



electronic payment exchange

Transaction Specs - Visa Money Transfer

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4/24/17	1.1	C. Meaney	Added OCT BAI codes to Table 8, created Table 9 for AFT BAIs.
7/21/17	1.2	C. Meaney	Reformatting to accommodate change from TLV_NN tags to TLV_SETS tag. Revised TLV overview and TLV sets descriptions.
6/23/23	1.3	M. Billips	Update mandatory TLV tags per Visa requirements.

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Introduction

About this guide

This guide provides information on mandatory and optional fields for the Funding (SM0G) and Payment / Credit (SM0H) transaction types for Visa Money Transfer.

Related documentation

For details about MasterCard SMS (single message service) money transfer, refer to the *Transaction Specs - MasterCard Money Transfer* guide.

For additional information about request and response fields, refer to the *EPX Data Dictionary*.

Mandatory and optional fields

The sections that follow provide examples of each transaction type. Within the examples, some fields are listed as mandatory and others as optional.

Note the following about mandatory and optional fields:

- mandatory fields are shown in **bold** and need to be submitted with the transaction request to ensure a successful response.
- optional fields can be omitted; however, optional fields might still be used during the transaction. For example, if optional AVS fields are provided, they are validated and an AVS response is sent back. Also, a merchant's profile can be setup to make some optional fields mandatory to comply with Risk and Underwriting requirements.

NOTE: The example XML responses provided in this document are for illustration only. Additional fields may be present within the response based on specific card characteristics. The below examples are in XML format; EPX supports straight XML and Key Value Pair depending on which processing method you are using on the front end.

Transaction types and request formatting

Overview

This chapter provides information about the transaction types applicable for Single Message System (SMS) transactions.

With SMS, transactions are processed in a single step. That is, the authorization approval response serves as confirmation of payment, and the transaction is then closed.

SM0G – (AFT) Account Funding Transaction

The Account Funding transaction debits the sender's account for the money transfer amount plus any applicable fees to transfer funds to the originating institution.

XML request

Figure 1: Example SM0G XML request

```
<DETAIL cust_nbr="1234" merch_nbr="1234765" dba_nbr="1" terminal_nbr="1">
<BATCH_ID>2017072101</BATCH_ID>
<TRAN_NBR>1</TRAN_NBR>
<TRAN_TYPE>SM0G</TRAN_TYPE>
<AMOUNT>107.00</AMOUNT>
<ACCOUNT_NBR>4231651686686885</ACCOUNT_NBR>
<EXP_DATE>2512</EXP_DATE>
<TLV_SETS>0014000008RECEIVER0055000006SENDER001004John003005Jones01101642316516866
868850023000009TRAN_DATA005002PP</TLV_SETS>
<CVV2>123</CVV2>
<CARD_ID>1</CARD_ID>
<FIRST_NAME>John</FIRST_NAME>
<LAST_NAME>Jones</LAST_NAME>
<ADDRESS>1 Central Ave</ADDRESS>
<CITY>Portland</CITY>
<STATE>OR</STATE>
<ZIP_CODE>12345</ZIP_CODE>
<COUNTRY_CODE>840</COUNTRY_CODE>
<CURRENCY_CODE>840</CURRENCY_CODE>
<CARD_ENT_METH>X</CARD_ENT_METH>
</DETAIL>
```

XML response

Figure 2: Example SM0G XML response

```

<RESPONSE>
  <FIELDS>
    <FIELD KEY="MSG_VERSION">003</FIELD>
    <FIELD KEY="CUST_NBR">1234</FIELD>
    <FIELD KEY="MERCH_NBR">1234765</FIELD>
    <FIELD KEY="DBA_NBR">1</FIELD>
    <FIELD KEY="TERMINAL_NBR">1</FIELD>
    <FIELD KEY="TRAN_TYPE">SM0G</FIELD>
    <FIELD KEY="BATCH_ID">2017072101</FIELD>
    <FIELD KEY="TRAN_NBR">1</FIELD>
    <FIELD KEY="LOCAL_DATE">072117</FIELD>
    <FIELD KEY="LOCAL_TIME">120228</FIELD>
    <FIELD KEY="AUTH_GUID">09KF6F3N5B2EVTAMP8U</FIELD>
    <FIELD KEY="AUTH_RESP">00</FIELD>
    <FIELD KEY="AUTH_CODE">003345</FIELD>
    <FIELD KEY="AUTH_AVIS"> </FIELD>
    <FIELD KEY="AUTH_RESP_TEXT">APPROVAL 003345</FIELD>
    <FIELD KEY="AUTH_CARD_TYPE">V</FIELD>
    <FIELD KEY="AUTH_TRAN_DATE_GMT">07/21/2017 04:02:28 PM</FIELD>
    <FIELD KEY="AUTH_AMOUNT_REQUESTED">107.00</FIELD>
    <FIELD KEY="AUTH_AMOUNT">107.00</FIELD>
    <FIELD KEY="AUTH_CURRENCY_CODE">840</FIELD>
    <FIELD KEY="NETWORK_RESPONSE">00</FIELD>
    <FIELD KEY="AUTH_CARD_COUNTRY_CODE">840</FIELD>
    <FIELD KEY="AUTH_CARD_B">C</FIELD>
    <FIELD KEY="AUTH_CARD_C">A</FIELD>
    <FIELD KEY="AUTH_CARD_E">N</FIELD>
    <FIELD KEY="AUTH_CARD_F">Y</FIELD>
    <FIELD KEY="AUTH_CARD_G">Y</FIELD>
    <FIELD KEY="AUTH_CARD_H">N</FIELD>
    <FIELD KEY="AUTH_CARD_I">N</FIELD>
    <FIELD KEY="AUTH_CARD_J">N</FIELD>
    <FIELD KEY="AUTH_MASKED_ACCOUNT_NBR">*****6885</FIELD>
    <FIELD KEY="AUTH_SPECIAL_1">170721160228192</FIELD>
    <FIELD KEY="AUTH_CARD_L">C</FIELD>
  </FIELDS>
</RESPONSE>

```

SM0H – (OCT) Original Credit Transaction

The Original Credit transaction transfers funds from the originating institution to the recipient's account number provided in the request.

AUTH_SPECIAL_1 (OCT Reference Number)

The AUTH_SPECIAL_1 field contains the Transaction Identifier in the AFT response. This value must be taken from the associated AFT and sent with the OCT transaction in the TLV Set "SENDER," tag 012.

NOTE: This value is not required in the OCT request if there is no associated AFT transaction.

XML request

Figure 3: Example SM0H XML request

```

<DETAIL cust_nbr="1234" merch_nbr="1234765" dba_nbr="1" terminal_nbr="1">
<BATCH_ID>2017072201</BATCH_ID>
<TRAN_NBR>2</TRAN_NBR>
<TRAN_TYPE>SM0H</TRAN_TYPE>
<AMOUNT>107.00</AMOUNT>
<ACCOUNT_NBR>423167777767710</ACCOUNT_NBR>
<EXP_DATE>2512</EXP_DATE>
<TLV_SETS>0014000008RECEIVER013000006SENDER001004John003005Jones004015123 Main
Street005010wilmington006002DE0070038400110164231651686686885012015170721160228192
0031000009TRAN_DATA001002V2005002PP</TLV_SETS>
<REFERENCE_NBR>170721160228192</REFERENCE_NBR>
<CVV2>123</CVV2>
<CARD_ID>1</CARD_ID>
<FIRST_NAME>Steve</FIRST_NAME>
<LAST_NAME>Smith</LAST_NAME>
<ADDRESS>123 Main Street</ADDRESS>
<CITY>Wilmington</CITY>
<STATE>DE</STATE>
<ZIP_CODE>12345</ZIP_CODE>
<COUNTRY_CODE>840</COUNTRY_CODE>
<CURRENCY_CODE>840</CURRENCY_CODE>
<CARD_ENT_METH>X</CARD_ENT_METH>
</DETAIL>

```

XML response

Figure 4: Example SM0H XML response

```

<RESPONSE>
  <FIELDS>
    <FIELD KEY="MSG_VERSION">003</FIELD>
    <FIELD KEY="CUST_NBR">1234</FIELD>
    <FIELD KEY="MERCH_NBR">1234765</FIELD>
    <FIELD KEY="DBA_NBR">1</FIELD>
    <FIELD KEY="TERMINAL_NBR">1</FIELD>
    <FIELD KEY="TRAN_TYPE">SM0H</FIELD>
    <FIELD KEY="BATCH_ID">2017072101</FIELD>
    <FIELD KEY="TRAN_NBR">2</FIELD>
    <FIELD KEY="LOCAL_DATE">072117</FIELD>
    <FIELD KEY="LOCAL_TIME">120911</FIELD>
    <FIELD KEY="AUTH_GUID">09KF6F43ETL75Y5AND5</FIELD>
    <FIELD KEY="AUTH_RESP">00</FIELD>
    <FIELD KEY="AUTH_CODE">003346</FIELD>
    <FIELD KEY="AUTH_AVIS"> </FIELD>
    <FIELD KEY="AUTH_RESP_TEXT">APPROVAL 003346</FIELD>
    <FIELD KEY="AUTH_CARD_TYPE">V</FIELD>
    <FIELD KEY="AUTH_TRAN_DATE_GMT">07/21/2017 04:09:11 PM</FIELD>
    <FIELD KEY="AUTH_AMOUNT_REQUESTED">107.00</FIELD>
    <FIELD KEY="AUTH_AMOUNT">107.00</FIELD>
    <FIELD KEY="AUTH_CURRENCY_CODE">840</FIELD>
    <FIELD KEY="NETWORK_RESPONSE">00</FIELD>
    <FIELD KEY="AUTH_CARD_COUNTRY_CODE">840</FIELD>
    <FIELD KEY="AUTH_CARD_B">D</FIELD>
    <FIELD KEY="AUTH_CARD_C">G</FIELD>
    <FIELD KEY="AUTH_CARD_E">N</FIELD>
    <FIELD KEY="AUTH_CARD_F">N</FIELD>
    <FIELD KEY="AUTH_CARD_G">Y</FIELD>
    <FIELD KEY="AUTH_CARD_H">N</FIELD>
    <FIELD KEY="AUTH_CARD_I">N</FIELD>
    <FIELD KEY="AUTH_CARD_J">N</FIELD>
    <FIELD KEY="AUTH_MASKED_ACCOUNT_NBR">*****7710</FIELD>
    <FIELD KEY="AUTH_CARD_L">D</FIELD>
  </FIELDS>
</RESPONSE>

```

TLV tags

TLV overview

EPX requires Visa Money Transfer data to be presented in tag-length-value (TLV) format, which is a method of encoding information in a single string, versus multiple EPX tags.

TLV_SETS tag

Each request must contain the tag, TLV_SETS. This tag can contain multiple TLV sets, which are concatenated together. The maximum length for the TLV_SETS value is 4000 bytes.

A logical simplification for the TLV_SETS tag is as follows (with spaces added for readability):

```
TLV_SETS = "set_length TLVset . . . set_length TLVsetN"
```

Where:

- **set_length** is the 4-digit byte count for the length of the referenced TLV set. For example, if a TLV set contains two TLV elements with lengths of 25 and 30, the TLV set length is 0055.
- **TLVset** is the set of TLV elements. A TLV set will contain at least two TLV elements. The TLV elements can be presented in any order within a set. (For information about TLV elements refer to [TLV elements](#), page 8.)

NOTE:

- For Visa Money Transfer Funding (AFT) and Payment (OCT) transactions, the TLV_SETS tag must always include a “RECEIVER” and “SENDER” TLV set, in addition to any other desired TLV set.
- If the same TLV set tag is presented multiple times within the same TLV string, the last instance will be used.

[Figure 5](#) shows an example TLV_SETS tag that contains TLV sets for “RECEIVER,” “SENDER,” and “TRAN_DATA.”

Figure 5: Example TLV_SETS tag

```
TLV_SETS =
"0036000008RECEIVER001005Steve003005smith0050000006SENDER001004John003005jones0110
11702125213040023000009TRAN_DATA001002v2"
```

The table that follows describes the data in [Figure 5](#).

TLV tag	Plaintext value	TLV representation
“RECEIVER” TLV set		

TLV tag	Plaintext value	TLV representation
000 (Tag 000 is required)	RECEIVER	000008RECEIVER
001	Steve	001005Steve
003	Smith	003005Smith
“SENDER” TLV set		
000 (Tag 000 is required)	SENDER	000006SENDER
001	John	001004John
003	Jones	003005Jones
011	70212521304 (This is the Account Number)	01101170212521304
“TRAN_DATA” TLV set		
000 (Tag 000 is required)	TRAN_DATA	000009TRAN_DATA
001	V2 (This is the Funding Source; in this case Debit)	001002V2

TLV elements

As previously described, a TLV set consists of two or more TLV elements. A TLV element itself consists of three sub-elements:

- **Tag**—a 3-digit tag number such as 012 or 000 to describe the type of data. The tag has significance within the context of its parent TLV set. Thus, a tag 001 in a TRAN_DATA TLV set has a different meaning than 001 in a RECEIVER TLV set.
- **Length**—a 3-digit number representing the byte count for the value associated with the element
- **Value**—a variable alpha-numeric field

For example, the TLV element **003005Jones** in the TLV set “SENDER” is parsed as follows:

- 003—identifies the element as a Last Name object
- 005—specifies that the length that follows (Jones) is 5 bytes
- Jones—provides the value for Last Name

The possible TLV_SETS, and their TLV tags are defined in the following [EPX TLV elements for Visa Money Transfer Funding/Payment](#) section.

EPX TLV elements for Visa Money Transfer Funding/Payment

Table 1 through *Table 4* provide the mandatory and optional tags to include with Visa Funding (AFT) and Payment (OCT) TLV fields.

The CARD_ID should be included in the transaction request to identify whether the cardholder is present or not. For details, refer to [Card ID](#), page 12.

NOTE:

- TLV elements can be presented in any order within a TLV set.
- If the same TLV set tag is presented multiple times within the same TLV string, the last instance will be used.

TLV set – “RECEIVER”

NOTE: The RECEIVER TLV set is mandatory for all Money Transfer Payment and Funding transactions.

Table 1: TLV tag properties for TLV set “RECEIVER”

TLV Tag	TLV Data	TLV Max Length	Type	AFT (Funding)	OCT (Payment)
000	Always use the value “RECEIVER”	8	Alpha	mandatory	mandatory
001	First Name	30	alphanumeric	optional	mandatory
003	Last Name	30	alphanumeric	optional	mandatory

TLV set – “SENDER”

NOTE: The SENDER TLV set is mandatory for all Money Transfer Payment and Funding transactions.

Table 2: TLV tag properties for TLV set “SENDER”

TLV Tag	TLV Data	TLV Max Length	Type	AFT (Funding)	OCT (Payment)
000	Always use the value “SENDER”	6	alpha	mandatory	mandatory
001	First Name	30	alphanumeric	optional	mandatory
002	Middle Name	1	alphanumeric	optional	optional
003	Last Name	30	alphanumeric	optional	mandatory
004	Street Address	35	alphanumeric	optional	mandatory
005	City	25	alphanumeric	optional	mandatory
006	State/Province Code	2	alphanumeric	optional	mandatory
007	Country ISO code	3	numeric	optional	mandatory
011	Account Number	34	alphanumeric	optional	mandatory
012	Reference Number	16	alphanumeric	optional	mandatory

TLV set – “TRAN_DATA”

Table 3: TLV tag properties for TLV set “TRAN_DATA”

TLV Tag	TLV Data	TLV Max Length	Type	AFT (Funding)	OCT (Payment)
000	Always use the value “TRAN_DATA”	9	alpha	mandatory	mandatory
001	Funding Source Examples: V1 = Visa Credit V2 = Visa Debit *See Table 5 , page 11.	2	alphanumeric	optional	mandatory
005	Business Application Identifier *See Table 6 and Table 7 beginning on page 11.	2	alphanumeric	mandatory	mandatory

TLV set – “LANG_DATA”

Table 4: TLV tag properties for TLV set “LANG_DATA”

TLV Tag	TLV Data	TLV Max Length	Type	AFT (Funding)	OCT (Payment)
000	Always use the value “LANG_DATA”	9	alpha	optional	optional

Funding Source Codes

Table 5 provides values for the Funding Source Codes.

Table 5: Funding Source Code values

Value	Definition
04	Cash
05	DDA Account
06	Mobil Money Account
V1	Visa Credit
V2	Visa Debit
V3	Visa Prepaid

Business Application Identifiers

Table 6 provides applicable OCT values for the Business Application Identifiers.

Table 6: Applicable OCT Business Application Identifier values

Value	Definition
AA	Account to Account / Sender and Recipient are the same person
BA	I Value Description
BB	Business to Business
BI	Money transfer—bank-initiated
BP	Non-card bill payment
CP	Card bill payment*
FD	Funds disbursement*
GD	Government disbursement
GP	Gambling payout (other than online gambling)

Value	Definition
LO	Loyalty and offers
MD	Merchant disbursement*
MI	Money transfer—merchant-initiated
OG	Online gambling payout
PD	Payroll/pension disbursement
PP	Person to Person / Sender and Recipient are not the same person
TU	Top-Up for enhanced prepaid loads*
WT	Wallet transfer (digital wallet)

NOTE: Additional business application identifiers may be supported by the EPX platform, please confirm with your relationship manager or integration specialist.

[Table 7](#) provides the applicable AFT values for the Business Application Identifiers.

Table 7: Applicable AFT Business Application Identifier values

Value	Definition
AA	Account to Account / Sender and Recipient are the same person
BI	Money transfer—bank-initiated (MCC 6012 - Only)
PP	Person to Person / Sender and Recipient are not the same person
TU	Top-up for enhanced prepaid loads
WT	Wallet transfer (digital wallet)

Card ID

[Table 8](#) provides Card ID values.

Table 8: Card ID values

Card ID	Types	Description
0	Funding / Payment	Cardholder Present
1	Funding / Payment	Cardholder Not Present
M	Funding / Payment	Cardholder Present (card not readable)