



Transaction Specs - Alipay

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9/20/17	1.0	C. Meaney	Initial version
9/29/17	1.1	C. Meaney	Updated examples throughout. Removed ACCOUNT_NBR tag. Added Alipay-specific response tags chapter.

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Alipay Overview

This guide contains information on mandatory and optional fields for use with the Alipay service. The guide provides information for the following transaction types:

- Sale
- Refund/Return

About Alipay barcodes

For Alipay, the only Card Entry Method (CARD_ENTRY_METH) that is supported is Barcode ("A"). Alipay barcode payments are based on smartphone technology, which can produce a unique barcode through one of the following scenarios:

- a customer scans a static QR code
- a customer scans a dynamic barcode
- a merchant scans a customer's wallet product

Alipay barcodes are generated in real time, have a finite lifetime, and can be used only once. The barcode string must be sent in the BARCODE_DATA tag.

BRIC Lifetime

The EPX BRIC (GUID/Token) can be used to create new transactions within the EPX system, but it is important to know how long the value will be available for this use. BRICs received with the response of a financial transaction, such as an authorization, will only be accessible for 13 months from creation. This limitation applies to all financial BRICs by default. Since each financial transaction created with a BRIC receives a new BRIC in the response, a common practice is for merchants to replace the previous BRIC with the new one, as this new token is valid for a new 13-month interval.

For those merchants who need the BRIC availability to exceed this limitation, the BRIC Storage transaction is available and will create BRICs that will be accessible indefinitely.

Field Types

The sections that follow provide examples for each transaction type. Within the examples, some fields are listed as mandatory (in **bold** text) and others as optional.

Note the following about mandatory and optional fields:

- Mandatory fields need to be submitted with the transaction request to ensure a successful response.
- Optional fields may 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, some optional fields can be made mandatory in a merchant's profile to comply with Risk and Underwriting requirements.

Transaction Types

Sale (CCR1)

The Sale transaction is an authorization and a capture within in the same transaction, provided the authorization portion is approved and is otherwise able to settle. When a sale transaction is run against an account number, the authorization occurs for the dollar amount in the transaction. Later, the capture automatically occurs so that it will settle during the next settlement window. (Alipay does not support the Auth Only transaction type.)

NOTE: The CARD_ENT_METH value must always be "A," for barcode. The barcode value must be sent in the BARCODE_DATA tag.

BARCODE_DATA tag

The BARCODE_DATA tag is a mandatory tag.

Consider an example where the scan of an Alipay QR returns 3123456789012345678. The code that follows shows how this result needs to be submitted to EPX.

```
<CARD_ENT_METH>A</CARD_ENT_METH>  
<BARCODE_DATA>0003123456789012345678</BARCODE_DATA>
```

The value for the BARCODE_DATA tag must be formatted as described in the following table.

Position	Size	Format type	Description
1 - 3	3	numeric	Type <ul style="list-style-type: none">000 = PAN - No encryption001 = Visa TLV - No encryption
4 - N	Variable	ANS	Barcode data

TLV_SETS tag

EPX requires some Alipay 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.

Each Sale request must contain the tag, TLV_SETS. For Alipay, this tag must contain the TLV set, NETWORK.

NOTE: For other payment networks, EPX supports additional TLV sets; however, for Alipay, only the NETWORK TLV set is supported.

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

```
TLV_SETS = "set_length TLVset"
```

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 byte 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 4.)

NOTE: For Alipay Sale transactions, the TLV_SETS tag must always include the "NETWORK" TLV set.

[Figure 1](#) shows an example TLV_SETS tag for Alipay.

Figure 1: Example TLV_SETS tag

```
TLV_SETS = "0025000007NETWORK005006ALIPAY"
```

The table that follows describes the data in [Figure 1](#).

TLV tag	Plaintext value	TLV representation
000	NETWORK	000007NETWORK
005	ALIPAY	005006ALIPAY

TLV elements

As previously described, an Alipay 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 000 or 005 to describe the type of data.
- **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 **005006ALIPAY** in the TLV set "NETWORK" is parsed as follows:

- 005—identifies the element as a scheme object
- 006—specifies that the length that follows (ALIPAY) is 6 bytes
- ALIPAY—provides the value for the scheme

TLV set – “NETWORK”

NOTE: The NETWORK TLV set is mandatory for Alipay.

Table 1 describes the tags for the NETWORK TLV set.

Table 1: TLV element properties for TLV set “NETWORK”

TLV tag	TLV Data	TLV Max Length	Type	Required?
000	Always use the value “NETWORK”	7	alpha	mandatory
005	SCHEME Always use the value “ALIPAY”	25	alphanumeric	mandatory

Sale examples

Sale XML

```

<DETAIL cust_nbr="1234" merch_nbr="1234567" dba_nbr="1" terminal_nbr="1">
  <TRAN_TYPE>CCR1</TRAN_TYPE>
  <TLV_SETS>0025000007NETWORK005006ALIPAY</TLV_SETS>
  <BARCODE_DATA>0003123456789012345678</BARCODE_DATA>
  <BATCH_ID>2017092701</BATCH_ID>
  <TRAN_NBR>7</TRAN_NBR>
  <AMOUNT>50.00</AMOUNT>
  <CARD_ENT_METH>A</CARD_ENT_METH>
  <E2EE>0</E2EE>
  <FIRST_NAME>Alipay</FIRST_NAME>
  <LAST_NAME>Test</LAST_NAME>
  <ADDRESS>123 Main Street</ADDRESS>
  <CITY>Wilmington</CITY>
  <STATE>DE</STATE>
  <ZIP_CODE>12345</ZIP_CODE>
</DETAIL>

```

Sale KVP

```

CUST_NBR=1234&MERCH_NBR=1234567&DBA_NBR=1&TERMINAL_NBR=1&
TRAN_TYPE=CCR1&TLV_SETS=0025000007NETWORK005006ALIPAY&BARCODE_DATA=000312345678901
2345678&BATCH_ID=2017092701&TRAN_NBR=7&AMOUNT=50.00&CARD_ENT_METH=A&E2EE=0&FIRST_N
AME=Alipay&LAST_NAME=Test&ADDRESS=123 Main
Street&CITY=Wilmington&STATE=DE&ZIP_CODE=12345

```


Sample response

```

<RESPONSE>
  <FIELDS>
    <FIELD KEY="MSG_VERSION">003</FIELD>
    <FIELD KEY="CUST_NBR">1234</FIELD>
    <FIELD KEY="MERCH_NBR">1234567</FIELD>
    <FIELD KEY="DBA_NBR">1</FIELD>
    <FIELD KEY="TERMINAL_NBR">1</FIELD>
    <FIELD KEY="TRAN_TYPE">CCR1</FIELD>
    <FIELD KEY="BATCH_ID">2017092701</FIELD>
    <FIELD KEY="TRAN_NBR">7</FIELD>
    <FIELD KEY="LOCAL_DATE">092717</FIELD>
    <FIELD KEY="LOCAL_TIME">093821</FIELD>
    <FIELD KEY="AUTH_GUID">09KFBU5BZBD7JL4XN4G</FIELD>
    <FIELD KEY="AUTH_RESP">00</FIELD>
    <FIELD KEY="AUTH_CODE">001641</FIELD>
    <FIELD KEY="AUTH_RESP_TEXT">APPROVED 001641</FIELD>
    <FIELD KEY="AUTH_CARD_TYPE">A</FIELD>
    <FIELD KEY="AUTH_TRAN_DATE_GMT">09/27/2017 03:38:21 PM</FIELD>
    <FIELD KEY="AUTH_AMOUNT_REQUESTED">50.00</FIELD>
    <FIELD KEY="AUTH_AMOUNT">50.00</FIELD>
    <FIELD KEY="AUTH_CURRENCY_CODE">840</FIELD>
    <FIELD KEY="NETWORK_RESPONSE">00</FIELD>
    <FIELD KEY="AUTH_MASKED_ACCOUNT_NBR">*****5678</FIELD>
    <FIELD KEY="AUTH_SPECIAL_1">SUCCESS</FIELD>
    <FIELD KEY="AUTH_SPECIAL_3">dfs***@alitest.*</FIELD>
    <FIELD KEY="AUTH_SPECIAL_4">2017092715382120120299218728</FIELD>
    <FIELD KEY="AUTH_SPECIAL_5">20170927153821</FIELD>
    <FIELD KEY="AUTH_SPECIAL_6">6.6851</FIELD>
    <FIELD KEY="AUTH_SPECIAL_7">334.26</FIELD>
  </FIELDS>
</RESPONSE>

```

Refund/Return (CCRA)

The Refund or Return transaction is a transaction used to return funds to an account previously acted upon by a sale transaction. Like other BRIC-based transactions, the CARD_ENT_METH value is always Z.

NOTE: For Alipay, a refund/return must be done as a Retail “Auth & Capture Return” transaction and always requires the original BRIC. Saleless refund/return transactions are not supported.

In the example that follows, the ORIG_AUTH_GUID is being used to reference the previous sale or capture transaction in the EPX system. Because the ORIG_AUTH_GUID is a reference value, there is no need to send additional information such as the account number or customer information. If the refund is approved, the credit is issued in real time to the Alipay account.

Refund examples

Refund XML

```
<DETAIL cust_nbr="1234" merch_nbr="1234567" dba_nbr="1" terminal_nbr="1">
  <TRAN_TYPE>CCRA</TRAN_TYPE>
  <ORIG_AUTH_GUID>09KFBU5BZBD7JL4XN4G</ORIG_AUTH_GUID>
  <AMOUNT>50.00</AMOUNT>
  <TRAN_NBR>8</TRAN_NBR>
  <BATCH_ID>2017092701</BATCH_ID>
  <CARD_ENT_METH>Z</CARD_ENT_METH>
  <FIRST_NAME>AliPay</FIRST_NAME>
  <LAST_NAME>Test</LAST_NAME>
  <ADDRESS>123 Main Street</ADDRESS>
  <CITY>wilmington</CITY>
  <STATE>DE</STATE>
  <ZIP_CODE>12345</ZIP_CODE>
</DETAIL>
```

Refund KVP

```
CUST_NBR=1234&MERCH_NBR=1234567&DBA_NBR=1&TERMINAL_NBR=1&TRAN_TYPE=CCRA&
ORIG_AUTH_GUID=09KFBU5BZBD7JL4XN4G&AMOUNT=50.00&TRAN_NBR=8&&BATCH_ID=2017092701&CA
RD_ENT_METH=Z&FIRST_NAME=AliPay&LAST_NAME=Test&ADDRESS=123 Main
Street&CITY=wilmington&STATE=DE&ZIP_CODE=12345
```

Sample response

```
<RESPONSE>
  <FIELDS>
    <FIELD KEY="MSG_VERSION">003</FIELD>
    <FIELD KEY="CUST_NBR">1234</FIELD>
    <FIELD KEY="MERCH_NBR">1234567</FIELD>
    <FIELD KEY="DBA_NBR">1</FIELD>
    <FIELD KEY="TERMINAL_NBR">1</FIELD>
    <FIELD KEY="TRAN_TYPE">CCRA</FIELD>
    <FIELD KEY="BATCH_ID">2017092701</FIELD>
    <FIELD KEY="TRAN_NBR">8</FIELD>
    <FIELD KEY="LOCAL_DATE">092717</FIELD>
    <FIELD KEY="LOCAL_TIME">094321</FIELD>
    <FIELD KEY="AUTH_GUID">09KFBU5L164W3UY2N6U</FIELD>
    <FIELD KEY="AUTH_RESP">00</FIELD>
    <FIELD KEY="AUTH_CODE">001650</FIELD>
    <FIELD KEY="AUTH_RESP_TEXT">APPROVED 001650</FIELD>
    <FIELD KEY="AUTH_CARD_TYPE">A</FIELD>
    <FIELD KEY="AUTH_TRAN_DATE_GMT">09/27/2017 03:43:21 PM</FIELD>
    <FIELD KEY="AUTH_AMOUNT_REQUESTED">50.00</FIELD>
    <FIELD KEY="AUTH_AMOUNT">50.00</FIELD>
    <FIELD KEY="AUTH_CURRENCY_CODE">840</FIELD>
    <FIELD KEY="NETWORK_RESPONSE">00</FIELD>
    <FIELD KEY="AUTH_MASKED_ACCOUNT_NBR">*****5678</FIELD>
    <FIELD KEY="AUTH_SPECIAL_1">SUCCESS</FIELD>
    <FIELD KEY="AUTH_SPECIAL_3">dfs***@alitest.*</FIELD>
    <FIELD KEY="AUTH_SPECIAL_4">2017092715432122120299218728</FIELD>
    <FIELD KEY="AUTH_SPECIAL_5">20170927154321</FIELD>
```

```
<FIELD KEY="AUTH_SPECIAL_6">6.6851</FIELD>
<FIELD KEY="AUTH_SPECIAL_7">334.26</FIELD>
</FIELDS>
</RESPONSE>
```

Alipay-specific response tags

Table 2 provides the Alipay-specific response tags that can appear in a response to a Sale or Refund transaction.

Table 2: Alipay-specific response tags

EPX Tag Name	AliPay Tag	Format
AUTH_SPECIAL_1	result_code	an..32
AUTH_SPECIAL_2	error	an..48
AUTH_SPECIAL_3	alipay_buyer_login_id	an..64
AUTH_SPECIAL_4	alipay_trans_id	an..64
AUTH_SPECIAL_5	alipay_pay_time	n-16 {YYYYMMDDHHMMSS}
AUTH_SPECIAL_6	exchange_rate	n..17 {6.09390000}
AUTH_SPECIAL_7	trans_amount_cny	n (9,2) #.##
AUTH_SPECIAL_8	m_discount_forex_amount	n (9,2) #.##