute	Bytes	Values
Tag ‘9F1A’	n 3	2	Terminal Country Code – Tag ‘9F1A’ – Taken from terminal initialization table or chip card. Mandatory for Authorization and Financial Request Message (1100/1200).
Tag ‘9F1E’	an 8	8	Interface Device (IFD) Serial Number-Tag ‘9F1E’ – Unique and permanent serial number assigned to the Interface Device by the manufacturer.Optional for Authorization and Financal Request Message (1100/1200).
Tag ‘9F26’	b 64	8	Application Cryptogram (AC) – Tag ‘9F26’ Mandatory for Authorization and Financial Request Message (1100/1200).
Tag ‘9F27’	b 8	1	Cryptogram Information Data – Tag ‘9F27’ Mandatory for Authorization and Financial Request Message (1100/1200).
Tag ‘9F33’	b 40	3	Terminal Capabilities – Tag ‘9F33’ – Specifies the capabilities of the terminal. Mandatory for Authorization and Financial Request Message (1100/1200).
Tag ‘9F34’	b 18	3	CVM Results – Tag ‘9F34’ – Result of the last cardholder verification method.Optional for Authorization and Financal Request Message (1100/1200).
Tag ‘9F35’	n 2	1	Terminal Type – Tag ‘9F35’ – Specifies the type of terminal.Optional for Authorization and Financal Request Message (1100/1200).
Tag ‘9F36’	b 16	2	Application Transaction Counter (ATC) – Tag ‘9F36’ – from the card. Mandatory for Authorization and Financial Request Message (1100/1200).
Tag ‘9F37’	b 32	4	Unpredictable Number-Tag ‘9F37’ – Value to provide variability and uniqueness to the generation of the application cryptogram. Mandatory for Authorization and Financial Request Message (1100/1200).
Tag ‘9F41’	n ..8	4	Transaction Sequence Counter-Tag ‘9F41’ – Counter maintained by the terminal that is incremented by one for each transactionOptional for Authorization and Financal Request Message (1100/1200).
Tag ‘9F53’	an 1	1	Transaction Category Code / Merchant Category Code – Tag ‘9F53’ – Usually provided by the acquirer.Optional for Authorization and Financal Request Message (1100/1200).

Field/PDS	Attribute	Bytes	Values
Tag ‘9F5B’	b var	..21	Tag ‘9F5B’ – Result of script processing Byte 1 – length Byte 2 bits 1-4 – script processing results bits 5-8 – script sequence number Bytes 3-6 – script identifier Bytes 7-21 – reserved for future use Mandatory for Reversal Request Message (1420) if provided by ICC.
Tag ‘71’ – if present	b var	..127	Tag ‘71’ – Issuer Script Template 1. Optional for Authorization and Financial Response Message (1110/1210).
Tag ‘72’ – if present	b var	..127	Tag ‘72’ – Issuer Script Template 2. Optional for Authorization and Financial Response Message (1110/1210).
Tag ‘9F6E’	b 32	4	Visa Form Factor indicator Optional for Authorization Request Message (1100)

5.32. Field 60: Accounts, additional

1. Format

lllvar ans…999

2. Description

Field 60 comprises sets of account information. A set is 71 bytes long.

Positions:

1–2	3 –5	6–37	38-49	50-52	53-58	59-71
account type	currency code	account number	Account Open Name	Credit type	Credit open date	Account Balance

Positions 1–2, Account Type (Field 60.1): This value is a 2-digit code identifying the account type affected by the balance inquiry.

00 - Not Applicable or Not Specified

10 - Savings Account

20 - Checking Account

30 - Credit Card Account

40 - Universal Account

50 - Loans Account

60 - Envelope Account

70 - Escrow Account

80 - Money Market Account

90 - Loyalty Account

Positions 3–5, Currency Code (Field 60.2): This value is a 3-digit code of the account defines in positions 6–37.

Position 6-37, Account Number(Field 60.3): This value is an Account number. If Account number length is less then 32 characters, value is is left-justified, blank filled

Position 38-49, Comment to Account (Field 60.4): This value is a Comment to account that can be shown on ATM screen. If no Comment to account or length is less then 12 characters, value is left-justified, blank filled

Positions 50–52, Credit type (Field 60.5): This value is a 3-symbol code of the credit product code defines in positions 6–37. If there is no information for credit type then blank filled.

Positions 53–58, Credit open date (Field 60.6): This value is a 6-digit date (YYMMDD) of credit open (conclusion of a contract) defines in positions 50–52. If there is no information for credit open date then blank filled.

Positions 59–71, Account balance (Field 60.7): This value is X+12 digits amount, representing available balance of account, where X: C – for positive balance, D – for negative balance. If there is no information about the account balance then blank filled.

Field 60 is mandatory for Account List Inquiry (586) transactions responses.

5.33. Field 61: Additional Amounts and Counters

1. Format

lllvar an…999

2. Description

This field is used to carry SVFE ATM deposit cassettes information, only for 594 SVFE Transaction Type. There is a number of tags packed in Field 61. The tags have the TLV structure. It means they are repeated groups of Tag IDs, Tag Lengths and Tag Values.

Banking Production Center may occasionally introduce new Field 61 tags between SVFE releases to facilitate special processing. Banking Production Center requires members using SVFE CBS specification to be able to successfully process various online messages that may contain new unannounced Field 61 tags.

Refer to Appendix C (Field 61).Appendix C (Field 61)

5.34. Field 64: Primary MAC Data

1. Format

b 8

2. Description

The Primary Message Authentication Code data field carries the message authentication code (MAC) for the message. This code is generated by ANSI X9.19 Method. Fields at MAC are filled in according type of message formats represented at next chapter “MASSAGE FORMAT” (look at last column “Field Used For Mac Y or N”)

If the message contains secondary data fields, Field 128 is used to carry the message authentication code. If the message authentication code is carried in Field 128, Field 64 is not included in the message.

5.35. Field 91: Action code

1. Format

an 1

2. Description

Action code	Description
1	Add operation
2	Update operation
3	Delete operation
4	Check operation

5	Change access operation
6	Check parameters operation
7	Restore parameters operation
8	Inquire operation
9	Action operation

5.36. Field 95: Replacement Amounts

1. Format

lllvar an…999

2. Description

This field is used to carry SmartVista Front-End amount information. There is a number of tags packed in Field 95. The tags have the TLV structure. It means they are repeated groups of Tag IDs, Tag Lengths and Tag Values.

Banking Production Center may occasionally introduce new Field 95 tags between SVFE releases to facilitate special processing. Banking Production Center requires members using SVFE Host2Host specification to be able to successfully process various online messages that may contain new unannounced Field 95 tags.

Refer to Appendix D (Field 95)

5.37. Field 96: Key management data

1. Format

llvar ans…99

2. Description

This field is used to deliver key from the participant, which is responsible for generation of new PIN key, to the receiving system. New key is being sent in the message Key Change (MTI=1804) by the generating system. Type and length of key is provided in the field 53 of the same message.

Format of key is ASCII HEX.

5.38. Field 100: SVFE Issuer Institution Identifier

1. Format

llvar ans.. 11

Outdated format: an 4. Supported by SVFE for backward compatibility only. Can’t be used in new projects and connections.

2. Description

Field contains SVFE Issuer Institution Identifier.

5.39. Field 102: Account Identification

1. Format

llvar ans.. 32

2. Description

Field is used in cardholder transactions. Field identifies an account number of cardholder relationship.

Field is mandatory for A2A Debit transaction. For A2A Debit field contains source account. Corresponding BIN of FI is in the field DE2.

Field could be present for Credit Verification transaction and contains source account.

Field could be present for A2A Credit transaction. For A2A Credit field contains source account, corresponding BIN of FI is in DE48.021.

5.40. Field 103: Account Identification – 2

1. Format

llvar ans.. 32

2. Description

Field is used in cardholder transactions. Field identifies second account number of cardholder relationship. For example, “TO account” for transfers.

Field is mandatory for A2A Credit transaction. For A2A Credit field contains destination account, corresponding BIN of FI is in the field DE2.

Field is mandatory for Credit Verification transaction and contains destination account.

Field could be present for A2A Debit transaction. For A2A Debit field contains destination account, corresponding BIN of FI is in DE48.021.

5.41. Field 125: New PIN Block

1. Format

LLVAR ans … 16

2. Description

Field contains new PIN Block (HEX-DEC format) for PIN Change and Create Virtual Card transactions. Used to identify the cardholder at the point of service. For devices with a Pin Pad connected, this field should contain the PIN information to be verified. If the transaction is not associated with a PIN, this field should not be present.

5.42. Field 128: Secondary MAC Data

1. Format

b 8

2. Description

The Secondary Message Authentication Code data field carries the message authentication code (MAC) for the message. See Field 64: Primary MAC Data.

MESSAGE FORMATS

5.5. Authorization Message

5.1. Request

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1100	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
6	Amount, Cardholder Billing		n12	C		Y
9	Conversion Rate, Cardholder Billing		n8	C		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
14	Date, Expiration	YYMM	n4	C		Y
15	Settlement Date	YYMMDD	n6	M		Y
18	Merchant Type		n4	M		Y
19	Acquiring Institution Country Code		n3	C		Y
22	Point of Service Data Code		ans12	M		Y
23	Card Sequence Number		N2	C		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
35	Track 2 Data	LLVAR	z .. 37	C		Y
37	Retrieval Reference Number		an12	M		Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
38	Authorization Identification Response		ans6	C	Should be present for Purchase completion transaction. Value should be copied from 1110 Purchase Pre-authorization message.	Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
42	Card Acceptor Identification Code		ans 15	M		Y
43	Card Acceptor Name and Location	LLLVAR	ans…136	M		Y
45	Track 1 Data	LLVAR	z .. 76	C		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M		Y
51	Currency Code, Cardholder Billing		n3	C		Y
52	Personal Identification Number (PIN) Data	LLVAR	Ans… 16	C		Y
54	Additional Amounts	LLLVAR	An…999	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
100	SVFE Issuer Institution Identifier		ans.. 11	O		Y
102	Account Identification	LLVAR	ans…32	C		Y
103	Account Identification-2	LLVAR	ans…32	C		Y
125	New PIN Block	LLVAR	ans…16	C	For PIN Change transaction	Y
128	Secondary MAC Data		b8	O	For future used	N

5.2. Response

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1110	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
15	Settlement Date	YYMMDD	n6	M		Y
23	Card Sequence Number		N2	C		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
37	Retrieval Reference Number		an12	M		Y
38	Authorisation Identification Response		ans6	C		Y
39	Response Code		An3	M		Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M	Value should be copied from 1100 message except for balance inquiry transaction. For balance inquiry transaction should be the same as DE 54Tag 06 if DE 54Tag 06 is present in the message.	Y
54	Additional Amounts	LLLVAR	An…999	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
102	Account Identification	LLVAR	ans…32	C		Y
103	Account Identification-2	LLVAR	ans…32	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.6. Financial Message

5.1. Request

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1200	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
6	Amount, Cardholder Billing		n12	C		Y
9	Conversion Rate, Cardholder Billing		n8	C		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
14	Date, Expiration	YYMM	n4	C		Y
15	Settlement Date	YYMMDD	n6	M		Y
18	Merchant Type		n4	M		Y
19	Acquiring Institution Country Code		n3	C		Y
22	Point of Service Data Code		ans12	M		Y
23	Card Sequence Number		N2	C		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
35	Track 2 Data	LLVAR	z .. 37	C		Y
37	Retrieval Reference Number		an12	M		Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
42	Card Acceptor		ans 15	M		Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
	Identification Code					
43	Card Acceptor Name and Location	LLLVAR	ans…136	M		Y
45	Track 1 Data	LLVAR	z .. 76	C		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M		Y
51	Currency Code, Cardholder Billing		n3	C		Y
52	Personal Identification Number (PIN) Data	LLVAR	Ans… 16	C		Y
54	Additional Amounts	LLLVAR	An…999	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
100	SVFE Issuer Institution Identifier		ans.. 11	O		Y
102	Account Identification	LLVAR	ans…32	C		Y
103	Account Identification-2	LLVAR	ans…32	C		Y
125	New PIN Block	LLVAR	ans…16	C	For PIN Change transaction	Y
128	Secondary MAC Data		b8	O	For future used	N

5.2. Response

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1210	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
11	Systems Trace Audit		n6	M		Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
	Number					
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
15	Settlement Date	YYMMDD	n6	M		Y
23	Card Sequence Number		N2	C		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
37	Retrieval Reference Number		an12	M		Y
38	Authorisation Identification Response		ans6	C		Y
39	Response Code		An3	M		Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M		Y
54	Additional Amounts	LLLVAR	An…999	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
102	Account Identification	LLVAR	ans…32	C		Y
103	Account Identification-2	LLVAR	ans…32	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.7. Reversal Messages

5.1. Request

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1420 or 1421	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508,	Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
					654, 655, 698, 702, 704, 715, 785.	
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
6	Amount, Cardholder Billing		n12	C		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
14	Date, Expiration	YYMM	n4	C		Y
15	Settlement Date	YYMMDD	n6	M		Y
18	Merchant Type		n4	M		Y
19	Acquiring Institution Country Code		n3	C		Y
22	Point of Service Data Code		ans12	M		Y
23	Card Sequence Number		N2	C		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
35	Track 2 Data	LLVAR	z .. 37	C		Y
37	Retrieval Reference Number		an12	M		Y
38	Authorisation Identification Response		ans6	C		Y
39	Response Code		An3	M		Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
42	Card Acceptor Identification Code		ans 15	O		Y
43	Card Acceptor Name and Location	LLLVAR	ans…136	M		Y
45	Track 1 Data	LLVAR	z .. 76	C		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M		Y
51	Currency Code, Cardholder Billing		n3	C		Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
52	Personal Identification Number (PIN) Data	LLVAR	Ans… 16	C		Y
54	Additional Amounts	LLLVAR	An…999	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
95	Replacement Amounts	LLLVAR	ans…999	C		Y
100	SVFE Issuer Institution Identifier		ans.. 11	O		Y
102	Account Identification	LLVAR	Ans…32	C		Y
103	Account Identification-2	LLVAR	ans…32	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.2. Response

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1430	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
15	Settlement Date	YYMMDD	n6	M		Y
23	Card Sequence Number		N2	C		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
37	Retrieval Reference Number		an12	M		Y
39	Response Code		An3	M		Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
41	Card Acceptor Terminal Identification		ans 8	M		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M		Y
54	Additional Amounts	LLLVAR	An…999	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
95	Replacement Amounts	LLLVAR	ans…999	C		Y
102	Account Identification	LLVAR	ans…32	C		Y
103	Account Identification-2	LLVAR	ans…32	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.8. Authorization Advice

5.1. Request

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1120 or 1121	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
6	Amount, Cardholder Billing		n12	C		Y
9	Conversion Rate, Cardholder Billing		n8	C		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local	YYMMDDhhmmss	n12	M		Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
	Transaction					
14	Date, Expiration	YYMM	n4	C		Y
15	Settlement Date	YYMMDD	n6	M		Y
18	Merchant Type		n4	M		Y
19	Acquiring Institution Country Code		n3	C		Y
22	Point of Service Data Code		ans12	M		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
35	Track 2 Data	LLVAR	z .. 37	C		Y
37	Retrieval Reference Number		an12	M		Y
38	Authorisation Identification Response		ans6	M		Y
39	Response Code		An3	C		Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
42	Card Acceptor Identification Code		ans 15	M		Y
43	Card Acceptor Name and Location	LLLVAR	ans…136	M		Y
45	Track 1 Data	LLVAR	z .. 76	C		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M		Y
51	Currency Code, Cardholder Billing		n3	C		Y
54	Additional Amounts	LLLVAR	An…999	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
100	SVFE Issuer Institution Identifier		ans.. 11	O		Y
102	Account Identification	LLVAR	ans…32	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.2. Response

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1130	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
15	Settlement Date	YYMMDD	n6	M		Y
23	Card Sequence Number		N2	C		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
37	Retrieval Reference Number		an12	M		Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
42	Card Acceptor Identification Code		ans 15	M		Y
45	Track 1 Data	LLVAR	z .. 76	C		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
95	Replacement Amounts	LLLVAR	ans…999	C		Y
102	Account Identification	LLVAR	ans…32	C		Y
103	Account Identification-2	LLVAR	ans…32	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.9. Financial Advice

5.1. Request

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1220 or 1221	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
6	Amount, Cardholder Billing		n12	C		Y
9	Conversion Rate, Cardholder Billing		n8	C		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
14	Date, Expiration	YYMM	n4	C		Y
15	Settlement Date	YYMMDD	n6	M		Y
18	Merchant Type		n4	M		Y
19	Acquiring Institution Country Code		n3	C		Y
22	Point of Service Data Code		ans12	M		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
35	Track 2 Data	LLVAR	z .. 37	C		Y
37	Retrieval Reference Number		an12	M		Y
38	Authorisation Identification Response		ans6	M		Y
39	Response Code		An3	C		Y
41	Card Acceptor		ans 8	M		Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
	Terminal Identification					
42	Card Acceptor Identification Code		ans 15	M		Y
43	Card Acceptor Name and Location	LLLVAR	ans…136	M		Y
45	Track 1 Data	LLVAR	z .. 76	C		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M		Y
51	Currency Code, Cardholder Billing		n3	C		Y
54	Additional Amounts	LLLVAR	An…999	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
100	SVFE Issuer Institution Identifier		ans.. 11	O		Y
102	Account Identification	LLVAR	ans…32	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.2. Response

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1230	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
4	Amount, Transaction		n12	M		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
15	Settlement Date	YYMMDD	n6	M		Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
23	Card Sequence Number		N2	C		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
37	Retrieval Reference Number		an12	M		Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
42	Card Acceptor Identification Code		ans 15	M		Y
45	Track 1 Data	LLVAR	z .. 76	C		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
49	Currency Code, Transaction		n3	M		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
95	Replacement Amounts	LLLVAR	ans…999	C		Y
102	Account Identification	LLVAR	ans…32	C		Y
103	Account Identification-2	LLVAR	ans…32	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.10. Administrative Messages

5.1. Request

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1600	N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
11	Systems Trace Audit		n6	M		Y

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
	Number					
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
14	Date, Expiration	YYMM	n4	C		Y
18	Merchant type		n4	M		
22	Point of Service Data Code		ans12	M		Y
23	Card Sequence Number		N2	C		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
35	Track 2 Data	LLVAR	z .. 37	C		Y
37	Retrieval Reference Number		an12	M		Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
48	Additional Data	LLLVAR	ans.. 999	M		Y
52	Personal Identification Number (PIN) Data	LLVAR	Ans… 16	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
61	Additional Amounts and Counters	LLLVAR	ans.. 999	C	This field is used to carry SmartVista Front-End account & counters information	Y
64	Primary MAC Data		b8	O	For future used	N
100	SVFE Issuer Institution Identifier		ans.. 11	O		Y
102	Account Identification	LLVAR	ans…32	C		Y
103	Account Identification-2	LLVAR	ans…32	C		Y
125	New PIN Block	LLVAR	Ans… 16	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.2. Response

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Message Type		n4	M	Value is 1610	N

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks	Field Used For Mac Y or N
-	Bit Map, Primary		b64	M		N
-	Bit Map, Secondary		b64	C		N
2	Primary Account Number	LLVAR	n…24	C	Can be absent if DE48.024 is present for transaction types 508, 654, 655, 698, 702, 704, 715, 785.	Y
3	Processing Code		n6	M		Y
11	Systems Trace Audit Number		n6	M		Y
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M		Y
32	Acquiring Institution Identification Code	LLVAR	n…11	M		Y
37	Retrieval Reference Number		an12	M		Y
38	Authorisation Identification Response			M		Y
39	Response Code		An3	M		Y
41	Card Acceptor Terminal Identification		ans 8	M		Y
48	Additional Data	LLLVAR	ans.. 999	C		Y
55	EMV Data	LLLVAR	b…255	C		Y
64	Primary MAC Data		b8	O	For future used	N
95	Replacement Amounts	LLLVAR	ans…999	C		Y
102	Account Identification	LLVAR	ans…32	C		Y
128	Secondary MAC Data		b8	O	For future used	N

5.11. Network Management Messages

5.1. Request

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks
-	Message Type		n4	M	Value is 1804
-	Bit Map, Primary		b64	M	
11	Systems Trace Audit Number		n6	M	

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M	
24	Function Code		N3	M	
53	Security Related Control Information	LLVAR	N..16	C1	
96	Key management data	LLVAR	N..99	C2	

5.2. Response

Bit No.	Data field Name	Format	Attri-butes	Sta-tus	Comments / Remarks
-	Message Type		n4	M	Value is 1814
-	Bit Map, Primary		b64	M	
11	Systems Trace Audit Number		n6	M	
12	Date & Time, Local Transaction	YYMMDDhhmmss	n12	M	
24	Function Code		N3	M	
39	Response Code		An3	M	

Special conditions for some fields of network management messages:

C1 – should be present for Key Demand request message (field 24 = 815) and for Key Change request message (field 24 = 811)

C2 – should be present for Key Change request message (field 24 = 811)

MESSAGE MATCHING

Message Matching Data Fields

Following set of fields takes part in message matching:

- Field 2. Primary Account Number.
- Field 11. Systems Trace Audit Number.
- Field 12. Date & Time, Local Transaction.
- Field 37. Retrieval Reference Number.
- Field 38. Authorization Identification Response
- Message Type.

Search of original request for responses

Key fields in matching response with request are Primary Account Number (field 2), System Trace Audit Number (field 11) and Date & Time, Local Transaction (field 12).

The 810 response matching fields are Message Type and System Trace Audit Number (field 11). Appropriate request message type (800) is used as value for matching.

In case Primary Account Number is absent (in case of cardless transactions like A2A Debit and A2A Credit), field 102 (Account Identification) or field 103 (Account Identification-2) is used instead.

Search of original requests for reversals

Key fields in matching reversal with original request are Primary Account Number (field 2), Retrieval Reference Number (field 37) and Date & Time, Local Transaction (field 12).

If Retrieval Reference Number is absent (filled by spaces) than System Trace Audit Number (field 11) is used instead of it in matching procedure.

In case Primary Account Number is absent (in case of cardless transactions like A2A Debit and A2A Credit), field 102 (Account Identification) or field 103 (Account Identification-2) is used instead.

Search of original requests for repeats

Key fields in matching repeat with original request are Message Type, Primary Account Number (field 2), System Trace Audit Number (field 11) and Date & Time, Local Transaction (field 12).

Appropriate request message type (x00) is used as value for matching.

Search of original Pre-authorization requests for Completion

Key fields in matching reversal with original request are Primary Account Number (field 2), and Authorization Identification Response (field 38).

APPENDIX A (FIELD 48)

5.1. Structure Field 48

Size	**Data**			
LLL	Tag 001	Tag 002	…	Tag N
3	LLL – 3			

5.2. Structure Tags of Data Field 48

Tag No	**Length**	**Data**
NNN	NNN	Ans .. 99
3	3	NNN bytes

5.3. Tag 002 – SVFE Transaction Type

Tag No	**Size**	Data
002	n3	Refer to Field 3: Processing Code Must be present in all messages (requests and responses).

5.4. Tag 004 – CVC2/CVV2 Presents Indicator

Tag No	**Size**	Data
004	n3	CVC2/CVV2 Presents Indicator: 000 – CVC2/CVV2 value is deliberately bypassed or is not provided by the merchant, 001 – CVC2/CVV2 value is present, 002 – CVC2/CVV2 value is on the card but is illegible, 009 – Cardholder states that the card has no CVV2 imprint. If available must be present in all messages (requests and responses), except of reversal messages.

5.5. Tag005 – SVFM Fraud score

Tag No	**Size**	**Data**
005	n…999	SVFM fraud score (risk) value – ME only May be present in authorization requests

5.6. Tag 006 – SVFM fraud rules list

Tag No	Size	Data
006	Ans…999	SVFM rules list – list of rules triggered during fraud check in SVFM May be present in authorization requests

5.7. Tag 011 – Mini-statement data

Tag No	Size	Data
011	Ans86	Mini-statement data (see below). Must be present in 1110/1210 message for 704 SVFE transactions type only.

The format is:

N	Description	Format	Comment
1	Time, Local Transaction	n 12	Refer to Field 12: Time, Local Transaction
2	Processing Code	n 6	Refer to Field 3: Processing Code
3	Debit/Credit Indicator	a 1	“+” - credit transaction, “–“ - debit transaction, “>” – transfer transaction, blank – noop transaction.
4	Amount, Transaction	n 12	Refer to Field 4: Amount, Transaction
5	Currency Code, Transaction	n 3	Refer to Field 49: Currency Code, Transaction
6	Card Acceptor Identification Code	an 15	Refer to Field 42: Card Acceptor Identification Code
7	Card Acceptor Name and Location	ans 30	
8	Authorisation Identification Response	an 6	Refer to Field 38: Authorization Identification Response
9	Refersal flag	n 1	0 – normal transaction 1 – refersal transaction

5.8. Tag 012 – SVFE Terminal Type

Tag No	**Size**	Data
012	n1	1 – ATM 2 – POS 5 – VOICE 8 – EPOS Must be present in all messages (requests and responses).

5.9. Tag 014 – CVC2/CVV2 Data

Tag No	**Size**	Data
014	ans…3	CVC2/CVV2 Data. If available must be present in all messages (requests and responses), except of reversal messages.

5.10. Tag 015 – Card Status

Tag No	**Size**	Data
015	ans 2	‘01’ Call Issuer ‘02’ Warm Card ‘03’ Do Not Honor ‘04’ Honor With ID ‘05’ Not Permit ‘06’ Lost Card, Capture ‘07’ Stolen Card, Capture ‘08’ Call Security, Capture ‘09’ Invalid Card, Capture ‘10’ Pick up Card, Special Condition ‘11’ Call Acquirer Security ‘12’ Frozen Card ‘14’ Forced PIN Change ‘20’ Temporary Blocked By Client ‘21’ Permanent Blocked By Client If SVFE Card Status different from ‘00’ must be present in all messages (requests and responses).

5.11. Tag 016 – Forwarding Retrieval Reference Number

Tag No	Size	Data
016	ans 12	Forwarding Retrieval Reference Number. If available must be present in response messages.

5.12. Tag 021 – Card2 Number

Tag No	Size	Data
021	ans…24	Card2 Number or BIN number of FI. If available must be present in all messages (requests and responses). Bank Identification Number (BIN) of the financial institute (FI) could be present for A2A Debit and A2A Credit transactions. For A2A Debit field contains BIN of the destination FI, for A2A Credit – BIN of the source FI.

5.13. Tag 022 – Virtual Card Limit

Tag No	Size	Data
022	n12	Virtual Card Limit. If available must be present in all messages (requests and responses).

5.14. Tag 023 – Card2 Expiration Date

Tag No	Size	Data
023	n4	Card2 Expiration Date. Format: YYMM If available must be present in all messages (requests and responses).

5.15. Tag 024 – Mobile Phone

Tag No	Size	Data
024	ans..16	Mobile Phone. If available must be present in all messages (requests and responses).

5.16. Tag 025 – Network Reference Number

Tag No	Size	Data
025	An …50	Network Reference Number for MasterCard – NetworkData (DE 63). For VISA – Transaction Identifier (DE 62.2, as extended numeric string 15 digit length). If available must be present in all messages (requests and responses).

5.17. Tag 026 – Credit Client Name

Tag No	Size	Data
026	Ans40	Credit Client Name. Must be present in 1110/1210 message for 684 SVFE transactions type only.

5.18. Tag 027 – Credit Type

Tag No	Size	Data
027	N3	Credit Type. Must be present in 1110/1210 message for 684 SVFE transactions type only.

5.19. Tag 028 – Credit Issue Date

Tag No	Size	Data
028	N6	YYMMDD. Must be present in 1110/1210 message for 684 SVFE transactions type only.

5.20. Tag 029 – Credit Issue Interval

Tag No	Size	Data
029	N6	YYMMDD. Must be present in 1110/1210 message for 684 SVFE transactions type only.

5.21. Tag 030 – Credit End Date

Tag No	Size	Data
030	N6	YYMMDD. Must be present in 1110/1210 message for 684 SVFE transactions type only.

5.22. Tag 031 – Credit Enable Date

Tag No	Size	Data
031	N6	YYMMDD. Must be present in 1110/1210 message for 684 SVFE transactions type only.

5.23. Tag 032 – Service Type

Tag No	Size	Data
032	Ans…8	Service Type. If available must be present in all messages (requests and responses).

5.24. Tag 033 – Service Identifier

Tag No	Size	Data
033	Ans…8	Service Identifier. If available must be present in all messages (requests and responses).

5.25. Tag 034 – Service Object Type

Tag No	Size	Data
034	N3	Service Object Type. If available must be present in all messages (requests and responses).

5.26. Tag 036 – 3-D Secure XID

Tag No	Size	Data
036	An40	3-D Secure XID. Could be present in 1100/1200 e-commerce transactions with additional authentication (3D-Secure).

5.27. Tag 037 – 3-D Secure ATN

Tag No	Size	Data
037	An16	3-D Secure ATN. Only for 3D-Secure transactions.

5.28. Tag 038 – 3-D Secure ARC

Tag No	Size	Data
038	N3	3-D Secure ARC. Only for 3D-Secure transactions.

5.29. Tag 039 – 3-D Secure CAVV

Tag No	Size	Data
039	An40	3-D Secure CAVV. Only for 3D-Secure transactions.

5.30. Tag 040 – Financial Transaction Indicator

Tag No	Size	Data
040	N1	SVFE Financial Transaction Indicator: 0 – non financial; 1 – financial. Must be present in all messages (requests and responses).

5.31. Tag 041 – Chip condition code

Tag No	Size	Data
041	N1	Chip condition code. If available must be present in all messages (requests and responses).

5.32. Tag 042 – Account category

Tag No	Size	Data
042	An1	Account category. If available must be present in all messages (requests and responses).

5.33. Tag 043 – Fraud estimation result

Tag No	Size	Data
043	N1	Fraud estimation result. If available must be present in all messages (requests and responses).

5.34. Tag 044 – Service Number

Tag No	Size	Data
044	an8	Service Number. If available must be present in all messages (requests and responses).

5.35. Tag 045 – Customer Identifier

Tag No	Size	Data
045	An8	Customer Identifier. If available must be present in all messages (requests and responses).

5.36. Tag 046 – MasterCard Account Level

Tag No	Size	Data
046	An1	MasterCard Account Level. If available must be present in all messages (requests and responses).

5.37. Tag 047 – MasterCard Mapping Account Data

Tag No	Size	Data
047	An36	MasterCard Mapping Account Data. If available must be present in all messages (requests and responses).

5.38. Tag 048 – Card Type

Tag No	Size	Data
048	An2	SVFE Card Type. If available must be present in all messages (requests and responses).

5.39. Tag 049 – Cardholder Name

Tag No	Size	Data
049	Ans…26	Cardholder Name. If available must be present in all messages (requests and responses).

5.40. Tag 050 – Original RRN

Tag No	Size	Data
050	An12	Original RRN. If available must be present in all messages (requests and responses).

5.41. Tag 051 – Sender Address

Tag No	Size	Data
051	Ans…35	Sender Address. If available must be present in all messages (requests and responses).

5.42. Tag 052 – Sender City

Tag No	Size	Data
052	Ans…25	Sender City. If available must be present in all messages (requests and responses).

5.43. Tag 053 – Sender Country

Tag No	Size	Data
0	An3	Sender Country. If available must be present in all messages (requests and responses).

5.44. Tag 054 – Sender Postal Code

Tag No	Size	Data
054	An…9	Sender Postal Code. If available must be present in all messages (requests and responses).

5.45. Tag 055 – UCAF

Tag No	Size	Data
055	Ans…40	UCAF. If available must be present in all messages (requests and responses). For 3D Secure transactions must contain SPA AAV in hexadecimal representation (up to 40 hex-digits), in other transactions may contain text value of MasterCard UCAF field (e.g. Static AAV – ans28)

5.46. Tag 056 – UCAF Certificate Type

Tag No	Size	Data
056	N3	UCAF Certificate Type. If available must be present in all messages (requests and responses).

5.47. Tag 057 – Sender Account Number

Tag No	Size	Data
057	An…32	Sender Account Number. If available must be present in all messages (requests and responses).

5.48. Tag 058 – VMT Watch List Data

Tag No	Size	Data
058	Ans…12	VMT Watch List Data. If available must be present in all messages (requests and responses).

5.49. Tag 059 – Original Network Reference Number

Tag No	Size	Data
059	An …50	Network Reference Number of original transaction for MasterCard – NetworkData (DE 63). For VISA – Transaction Identifier (DE 62.2, as extended numeric string 15 digit length). If available must be present in all messages (requests and responses).

5.50. Tag 060 – Local Transfer Flag

Tag No	Size	Data
060	n 1	Local Transfer Flag for P2P Credit operation 1 – Transfer is local

5.51. Tag 061 – AVS Address

Tag No	Size	Data
061	Ans..50	Address for Address Verification Service

5.52. Tag 062 – AVS Postal Code

Tag No	Size	Data
062	n..9	Postal Code for Address Verification Service

5.53. Tag 063 – AVS Result

Tag No	Size	Data
063	A 1	Result of Address for Address Verification A – Address matches, Postal code doesn't N – Postal Code and Address don't match S – Service not supported U – Result not available W – Postal code matches, Address doesn't X – Postal Code and Address match

5.54. Tag 064 – Card 2 PS indicator

Tag No	Size	Data
064	N..3	Card 2 Payment System indicator 5 – MasterCard 25 – Visa 999 – Local card If available must be present in 1100/1200 request for P2P transfer transactions.

5.55. Tag 065 – Security Level Indicator

Tag No	Length	Data
065	n 2	Security level indicator 01 – Channel encryption 02 – Non-security transaction 03 – Merchant authenticated transaction Could be present in 1100/1110 messages.

5.56. Tag 066 – EC Authentication Indicator

Tag No	Length	Data
066	n1	Electronic Commerce Authentication Indicator 0 – Additional authentication protocol was not performed 1 – Additional authentication protocol (3-D Secure) is supported by the merchant, but not supported by issuer 2 – Additional authentication protocol (3-D Secure) has been performed 3 – Additional authentication protocol is used by merchant (MasterCard Merchant AAV) Could be present in 1100/1110 messages.

5.57. Tag 067 – Sender State

Tag No	Length	Data
067	a..2	Sender State Could be present in 1100/1110 messages.

5.58. Tag 068 – OTP

Tag No	Length	Data
068	an..16	OTP value Could be present in 1100/1110 messages.

5.59. Tag 069 – URN

Tag No	Size	Data
069	ans .. 50	Unique Reference Number

5.60. Tag 070 – Original URN

Tag No	Size	Data
070	ans .. 99	Original Unique Reference Number

5.61. Tag 072 – Transaction message

Tag No	Size	Data
072	An .. 99	Transaction message/purpose May be present in A2A Credit, A2A Debit and Account Verification transaction messages

5.62. Tag 073 – Recipient name

Tag No	Size	Data
073	An .. 30	Recipient name for cross-border enhanced money transfer OCTs

5.63. Tag 076 – Visa Agent Unique Account Result

Tag No	Size	Data
076	An.. 11	Value from Visa DE126.18: May present in any financial messages if it is needed

5.64. Tag 077 – Visa Product ID

Tag No	Size	Data
077	An.. 2	Value from Visa DE63.23: May present in any financial messages if it is needed

5.65. Tag 078 – Visa Merchant Identifier

Tag No	Size	Data
078	Ans.. 8	Value from Visa DE126.5: May present in any financial messages if it is needed

5.66. Tag 079 – Receiver Address

Tag No	Size	Data
079	Ans.. 35	May present in any financial messages if it is needed

5.67. Tag 080 – Receiver Country Code

Tag No	Size	Data
080	N 3	Receiver Country. Three digit country code as defined in ISO 3166-1. May present in any financial messages if it is needed

5.68. Tag 081 – Receiver City

Tag No	Size	Data
081	Ans.. 25	May present in any financial messages if it is needed

5.69. Tag 082 – Receiver Postal Code

Tag No	Size	Data
082	An.. 9	May present in any financial messages if it is needed

5.70. Tag 083 – Receiver State/Province Code

Tag No	Size	Data
083	An.. 50	May present in any financial messages if it is needed

5.71. Tag 084 – Receiver Date of Birth

Tag No	Size	Data
084	N.. 8	Receiver Date of birth, YYYYMMDD May present in any financial messages if it is needed

5.72. Tag 085 – Receiver Phone Number

Tag No	Size	Data
085	Ans.. 16	May present in any financial messages if it is needed

5.73. Tag 086 – ATM Cardless Cash withdrawal Token

Tag No	Size	Data
086	Ans.. 64	Manually entered token required for ATM Cardless Cash withdrawal authorization (DE48.002=715).

5.74. Tag 087 – Verification value for custom 2FA

Tag No	Size	Data
087	Ans.. 64	Verification value for custom two-factor authentication (2FA) protocol in e-commerce transactions. Internal format is at the discretion of the local payment system. Could be present in 1100/1200 e-commerce transactions with additional authentication (3D-Secure or custom 2FA protocol).

5.75. Tag 088 – ECI for custom 2FA

Tag No	Size	Data
088	An.. 2	E-commerce indicator (ECI) for custom two-factor authentication (2FA) protocol in e-commerce transactions. Internal format is at the discretion of the local payment system. Could be present in 1100/1200 e-commerce transactions with additional authentication (3D-Secure or custom 2FA protocol).

5.76. Tag 089 – Unique identifier for custom 2FA

Tag No	Size	Data
089	An.. 40	Authentication unique identifier for custom two-factor authentication (2FA) protocol in e-commerce transactions. Internal format is at the discretion of the local payment system. Could be present in 1100/1200 e-commerce transactions with additional authentication (3D-Secure or custom 2FA protocol).

5.77. Tag 090 – BAI

Tag No	Size	Data
090	An2	Business Application Identifier (BAI) for transfers and other related transactions. Possible values of BAI: AA =Account to account BB =Business to business BI =Money transfer—bank-initiated BP =Non-card bill payment CC =Cash claim CI =Cash in CO =Cash out CP =Card bill payment FD =Funds disbursement (general) GD =Government disbursement GP =Gambling payout (other than online gambling) LO =Loyalty and offersMA =Mobile air time payment MD =Merchant disbursement MI =Money transfer—merchant-initiated MP =Face-to-face merchant payment OA =Transfer to own account OG =Online gambling payout OW =Top-up of own wallet PD =Payroll/pension disbursement PG =Payment to government PP =Person to person PS =Payment for goods and services (general) TU =Top-Up for enhanced prepaid loads WA =Wallet to Account transfer WP =Wallet to Wallet transfer WT =Wallet transfer Could be present in all messages, when present in response messages must be echoed from request.

5.78. Tag 091 – Reason of operation

Tag No	Size	Data
091	Ans.. 99	Additional operation information in free form. Could be present in 1100/1200 messages. For transfer transaction types the field can be filled with purpose of transfer, if needed.

5.79. Tag 121 – Deferred transaction indicator

Tag No	Size	Data
121	N ..1	Possible values: 1 deferred transaction

5.80. Tag 850-999 – Private Use Data

Tag No	Size	Data
850-999	Ans..99	Private Use Data

APPENDIX B (FIELD 54)

5.81. Structure Field 54

Size	**Data**			
LLL	Tag 001	Tag 002	…	Tag N
3	LLL – 3			

5.82. Structure Tags of Data Field 54

Tag No	**Length**	**Data**
NNN	NNN	Ans .. 99
3	3	NNN bytes

5.83. Tag 001 – Acquirer Fee Amount

Tag No	**Length**	**Data**
001	ANS12	Acquirer Fee Amount The tag should be present in the request message if the fee is present in the transaction.

5.84. Tag 004 – Issuer Fee Amount

Tag No	**Length**	**Data**
004	ANS12	Issuer Fee Amount The tag could be present in the response message.

5.85. Tag 005 – Amount, Available balance

Tag No	**Length**	**Data**
005	ANS12	Amount, Available balance

5.86. Tag 006 – Currency, Available balance

Tag No	**Length**	**Data**
006	N3	Currency, Available balance The tag should be present in the message if field 54 tag 005 is present in the message.

5.87. Tag 007 – Amount, Cash Back

Tag No	Length	Data
007	ANS12	Amount, Cash Back The tag should be present in the request message for purchase with cashback transactions.

5.88. Tag 008 – Amount, Credit Initial

Tag No	Length	Data
008	N12	Amount, Credit Initial The tag could be present in the response message.

5.89. Tag 009 – Amount, Total Credit

Tag No	Length	Data
009	ANS12	Amount, Total Credit The tag could be present in the response message.

5.90. Tag 010 – Acquirer Fee Amount (BIN Currency)

Tag No	Length	Data
010	ANS12	Acquirer Fee Amount (BIN Currency) The tag could be present in the request message.

5.91. Tag 011 – Currency, Virtual Card

Tag No	Length	Data
011	N3	Currency, Virtual Card The tag should be present for «create virtual card» transaction request message.

5.92. Tag 012 – Virtual Card Limit

Tag No	Length	Data
012	ANS12	Virtual Card Limit The tag should be present for «create virtual card» transaction request message.

5.93. Tag 013 – Amount, Gratuity (Tips)

Tag No	Length	Data
013	ANS12	Amount of gratuity (tips). The tag could be present in the request message.

5.94. Tag 014 – Currency, Gratuity (Tips)

Tag No	Length	Data
014	N3	Currency for gratuity (tips). The tag could be present in the request message.

APPENDIX C (FIELD 61)

5.95. Structure Field 61

Size	**Data**			
LLL	Tag 001	Tag 002	…	Tag N
3	LLL – 3			

5.96. Structure Tags of Data Field 61

Tag No	**Length**	**Data**
NNN	NNN	Ans .. 99
3	3	NNN bytes

5.97. Tag 001 – Cash-In Counters

Tag No	**Length**	**Data**
001	n 15 or n 30 or n 45 or n 60	Counters at each active cassette (from 1 to 4) in format: n 3 – currency of cassette n 12 - amount in cassette

5.98. Tag 002 – Recycling Counters

Tag No	**Length**	**Data**
002	n 15 or n 30 or n 45	Counters at each active cassette (from 1 to 3) in format: n 3 – currency of cassette n 12 - amount in cassette

5.99. Tag 003 – Recycling Cash-Out Counters

Tag No	**Length**	**Data**
003	n 15 or n 30 or n 45	Cash-out counters at each active cassette (from 1 to 3) in format: n 3 – currency of cassette n 12 - cash-out amount from cassette

APPENDIX D (FIELD 95)

5.100. Structure Field 95

Size	**Data**			
LLL	Tag 001	Tag 002	…	Tag N
3	LLL – 3			

5.101. Structure Tags of Data Field 95

Tag No	**Length**	**Data**
NNN	NNN	Ans .. 99
3	3	NNN bytes

5.102. Tag 001 – Amount, Transaction

Tag No	**Length**	**Data**
001	N12	Amount, Transaction The tag should be present in the request message for partial reversal.

5.103. Tag 002 – Transaction Amount, In Account Currency

Tag No	**Length**	**Data**
002	N12	Amount, In Account Currency The tag could be present in the response message.

5.104. Tag 003 – Transaction Amount, In Cardholder Billing Currency

Tag No	**Length**	**Data**
003	N12	Transaction Amount, In Cardholder Billing Currency The tag could be present in the response message.

5.105. Tag 006 – Currency, Transaction

Tag No	Length	Data
006	N3	Currency, Transaction The tag should be present in the request message for partial reversal.

5.106. Tag 007 – Currency, Account

Tag No	Length	Data
007	N3	Currency, Account The tag could be present in the response message.

LIST OF REVISIONS

№	Date	Name, Surname	Modifications
1	2010-10-14	Grigoriev A.S.	English version of document created.
2	2010-11-23	Grigoriev A.S.	Added notes for Tags (Field 48). Field 54 added for authorization and reversal responses. Field 100 (SVFE Issuer Institution Identifier) marked as optional.
3	2010-11-23	Grigoriev A.S.	Fixed Authorization Message Response Message Type to 1110. Tag 001 –Settlement type removed from Field 48.
4	2010-11-23	Grigoriev A.S.	Added notes for Field 14.
5	2010-11-24	Grigoriev A.S.	Marked ‘Bit Map, Secondary’ for Authorization, Reversal, Administrative Messages as Conditional.
6	2011-01-13	Dudnikov V.M.	Added Check Account transaction.
7	2011-01-17	Dudnikov V.M.	Changed description of Field 48 tag 25. Added field 48 tag 59.
8	2011-01-21	Dudnikov V.M.	Added value ‘W’ to position 7 of field 22.
9	2011-02-09	Grigoriev A.S.	Added Tags 71, 72 to Field 55. Added usage comments for EMV tags.
10	2011-02-14	Dudnikov V.M.	Added field 125 to Authorization Request Message.
11	2011-02-21	Ustinchenko A.G.	Added Fld 61
12	2011-03-11	Dudnikov V.M.	Added Credit Verification transaction.
13	2011-04-07	Dudnikov V.M.	Added field 48 tag 60.
14	2011-04-12	Dudnikov V.M.	Added field 48 tags 61-63.
15	2011-05-27	Ustinchenko A.G,	Added field 61 tag 003
16	2011-08-19	Ustinchenko A.G,	The specification was checked. Response Codes was actualized, (removed codes :283, 288, 290, 301, 808, 844, 846, 848, 851, 864, 867, 898, 919, 929, 935, 937, 944, 946, 949, 960, 964, 967, 970, 990, 996, 998). Message Format was actualized. Added Message Format “Authorization Advice”.
17	2011-08-22	Dudnikov V.M.	Added field 48 tag 064
18	2011-10-20	Dudnikov V.M.	Added field 48 tags 900-999
19	2011-10-21	Ustinchenko A.G	Added field 48 tag 065 Added field 54 tags 013, 014
20	2011-11-07	Ustinchenko A.G	Added field 54 tags, 015,016,017
21	2011-12-05	Kondrashin E.K.	Added format to field 48 tag 23
22	2011-12-20	Kondrashin E.K.	Added transaction “Cardholder Name Inquiry”
23	2014-09-05	Ananiev A.U.	Field 42 added as Mandatory for 1120/1121/1130/1220/1221/1230 messages
24	2014-10-20	Burkhanova A.M.	Description of field 61 was corrected.

№	Date	Name, Surname	Modifications
25	2014-11-05	Ananiev A.U.	The tag 5F34 for the field 55 was added
26	2015-01-26	Eremenko A.V.	Dynamic key change messages were added: Key Change request and Key Demand request.
27	2015-10-02	Eremenko A.V.	Added new values 'D' (as card data input mode, position 7) and 'P' (as cardholder authentication method, position 8) in DE22 Added field 48 tags for MC15.2: 73, 76-85
28	2016-09-06	Lim A. S.	For DE55 remove misleading information from the diagram about field size which is already assumed by the field format.
29	2016-10-17	Ananiev A.U.	Added field 22, 32 and field 55 into administrative message – f.e. for PIN Change messages
30	2017-06-28	Eremenko A.V.	Added transactions A2A Debit and A2A Credit.
31	2017-11-15	Ananiev A.U	Added field 48 tags , 68 – OTP , 850-899 – Payment Specific Data
32	2018-03-14	Fernando D.M.	Added more information on A2A Fund Transfer including Message Matching Criteria.
33	2018-08-03	Eremenko A.V	Added support of transaction PIN Count Reset – processing code 92 and SVFE transaction type DE48.002=748
34	2018-08-16	Fernando D.M.	Merging with ME version of specification: Added processing code 58. Added DE55 Tag 9F6E. Added DE38 into Authorization Message. Added comments to DE49 in Authorization Message Response. Added DE38 into Message Matching criteria. Added DE48 new tags 65, 66 and 67. Added Data Field Status info into DE54 and DE95 tags.
35	2018-08-23	Eremenko.A	Added Account-to-Wallet Transfer (654), Wallet-to-Account Transfer (655)
36	2018-11-13	Eremenko.A	Added DE47 tag 072 – transaction message/purpose
37	2018-12-13	Lim A.	New transaction type, DE48.002=715 Added new tag 48.86 – ATM Cardless withdrawal token
38	2019-02-13	Tumanova M.	Changed type of 54 field to ans, due to "-" used for negative balance.
39	2019-05-16	Tumanova M.	Added F48.005 – SVFM fraud score (risk) value and F48.006 – SVFM fraud rules list
40	2019-09-26	Tumanova M.	Added F48.121 deferred transaction flag
41	2019-10-16	Eremenko. A.	Added notes for Field 03 about the applicability of SVFE transaction types for ME version

№	Date	Name, Surname	Modifications
42	2019-10-17	Eremenko. A.	Added account type 99 (No account required) for Field 03, removed unused account types 5x-9x
43	2019-10-22	Puts A.	Switch DE2 requirement in requests from “M” to “C”, add condition of DE2 absence
44	2019-11-19	Eremenko A.	Fixed descriptions of DE54 tags 013,014 (Gratuity Amount and Currency). Removed unused tags DE54.015-020. Changed field type of all amounts in DE54 to ANS, since “-” can be present for negative amounts. Added ME applicability note to the DE4 description.
45	2019-11-20	Botov V.	Bit 37 is mandatory for 1130/1230 messages.
46	2019-11-28	Puts A.	Merge Payment specific data and Private data in DE 48 into single range
47	2019-12-24	Eremenko A.	Added DE22.1 values ‘A’,’B’,’M’,’S’
48	2020-01-09	Eremenko A.	Added DE53.3 = 0 – allows to operate with both the Acquirer and Issuer keys in the key change messages
49	2020-01-20	Eremenko A.	Added tags DE48.087-089 for custom 2FA verification value in local PS.
50	2020-01-23	Eremenko A.	Added new response codes, DE39: 327-329
51	2020-01-30	Eremenko A.	Added new response codes, DE39: 797, 798
52	2020-02-12	Eremenko A.	Additional clarifications about Advice Repeat message types: 1121/1221/1421
53	2020-02-12	Eremenko A.	Fixed description of Field 6 – rate in the Field 9 is used
54	2020-03-02	Eremenko A.	Fixed size and description of tag DE48.055 (UCAF)
55	2020-03-02	Eremenko A.	Fixed format of DE100 – llvar ans..11 (ans4 is possible in backward compatibility mode)
56	2020-03-13	Fernando D.	Update Details about Credit Verification Transaction Type in DE2, DE102 and DE103.
57	2020-03-17	Eremenko A.	Additional clarification about DE48 tags 004 and 014 – cannot be present in reversal messages
58	2020-04-07	Eremenko A.	Removed not actual comment about empty DE37 in response message
59	2020-04-08	Eremenko A.	Added tag DE48.090 - BAI
60	2020-04-16	Eremenko A.	Added DE39 response codes 795, 796
61	2020-04-20	Eremenko A.	The ability to use DE4 for the balance amount in Balance Inquiry is deprecated now
62	2020-06-18	Eremenko A.	Added Cardholder authentication method (DE22.8) values: W, X
63	2020-07-13	Lim A.	Added 45 processing code and 656 transaction type
64	2020-07-29	Lim A.	Added DE48.91 - Reason of operation
65	2020-09-18	Eremenko A.	Added transaction type 705 – Cardless Deposit
66	2020-12-01	Eremenko A.	Updated list of possible values for tag DE48.090 (BAI)

№	Date	Name, Surname	Modifications
67	2020-12-24	Eremenko A.	Removed outdated Check Account (481) transaction.
68	2021-01-14	Eremenko A.	Added transactions Check Card (525) and Account List Inquiry (586). Added Field 60 (Accounts, additional) for Account List Inquiry
69	2021-01-18	Eremenko A.	Added Subfield 60.7 – Account balance
70	2021-01-18	Eremenko A.	Mentioned outdated format of Field 100 (an 4)