



# ***Payflow Pro Developer's Guide***

## *Payflow Pro Developer's Guide*

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# Preface

This guide describes Payflow Pro, a high performance TCP/IP-based Internet payment solution and how to use it to process credit card. Payflow Pro is pre-integrated with leading e-commerce solutions and is also available as a downloadable software development kit (SDK).

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## Scope

This guide explains how to integrate Payflow Pro into your website or application to process credit card transactions over the Payflow payments gateway. It includes information and special requirements for all supported processors. To process Express Checkout transactions over the Payflow gateway, see the following Payflow guide: *Express Checkout for Payflow Pro*.

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## Intended Audience

This guide assumes that its readers:

- Are experienced web or application developers
- Have a background in payments services

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## Related Documentation

For additional Payflow information,

- See the Payflow documentation set on PayPal Developer Central. Go to <https://www.paypal.com/developer> and click the **Documentation** link on the **Library** tab.
- For more examples and very current information, see the Payflow [developer forums](#).

For additional help, see the Help Center at the following URL: <https://www.paypal.com/us/cgi-bin/helpweb?cmd=help>.

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## How to Contact Customer Support

For problems with transaction processing or your connection to the server, contact Customer Support by opening a ticket on the under Contact Support tab at <http://www.paypal.com/mts>.

## Revision History

Revision history for *Payflow Pro Developer's Guide*.

**TABLE 1.1 Revision history**

Date	Description
October 2009	<ul style="list-style-type: none"> <li>Added COMPANYNAME to reporting parameters.</li> <li>Added new appendix on additional processor informaion. Currently includes Moneris processor information.</li> <li>Added Account Verification as a type of transaction that uses TRXTYPE=A and AMT=0 to verify credit card information.</li> <li>Updated length of PARTNER, USER, and VENDOR to 64 characters.</li> </ul>
June 2009	FDMS supports unreferenced credits.
April 2009	Minor corrections for technical accuracy and clarification.
November 2008	<ul style="list-style-type: none"> <li>Moved coverage of Express Checkout to a separate new document, <i>Express Checkout for Payflow Pro</i>.</li> <li>Removed coverage of the version 3 Payflow SDK, including test and live URLs.</li> <li>Changed Paymentech New Hampshire to Paymentech Salem (New Hampshire)</li> <li>Updated name of Nova processor to Elavon.</li> <li>Corrected format of TSYS ORDERDATE field</li> <li>Added more clarification to description of RESULT value 25</li> <li>Added more clarification of AMEX CAPN parameters in Appendix A</li> <li>Updated <a href="#">Table 4.1</a> , “Credit card transaction request parameters,” to reflect credit card parameter descriptions only and moved the non-credit card parameter descriptions to new tables in applicable sections of the chapter</li> <li>Minor corrections for technical accuracy and clarification</li> </ul>
June 2008	<p>Updated live and test URLs to reflect PayPal only: <b>payflowpro.paypal.com</b> live URL and <b>pilot-payflowpro.paypal.com</b> test URL</p> <p>Added Help Center URL to Preface.</p> <p>Added Paymentech New Hampshire processor specification updates, including:</p> <ul style="list-style-type: none"> <li>CAPN requirements</li> <li>Support of card security code for American Express and Discover cards</li> <li>Support of Switch/Solo Maestro card</li> <li>Full authorization reversals</li> </ul>
March 2008	<p>Added PayPal processor responses.</p> <p>Updated RESULT value 0 to include information about PayPal processor success with warning message</p>
February 2008	<p>Removed note that PayPal processor does not support non-referenced credits. It supports them now.</p> <p>Updated test and live host URLs.</p> <p>Added BILLTOCOUNTRY to Paymentech additional parameters.</p> <p>Combined Telecheck transactions content into one appendix.</p>

**TABLE 1.1 Revision history**

Date	Description
November 2007	<p>Explains how merchant can determine what SDK version they are using.</p> <p>Provides guidelines to merchant to determine if merchant is following American Express CAPN requirements.</p> <p>Explains more about VERBOSITY parameter.</p> <p>Combines appendixes on performing Telecheck transactions with Telecheck responses.</p> <p>Adds BIN ranges.</p> <p>Explains how to eliminate TRANSSTATE 106 results.</p> <p>Updates Index to include an alphabetical listing of all Payflow parameters cited in the guide.</p> <p>Adds new transaction type N.</p> <p>Includes other minor edits for technical accuracy.</p>



## *Revision History*

# 1

## Introduction

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### About Payflow Pro

Payflow Pro is a high performance TCP/IP-based internet payment solution that resides on your computer system. You can download it in the following forms from the SDKs and Downloads page on PayPal Developer Central:

- .NET library
- Java library
- HTTPS interface

Using the HTTPS interface, you can build your own API by posting directly to the Payflow servers via HTTPS.

**NOTE:** If you prefer to have Payflow Pro integration performed for you, you can obtain Payflow Pro pre-integrated with leading e-commerce solutions. For a list of pre-integrated solutions, see the Partner Solutions>Shopping Carts page on PayPal Developer Central.

### Payflow Pro Documentation

Payflow Pro is described in the Payflow Pro documentation set on PayPal Developer Central. If you are implementing PayPal as a solution into your website, use this guide for general guidelines and guidelines on integrating credit card processing. If you are also implementing PayPal Express Checkout as a payment solution, see the *Express Checkout for Payflow Pro* guide for integration details.

### Host Addresses

Use the following host addresses for the Payflow V4 SDK:

- For live transactions, use **payflowpro.paypal.com**
- For testing purposes, use **pilot-payflowpro.paypal.com**

### How Payflow Pro Works

Payflow Pro uses a client/server architecture to transfer transaction data from you to the processing networks, and then returns the authorization results to you. Payflow Pro can process real-time credit card transactions and other transaction types to most of the financial processing centers in the United States.

1. The Payflow client encrypts each transaction request using the latest Secure Sockets Layer (SSL) encryption and establishes a secure link with the Payflow server over the internet.
2. The Payflow server, a multi-threaded processing environment, receives the request and transmits it (over a secure private network) to the appropriate financial processing network for real-time payment authorization.
3. The response (approved/declined, and so on) is received from the financial network and is returned in the same session to the Payflow client.
4. The Payflow client completes each transaction session by transparently sending a transaction receipt to the server before disconnecting the session.

The entire process is a real-time synchronous transaction. Once connected, the transaction is immediately processed and the answer returned in about three seconds. Processing transactions through the Payflow service does not affect or define the time periods of authorizations, nor does it influence the approval or denial of a transaction by the issuer.

When integrating with Payflow Pro, you need only be concerned with passing all the required data for transaction authorization. For transactions that you want to be settled (close batch), the operation is handled by PayPal.

---

## Supported Processing Platforms

Payflow Pro supports the following processing platforms:

- PayPal
- American Express Phoenix
- American Express Brighton
- First Data Merchant Services (FDMS) Nashville
- First Data Merchant Services (FDMS) North
- First Data Merchant Services (FDMS) South
- First Data TeleCheck
- Global Payments Central
- Global Payments East
- Merchant e-Solutions
- Elavon (Formerly Nova)
- Paymentech Salem (New Hampshire)
- Paymentech Tampa
- TSYS Acquiring Solutions (Formerly Vital Processing Services)
- Moneris Solutions

---

## Supported Payment Types

Payflow Pro supports multiple payment types in a single installation, including:

- Credit cards
- PayPal (supported by PayPal's Express Checkout product)
- Pinless debit cards
- Electronic checks
- Check cards
- Purchasing cards (also referred to as commercial cards, corporate cards, procurement cards, or business cards) Level II and Level III
- Automated Clearing House (ACH). For information on performing ACH transactions, contact your PayPal Sales Representative at [paymentsales@PayPal.com](mailto:paymentsales@PayPal.com)

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## Payflow Pro Recurring Billing Service

The Recurring Billing Service is a scheduled payment solution that enables you to automatically bill your customers at regular intervals—for example, a monthly fee of \$42 for 36 months with an initial fee of \$129.

You enroll separately for the Payflow Pro Recurring Billing Service. Using Payflow Pro to define and manage recurring transactions programmatically is described in *Payflow Pro – Recurring Billing Service User's Guide*. You can manage Recurring Billing tasks in PayPal Manager. See the online help for details.

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## About Security

It is your responsibility to protect your passwords and other confidential data and to implement security safeguards on your website and in your organization, or to ensure that your hosting company or internal web operations team is implementing them on your behalf.

**IMPORTANT:** *To enable testing of Payflow Pro, PayPal provides sample transaction scripts that you customize with your Payflow Pro account information and password. Because the password is initially stored in the text of the program, it is vulnerable.*

*Do not use the test scripts in your production environment. To minimize fraud, machine passwords should always be encrypted. You must write a program that encrypts and decrypts your Payflow Pro account password.*





# 2

## Downloading, Installing, and Activating

The Payflow Software Development Kit (SDK) is a set of APIs to allow you to integrate Payflow Pro with your application or website.

**IMPORTANT:** *Full API documentation is included with each SDK.*

---

### Supported Platforms

Payflow Pro is available on all major web server platforms in a variety of formats to support your integration requirements. Payflow Pro is available as a .NET or Java library, or you can build your own API by posting directly to the Payflow servers via HTTPS.

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### Preparing the Payflow Client Application

Unless you are building your own API and using HTTPS to post to the servers, you will need to obtain the Payflow SDK. Follow these steps.

1. Download the Payflow SDK.

From the SDKs and Downloads page linked to the Library tab on PayPal Developer Central, download the Payflow SDK appropriate for your platform.

2. Extract the files to a local directory.

3. Configure your firewall.

If you have a stateful firewall, enable outbound traffic for SSL (port 443). The firewall keeps state on the connection, and automatically permits the inbound response from PayPal.

If you do not have a stateful firewall, enable inbound and outbound traffic for SSL (port 443). Outbound traffic permits the initial request by Payflow Pro, while inbound permits the response from PayPal.

4. Read the Readme.txt file.

The Readme.txt file includes integration information and samples that illustrate how to use the Payflow client application in your development environment.

---

## Activating Your Payflow Pro Account

When you are ready to activate your Payflow Pro account to begin submitting live transactions, follow these steps:

1. Log in to PayPal Manager at <https://manager.paypal.com>.
2. Click **ActivateYour Account** and follow the on-screen instructions.
3. Change the URL within your web or desktop application to point to the live Payflow servers. For details on Payflow server URLs, see “[Host Addresses](#)” on page 13.

# 3

## Simple Payflow Transaction

All Payflow transactions include a common set of required parameters. Additional parameters are required depending on the transaction type. You can also provide many optional parameters, depending on the results you want returned. For example, you can set the `VERBOSITY` parameter to return PayPal processor-specific details rather than normalized information if you are looking for this kind of information. `VERBOSITY` is described in detail in [Appendix D, “VERBOSITY: Viewing Processor-Specific Transaction Results.”](#)

---

### Transaction Requests

#### Request Contents

A transaction request includes:

- Connection parameters
- User parameters
- Parameters specific to the type of the transaction, such as a sale or an authorization

#### Data Modes for Sending

You can send parameter data in the transaction request to the Payflow server in either of two modes:

- Name-value pair
- XMLPay

The examples in this guide are presented in name-value pair format. Name-value pair syntax guidelines are described in [“PARMLIST Syntax Guidelines” on page 20](#).

XMLPay is an XML syntax for payment requests and associated responses in a payment-processing network. Instead of using name-value pairs, you can send XML documents to the Payflow server based on the XMLPay 2.0 schema. For details on XMLPay, see *XMLPay Developer's Guide* in the Payflow Pro documentation on Developer Central.

## Connection Parameters

The connection parameters are described below. Pass them in the format and syntax required by the Payflow SDK and programming language that you are using. See your integration documentation for details.

**TABLE 3.1 Connection parameters**

Parameter	Description
HOSTADDRESS	(Required) Payflow host name. See <a href="#">“Host Addresses” on page 13</a> for details on host addresses.
HOSTPORT	(Required) Use port 443.
PARMLIST	<p>(Required) List of parameters that specify the payment information for the transaction. The quotation marks “ ” at the beginning and end are required. The following is an example:</p> <p>TRXTYPE=S&amp;TENDER=C&amp;PARTNER=PayPal&amp;VENDOR=SuperMerchant&amp;USER=SuperMerchant&amp;PWD=SuperUserPassword&amp;ACCT=555555555554444&amp;EXPDATE=0308&amp;AMT=123.00</p> <p>The content of the PARMLIST varies by the type of transaction being processed. For example, a Void transaction requires a different set of parameters than a Sale.</p>
TIMEOUT	(Required) Time-out period for the transaction. The minimum recommended time-out value is 30 seconds. The client begins tracking from the time that it sends the transaction request to the server.
PROXYADDRESS	(Optional) Proxy server address. Use the PROXY parameters for servers behind a firewall. Your network administrator can provide the values.
PROXYPORT	(Optional) Proxy server port.
PROXYLOGON	(Optional) Proxy server logon ID.
PROXYPASSWORD	(Optional) Proxy server logon password.

### PARMLIST Syntax Guidelines

Follow these guidelines when creating the PARMLIST:

- Spaces are allowed in values.
- Enclose the PARMLIST in quotation marks (“”).
- Do not place quotation marks (“”) within the body of the PARMLIST.
- Separate all name-value pairs in the PARMLIST using an ampersand (&).
- Set the VERBOSITY transaction parameter to MEDIUM (default is LOW) if you want the response to return more detailed information. For details, see [Appendix A, “Verbosity: Viewing Processor-Specific Transaction Results.”](#)

### Using Special Characters in Values

Because the ampersand (&) and equal sign (=) characters have special meanings in the PARMLIST, name-value pairs like the following examples are not valid:

NAME=Ruff & Johnson  
COMMENT1=Level=5

To use special characters in the value of a name-value pair, use a *length tag*. The length tag specifies the exact number of characters and spaces that appear in the value. The following name-value pairs are valid.

NAME[14]=Ruff & Johnson  
COMMENT1[7]=Level=5

**NOTE:** Quotation marks (" ") are not allowed even if you use a length tag.

## User Parameters

All Payflow Pro transactions require the user parameters described below.

**TABLE 3.2** User parameters

Parameter	Description
USER	(Required) If you set up one or more additional users on the account, this value is the ID of the user authorized to process transactions. If, however, you have not set up additional users on the account, USER has the same value as VENDOR. Limitations: Sixty-four alphanumeric, case-sensitive characters.
VENDOR	(Required) Your merchant login ID that you created when you registered for the account. Limitations: Sixty-four alphanumeric, case-sensitive characters.
PARTNER	(Required) The ID provided to you by the authorized PayPal Reseller who registered you for the Payflow SDK. If you purchased your account directly from PayPal, use PayPal. Limitations: Sixty-four alphanumeric, case-sensitive characters.
PWD	(Required) The password that you defined while registering for the account. Limitations: Six- to thirty-two alphanumeric, case-sensitive characters.

## Sale Transaction Example

In addition to the connection and user parameters, each transaction type has additional parameter requirements and can include a number of optional parameters as well. The transaction parameters common to all processors are described in detail in [Table 4.1 on page 26](#).

To perform a credit card Sale transaction, you are required to pass the following parameters:

- TRXTYPE - The type of the transaction, such as S for Sale
- TENDER - The method of payment, such as C for credit card
- ACCT - The buyer's credit card number
- AMT - The amount of the sale

- EXPDATE - The expiration date of the credit card

## Typical Sale Transaction

The following is a typical request transaction string for a Sale transaction.

```
TRXTYPE=S&TENDER=C&USER=SuperMerchant&PWD=SuperUserPassword&PARTNER=PayPal&
ACCT=5105105105105100&EXPDATE=1209&AMT=99.06&COMMENT1=Reservation&FIRSTNAME
=John&LASTNAME=Jones&STREET=123 Main St.&CITY=San
Jose&STATE=CA&ZIP=123451234&BILLTOCOUNTRY=US&CVV2=123&CUSTIP=0.0.0.0
```

Note that, besides the required Sale transaction parameters, the above string includes other Payflow Pro parameters typically included in a credit card Sale transaction request.

When the transaction completes, the Payflow server returns a response string made up of name-value pair response parameters. If the transaction is successful, a RESULT value of 0 is returned. The value of PNREF identifies the transaction in future requests, and RESPMSG is a string indicating whether the transaction was approved. This is an example response to a credit card Sale transaction request:

```
RESULT=0&PNREF=VXYZ01234567&RESPMSG=APPROVED&AVSADDR=Y&AVSZIP=N&IAVS=Y&CVV2
MATCH=Y
```

---

## Formatting Transactions

For details on how to format a transaction based on the above information, see the examples and the supporting documentation provided with your SDK.

# 4

## Credit Card Transactions

This chapter describes how to plan for implementing credit card processing, presents the core set of parameters used by all credit card processors, explains how to submit a transaction for each transaction type supported, and describes other credit card features such as card security.

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### Credit Card Features

Payflow Pro supports the following transaction types for credit card processing:

- Sale
- Authorization (including Account Verification)
- Voice Authorization
- Delayed Capture
- Credit
- Void
- Inquiry

Payflow Pro also supports the following credit card features:

- Recharging to the same credit card (also called reference transactions)
- Securing credit card transactions by means of the Address Verification Service and card security code validation

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### About Credit Card Processing

Credit card processing occurs in two steps — a real-time Authorization and a capture (settlement) of the funds that were authorized. As discussed below, you perform these two steps either as a single transaction or as two transactions, depending on your business model.

For an Authorization, the server sends the transaction information to a credit card processor who routes the transaction through the financial networks to the cardholder's issuing bank. The issuing bank checks whether the card is valid, evaluates whether sufficient credit exists, checks values such as address verification service and card security codes (discussed below), and returns a response: Approved, Declined, Referral, or other response values.

You receive the response a few seconds after you submit the transaction to the server. If an Authorization is approved, the bank temporarily reserves the credit for the amount of the transaction to prepare to capture (fulfill) the transaction. The hold on funds typically lasts for about a week.

**NOTE:** You cannot remove a hold on funds through the processing networks—you must contact the card issuing bank to lift a hold early.

Capturing a transaction actually transfers the funds to your bank. At least once a day, PayPal gathers all transactions that are flagged to be settled and sends them in a batch file to the processor. The processor then charges the issuing bank and transfers the funds to your bank. It typically takes a few days before the money is actually available in your account, depending on your bank.

## Obtaining an Internet Merchant Account

To accept credit cards over the internet, you need a special account called an Internet Merchant Account. Your account provider or merchant (acquiring) bank works with a PayPal-supported credit card processor, such as First Data, TSYS Acquiring Solutions (formerly Vital Processing Services), or Paymentech. To use Payflow Pro to accept live credit cards, you must provide certain details about your account to PayPal during the “Go Live” part of the enrollment process.

**NOTE:** An Internet Merchant Account is a different type of merchant account than a merchant account used for face-to-face (in-person) retail transactions. It has additional risks associated with card-not-present (e-commerce) transactions. You need to obtain an Internet Merchant Account even if you already accept credit cards at your location.

To apply for an Internet Merchant Account, contact your merchant (acquiring) bank.

## Planning Your Payflow Pro Integration

In designing your Payflow Pro integration, you should evaluate the following:

- Whether to use a one-step or two-step transaction process. One-step: Submit a Sale transaction, which performs the Authorization and (if successful) then flags the transaction for settlement. Two-step: Perform an Authorization-only transaction and then later perform a Delayed Capture transaction. The Delayed Capture transaction can be for the same amount as the original transaction or for a lower amount. (In the case of a split shipment, you can perform a Delayed Capture transaction for the initial shipment and a reference transaction for the final payment. These transaction types, plus the details of performing a Delayed Capture for an amount higher than the original, are described in [“Delayed Capture Transaction: Capturing Transactions for Higher Amounts”](#) on page 32.

According to card association rules, most physical goods merchants should use a two-step process, since settlement should occur when the goods are fulfilled or shipped. A two-step process is also useful if you want to evaluate information in the response, such as whether the issuer verifies the billing address, and so on. Electronic goods merchants, who fulfill the order immediately, can use the one-step process. Check with your Internet Merchant Account provider for suggestions on the best method for you.

- Whether or how to use risk management tools such as address verification service and card security code. For address verification service, if the data is submitted with the initial transaction, the issuer checks the street address and/or the zip (postal) code against the



billing address on file for the consumer. Address verification service is described on page [“Using Address Verification Service” on page 44](#).

Card security code refers to a 3- or 4-digit number that appears on the back of most credit cards. On American Express, the number appears above and to the right of the embossed card number. Card security code is known by other names, such as CVV2, depending on the type of card. If card security code data is submitted, the issuer can notify you whether the number matches the number assigned to the card. Card security code is described on page [“Card Security Code Validation” on page 46](#).

It may also be possible to implement additional safeguards yourself or to use a fraud service. You might want to discuss risk management with your Internet Merchant Account provider.

- Store information in your local database or use PayPal Manager reports to manage the data. You may want to store shipping information in your system, or you may prefer to send the information to PayPal with the transaction and report on it later.

**NOTE:** PayPal recommends that you do not store credit card numbers. If you must store numbers, encrypt and store them behind properly configured firewalls. You should also consider whether and how to use the merchant-defined fields `COMMENT1` and `COMMENT2` to help tie reports to your orders/customers or to report on other information about the transaction.

- If or how you want to integrate with other systems, such as order fulfillment, customer service, and so on. You may wish to connect these systems directly to Payflow Pro for capturing funds, issuing refunds/credits, and so on. Alternatively, you may prefer to perform these steps manually using PayPal Manager. Either way, PayPal recommends that you monitor transaction activity using PayPal Manager.
- You may want to discuss, with your Internet Merchant Acquirer, practices that help you to obtain the most advantageous rates.

## Complying With the E-commerce Indicator (ECI)

Some processors support a software flag called E-commerce Indicator (ECI) that indicates that the associated transaction is an internet transaction. Payflow Pro complies with ECI basic requirements for all supported processors.

If you use the Buyer Authentication Service, then the ECI values reflects the Authentication status. See *Payflow Pro Fraud Protection Service User's Guide* on Developer Central.

## Handling Credit Card Type Information

The Payflow SDK does not check the credit card types that you are accepting. If a customer uses a card type that you are not signed up to accept, the Payflow SDK responds with `RESULT` value 23, “Invalid account number,” or the processor returns a message that the customer is not signed up for the card type. For details on `RESULT` values and response messages, see [“RESULT Values and RESPMSG Text” on page 56](#). Optionally, you can provide your

customer with a list of the card types that you accept (in a drop-down list or menu, for example).

To accept additional credit card types, you must contact your acquiring bank (the merchant that holds your Internet Merchant Account) and ask them to add the card type to your account. Upon notification from your Acquirer that you can start accepting the card type, you must add the card to your Payflow Pro account through PayPal Manager. See PayPal Manager online help for details.

## Parameters Used in Credit Card Transactions

All credit card processors accept the basic parameters described in the table below with one exception: the PayPal processor does not support SWIPE.

Some processors require additional parameters described in the following sections:

- [“Processors Requiring Additional Transaction Parameters” on page 65.](#)
- [“Additional Reporting Parameters” on page 143](#)

**TABLE 4.1 Credit card transaction request parameters**

Parameter	Description
TENDER	<p>(Required) The method of payment. Values are:</p> <ul style="list-style-type: none"> <li>• A = Automated clearinghouse</li> <li>• C = Credit card</li> <li>• D = Pinless debit</li> <li>• K = Telecheck</li> <li>• P = PayPal</li> </ul> <p>See the <i>Payflow ACH Payment Service Guide</i> for details on the Automated clearinghouse tender type.</p>
TRXTYPE	<p>(Required) Indicates the type of transaction to perform. Values are:</p> <ul style="list-style-type: none"> <li>• S = Sale transaction</li> <li>• C = Credit</li> <li>• A = Authorization</li> <li>• D = Delayed Capture</li> <li>• V = Void</li> <li>• F = Voice Authorization</li> <li>• I = Inquiry</li> <li>• N = Duplicate transaction</li> </ul> <p><b>NOTE:</b> A type N transaction represents a duplicate transaction (version 4 SDK or HTTPS interface only) with a PNREF the same as the original. It appears only in the PayPal Manager user interface and will never settle.</p>

**TABLE 4.1 Credit card transaction request parameters**

Parameter	Description
ACCT	<i>(Required for credit cards)</i> Credit card or purchase card number. For the Pinless debit TENDER type, ACCT can be the bank account number. Limitations: This value may not contain spaces, non-numeric characters, or dashes. For example, ACCT=5555555555554444
EXPDATE	<i>(Required)</i> Expiration date of the credit card. Limitations: mm/yy format. For example, 1008 represents November 2008.
AMT	<i>(Required)</i> Amount (Default: U.S. based currency). Limitations: Specify the exact amount to the cent using a decimal point—use 34.00, not 34. Do not include comma separators—use 1199.95 not 1,199.95. Your processor and/or Internet Merchant Account provider may stipulate a maximum amount. 10 numeric characters plus decimal.
COMMENT1	<i>(Optional)</i> Merchant-defined value for reporting and auditing purposes. Limitations: 128 alphanumeric characters.
COMMENT2	<i>(Optional)</i> Merchant-defined value for reporting and auditing purposes. Limitations: 128 alphanumeric characters.
CVV2	<i>(Optional)</i> A code that is printed (not imprinted) on the back of a credit card. Used as partial assurance that the card is in the buyer's possession. Limitations: 3 or 4 digits.
FIRSTNAME	<i>(Optional)</i> Account holder's first name. Limitations: 30 alphanumeric characters.
LASTNAME	<i>(Optional but recommended)</i> Account holder's last name. Limitations: 30 alphanumeric characters.
STREET	<i>(Optional)</i> The cardholder's street address (number and street name). The STREET address is verified by the address verification service. Limitations: 30 alphanumeric characters.
ZIP	<i>(Optional)</i> Account holder's 5- to 9-digit zip (postal) code. Limitations: Nine characters maximum. Do not use spaces, dashes, or non-numeric characters.

**TABLE 4.1 Credit card transaction request parameters**

Parameter	Description
SWIPE	<p><i>(Required for card-present transactions only)</i> Used to pass the Track 1 or Track 2 data (card's magnetic stripe information) for card-present transactions. Include either Track 1 or Track 2 data—not both. If Track 1 is physically damaged, the point-of-sale (POS) application can send Track 2 data instead.</p> <p>The track data includes the disallowed = (equal sign) character. To enable you to use the data, the SWIPE parameter must include a length tag specifying the number of characters in the track data. For this reason, in addition to passing the track data, the POS application must count the characters in the track data and pass that number. Length tags are described in <a href="#">“Using Special Characters in Values” on page 20</a>.</p> <p><b>NOTE:</b> SWIPE (card-present transactions) are not supported by the PayPal processor..</p> <p>Limitations: Alphanumeric characters.</p>

## Submitting Sale Transactions

The Sale transaction (TRXTYPE=S) charges the specified amount against the account, and marks the transaction for immediate fund transfer during the next settlement period. PayPal submits each merchant's transactions for settlement on a daily basis.

### When To Use a Sale Transaction

A Sale transaction is best suited to businesses that provide immediate fulfillment for their products or services. If your business does not provide immediate fulfillment, then credit card association rules recommend that you use an Authorization and a Delayed Capture transaction. For details, see [“Submitting Authorization/Delayed Capture Transactions” on page 29](#). If you need to recharge a credit card and you are not storing the credit card information in your local database, you can perform a new reference transaction based on a Sale transaction.

### Additional Parameters For Sale Transactions

To perform a Sale transaction, you are required to pass the following parameters:

- ACCT
- AMT
- EXPDATE

**NOTE:** The pinless debit tender type requires essentially the same parameters as a credit card transaction. In addition to the values required by all transactions, you must pass values for the ACCT and AMT parameters. The First Data Merchant Services (FDMS) South processing platform supports Sale and Credit transactions only.

## Typical Sale Transaction Parameter String

The following is a typical PARMLIST string passed in a Sale transaction.

```
TRXTYPE=S&TENDER=C&USER=SuperUser&PWD=SuperUserPassword&VENDOR=SuperUser&PARTNER=PayPal&ACCT=5105105105105100&EXPDATE=1209&CVV2=123&AMT=99.00&FIRSTNAME=John&LASTNAME=Smith&STREET=123 Main St.&CITY=San Jose&STATE=CA&ZIP=12345&COMMENT1=Reservation&INNUM=1234567890&PONUM=C12345&CVV2=567&VERBOSITY=MEDIUM
```

Note that, besides the required parameters that you pass in a Sale transaction, this string includes other typical parameters. The COMMENT1 (and COMMENT2) fields help to track transaction information. The customer's street address (STREET) and zip should be passed to use address verification service. CVV2 is needed for card security code validation. For details on address verification service and card security code, see the following sections:

- [“Submitting Card-Present \(SWIPE\) Transactions” on page 42](#)
- [“Card Security Code Validation” on page 46](#)

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## Submitting Authorization/Delayed Capture Transactions

An Authorization (TRXTYPE=A) transaction places a hold on the cardholder's open-to-buy limit, lowering the cardholder's limit by the amount of the transaction. It does not transfer funds.

A Delayed Capture (TRXTYPE=D) transaction is performed after an Authorization to capture the original Authorization amount. The Delayed Capture is scheduled for settlement during the next settlement period.

Because Visa and MasterCard regulations prohibit capturing credit card transaction funds until a product or service has shipped to the buyer, most processing networks implement an Authorization transaction followed by a Delayed Capture transaction.

## When To Use Authorization/Delayed Capture Transactions

If your business does not provide immediate fulfillment of products or services, you should use this two-stage transaction solution, also known as *Delayed Capture processing*, because it enables you to capture credit card transaction funds when you are ready to collect them.

**NOTE:** If you signed up for the PayPal processor with Fraud Protection Services, you must use delayed capture processing for all sale transactions.

If your business provides immediate fulfillment and you are not using the PayPal processor with Fraud Protection Services, you can use a simple Sale transaction instead. For details, see [“Submitting Sale Transactions” on page 28](#). If you need to recharge a credit card and you are not storing the credit card information in your local database, you can perform a new reference transaction based on a Sale. For details, see [“Submitting Authorization/Delayed Capture Transactions” on page 29](#).

**IMPORTANT:** Only one Delayed Capture transaction is allowed per Authorization transaction.

## Required Authorization Transaction Parameters

To perform an Authorization transaction, you are required to pass the following parameters:

- ACCT
- AMT
- EXPDATE

## Typical Authorization Transaction Parameter String

A typical parameter string passed in an Authorization transaction is the same as a Sale transaction string. The only difference is that the TRXTYPE value is A in an Authorization.

```
TRXTYPE=A&TENDER=C&USER=SuperUser&PWD=SuperUserPassword&VENDOR=SuperUser&PARTNER=PayPal&ACCT=5105105105105100&EXPDATE=1209&CVV2=123&AMT=99.00&FIRSTNAME=John&LASTNAME=Smith&STREET=123 Main St.&CITY=San Jose&STATE=CA&ZIP=12345&COMMENT1=Reservation&INVNUM=1234567890&PONUM=C12345&CVV2=567&VERBOSITY=MEDIUM
```

## Required Delayed Capture Transaction Parameters

To perform a Delayed Capture transaction, you are required to pass the following parameter:

ORIGID

**TABLE 4.2** *Delayed Capture required parameter*

Parameter	Description
ORIGID	<i>(Required by some transaction types)</i> ID of the original transaction that is being referenced. This ID is returned by the PNREF parameter and appears as the Transaction ID in PayPal Manager reports. Limitations: 12 case-sensitive alphanumeric characters.

Set ORIGID to the PNREF (Transaction ID in PayPal Manager reports) value returned from the original transaction. In addition, if the amount of the capture differs from the amount of the Authorization, you also must pass a value for AMT.

### Fields Copied From the Authorization Transaction into the Delayed Capture Transaction

The following fields are copied from the Authorization transaction into the Delayed Capture transaction (if they exist in the original transaction). If you provide a new value for any of these parameters when submitting the Delayed Capture transaction, then the new value is

used. (Exceptions are ACCT, EXPDATE, and SWIPE. These parameters retain their original values.)

**TABLE 4.3 Fields copied from Authorization to Delayed Capture transaction**

ACCT	AMT	CITY	COMMENT1
COMMENT2	COMPANYNAME	BILLTOCOUNTRY	CUSTCODE
CUSTIP	DUTYAMT	EMAIL	EXPDATE
FIRSTNAME	MIDDLENAME	LASTNAME	FREIGHTAMT
INVNUM	PONUM	SHIPTOCITY	SHIPTOCOUNTRY
SHIPTOFIRSTNAME	SHIPTOMIDDLENAME	SHIPTOLASTNAME	SHIPTOSTATE
SHIPTOSTREET	SHIPTOZIP	STATE	STREET
SWIPE	TAXAMT	PHONENUM	TAXEXEMPT
ZIP			

To perform the Delayed Capture:

**1. Perform the Authorization transaction.**

The Authorization transaction uses the same parameters as Sale transactions, except that the transaction type is A.

The return data for an Authorization transaction is the same as for a Sale transaction. To capture the authorized funds, perform a Delayed Capture transaction that includes the value returned for PNREF, as described in Step 2 below.

**Example: Authorization-only Transaction**

TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&ACCT=5555555555554444&EXPDATE=0308&AMT=123.00&COMMENT1=Second purchase&COMMENT2=Low risk customer&INVNUM=123456789&STREET=5199 MAPLE&ZIP=94588

**Example: Authorization Response**

RESULT=0&PNREF=**VXYZ01234567**&RESPMSG=APPROVED&AUTHCODE=123456  
&AVSADDR=Y&AVSZIP=N

#### 2. Perform the Delayed Capture transaction.

Set ORIGID to the PNREF value returned in the original Authorization transaction response string. (There is no need to retransmit the credit card or billing address information—it is stored at PayPal.)

If the capture succeeds, the amount of the Capture is transferred to the merchant's account during the daily settlement process. If the capture does not succeed, the hold on the cardholder's open-to-buy is still in effect.

#### **Example: Delayed Capture Transaction**

```
TRXTYPE=D&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=.SuperMerchant
&USER=SuperMerchant&ORIGID=VXYZ00887892
```

#### **Example: Delayed Capture Response**

```
RESULT=0&PNREF=VXYZ00895642&AUTHCODE=25TEST&AVSADDR=Y&AVSZIP=N
```

### Delayed Capture Transaction: Capturing Transactions for Lower Amounts

You can perform a Delayed Capture transaction for an amount lower than the original Authorization amount (useful, for example, when you make a partial shipment).

### Delayed Capture Transaction: Capturing Transactions for Higher Amounts

You can perform a Delayed Capture transaction for an amount higher than the original Authorization amount. The cardholder's open-to-buy could be reduced by the sum of the original Authorization-only amount and the final Delayed Capture amount.

### Delayed Capture Transaction: Error Handling and Retransmittal

If an error occurs while processing a Delayed Capture transaction, it is safe to retry the capture with values that allow the Payflow server to successfully process it. Conversely, if a capture for a previous Authorization succeeds, subsequent attempts to capture it again will return an error.

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## Submitting Account Verifications With TRXTYPE=A

Account Verification, also known as zero dollar Authorization (TRXTYPE=A), verifies credit card information. While Account Verification and normal Authorization transactions are submitted using TRXTYPE=A, Account Verification differs from Authorization in the following ways:

- The AMT value is always 0. If any other amount is submitted, the transaction as a normal Authorization that places a hold on the cardholder's open-to-buy limit.
- Although the RESULT value returned is 0 (Approved), the RESPMSG value is Verified instead of Approved.



- The TRANSSTATE is set to 0 to prevent these types of transactions from being credited, voided, or captured.

See [“VERBOSITY: Viewing Processor-Specific Transaction Results” on page 139](#) for details on TRANSSTATE.

**NOTE:** RESULT value 4, Invalid Amount, is returned if the processor does not support Account Verifications.

## When To Use Account Verification

Use an Account Verification to validate account numbers and other authentication elements such as CVV2 and AVS. You can also use an Account Verification as a Reference Transaction. See [“Recharging to the Same Credit Card \(Reference Transactions\)” on page 40](#).

## Example Account Verification

This is an example of account verification:

```
TRXTYPE=A&TENDER=C&USER=SuperUser&PWD=SuperUserPassword&VENDOR=SuperUser&PARTNER=PayPal&ACCT=4111111111111111&EXPDATE=0712&CVV2=123&AMT=0.00&CURRENCY=USD&STREET=123 Main St.&ZIP=11232&VERBOSITY=MEDIUM
```

This is the response:

```
RESULT=0&PNREF=V79E1E4610CE&RESPMSG=Verified&AUTHCODE=010101&AVSADDR=Y&AVSZIP=Y&CVV2MATCH=Y&HOSTCODE=00&PROCAVS=Y&PROCCVV2=M&IAVS=N
```

---

## Submitting Voice Authorization Transactions

A Voice Authorization (TRXTYPE=F) transaction is a transaction that is authorized over the telephone from the processing network.

**NOTE:** The PayPal processor does not support Voice Authorization transactions.

## When to Use a Voice Authorization Transaction

Some transactions cannot be authorized over the internet (for example, high dollar amounts) and require manual authorization. These transactions generate RESULT value 13 and are called Referral transactions.

In these situations, you contact the customer service department of your merchant bank and provide the payment information as requested. If the transaction is approved, the bank provides you with a voice Authorization code (AUTHCODE) for the transaction..

Once a Voice Authorization transaction has been approved, it is treated like a Sale transaction and is settled with no further action on your part.

Like Sale transactions, approved Voice Authorization transactions can be voided before settlement occurs.

## Required Voice Authorization Transaction Parameters

When sending a Voice Authorization transaction request, you are required to include the AUTHCODE provided by your merchant bank.

**TABLE 4.4** *Voice Authorization transaction required parameter*

Parameter	Description
AUTHCODE	<i>(Required for Voice Authorizations only)</i> Returned only for approved Voice Authorization transactions. AUTHCODE is the approval code obtained over the telephone from the processing network. Limitations: Six alphanumeric characters.

The following is an example Voice Authorization transaction request parameter string:

```
TRXTYPE=F&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&PWD=x1y2z3&AUTHCODE=AB34RT56&ACCT=5555555555554444&EXPDATE=0308&AMT=123.00
```

## Submitting Credit Transactions

The Credit transaction (TRXTYPE=C) refunds the specified amount to the cardholder.

## Required Credit Transaction Parameters

The required parameter data for a Credit transaction depends on the **Allow non-referenced credits** security setting for your Payflow Pro account. A non-referenced credit is a Credit transaction that does not use the credit card information from an existing transaction. Credit card information must be supplied. As an example, Sally Smith calls you on the telephone to cancel an order from your business. To refund her money, you credit her credit card by submitting a non-referenced Credit transaction.

Guidelines and parameter requirements for Credit transactions differ depending on whether or not non-referenced credits are allowed.

### Non-Referenced Credits Not Allowed

When non-referenced credits are not allowed (the setting recommended by PayPal), then Credit transactions are permitted only against existing Sale, Delayed Capture, and Voice Authorization transactions. To submit a Credit transaction when non-referenced credits are not allowed, you must pass the following parameter:

ORIGID

**TABLE 4.5 Credit required parameter**

Parameter	Description
ORIGID	(Required by some transaction types) ID of the original transaction that is being referenced. This ID is returned by the PNREF parameter and appears as the Transaction ID in PayPal Manager reports. Limitations: 12 case-sensitive alphanumeric characters.

Set the value of ORIGID to the PNREF value returned for the original transaction. (PNREF is displayed as the Transaction ID in PayPal Manager reports.) If you do not specify an amount, then the amount of the original transaction is credited to the cardholder.

### Non-Referenced Credits Allowed

When non-referenced credits are allowed, then Credit transactions are permitted in any amount up to the transaction limit for the credit card account that you specify. To submit a Credit transaction when non-referenced credits are allowed, you must pass values for the following parameters:

- ACCT
- EXPDATE
- AMT

**IMPORTANT:** The default security setting for Payflow Pro accounts is Allow non-referenced credits = No, so sending the ORIGID is the preferred method for performing Credit transactions. Using the ACCT, EXPDATE, or AMT parameters for such accounts leads to RESULT value 117 (failed the security check). For information on setting the security settings, see PayPal Manager online help.

### Fields Copied From the Original Transaction into the Credit Transaction

The following fields are copied from the original transaction into the Credit transaction (if they exist in the original transaction). If you provide a new value for any of these parameters when submitting the Credit transaction, then the new value is used. (Exceptions are ACCT, EXPDATE, and SWIPE. These parameters retain their original values).

**NOTE:** These fields are not copied for referenced credits: TAXAMT, TAXEXEMPT, DUTYAMT, FREIGHTAMT, and (for American Express only) DESC4.

**NOTE:** For processors that use the RECURRING parameter: If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming the Credit transaction.

**TABLE 4.6 Fields copied from original to Credit transaction**

ACCT	AMT	CITY	COMMENT1
------	-----	------	----------

**TABLE 4.6 Fields copied from original to Credit transaction**

COMMENT2	COMPANYNAME	BILLTOCOUNTRY	CUSTCODE
CUSTIP	EMAIL	EXPDATE	FIRSTNAME
MIDDLENAME	LASTNAME	INVNUM	PONUM
SHIPTOCITY	SHIPTOCOUNTRY	SHIPTOFIRSTNAME	SHIPTOMIDDLENAME
SHIPTOLASTNAME	SHIPTOSTREET	SHIPTOSTATE	SHIPTOZIP
STATE	STREET	SWIPE	PHONENUM
ZIP			

## Credit Transaction Parameter Strings

This is an example Credit transaction string (non-referenced credits not allowed):

```
TRXTYPE=C&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&P
WD=x1y2z3&ORIGID=VPNE12564395
```

This is an example Credit transaction string (non-referenced credits allowed):

```
TRXTYPE=C&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&P
WD=x1y2z3&ACCT=5555555555554444&EXPDATE=0308&AMT=123.00
```

## Submitting Void Transactions

The Void transaction (TRXTYPE=V) prevents a transaction from being settled.

As part of its internal process, PayPal makes reasonable effort to process authorization reversals for void transactions for debit and credit cards if the processor supports it for a given card type. Because the honoring of authorization reversals is ultimately decided by the bank or issuer, there is no accurate way to determine if an individual bank or issuer has honored an authorization reversal request.

**NOTE:** For more information on authorization reversals, see [http://en.wikipedia.org/wiki/Authorization\\_hold](http://en.wikipedia.org/wiki/Authorization_hold).

## When To Use a Void Transaction

Follow these guidelines:

- You can void Delayed Capture, Sale, Credit, Authorization, and Voice Authorization transactions. You cannot void a Void transaction.
- You can only use a Void transaction on a transaction that has not yet settled. To refund a customer's money for a settled transaction, you must submit a Credit transaction.

## Required Void Transaction Parameters

To submit a Void transaction, you must pass the following parameter:

ORIGID

**TABLE 4.7** Void required parameter

Parameter	Description
ORIGID	(Required by some transaction types) ID of the original transaction that is being referenced. This ID is returned by the PNREF parameter and appears as the Transaction ID in PayPal Manager reports. Limitations: 12 case-sensitive alphanumeric characters.

Set ORIGID to the PNREF (Transaction ID in PayPal Manager reports) value returned for the original transaction.

### Fields Copied From the Original Transaction into the Void Transaction

The following fields are copied from the original transaction into the Void transaction (if they exist in the original transaction). If you provide a new value for any of these parameters when submitting the Void transaction, then the new value is used. (Exceptions are ACCT, EXPDATE, and SWIPE. These parameters retain their original values).

**NOTE:** For processors that use the RECURRING parameter: If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming the Void transaction.

**TABLE 4.8** Fields copied from original Void transaction

ACCT	AMT	CITY	COMMENT1
COMMENT2	COMPANYNAME	BILLTOCOUNTRY	CUSTCODE
CUSTIP	DUTYAMT	EMAIL	EXPDATE
FIRSTNAME	MIDDLENAME	LASTNAME	FREIGHTAMT
INVNUM	PONUM	SHIPTOCITY	SHIPTOCOUNTRY
SHIPTOFIRSTNAME	SHIPTOMIDDLENAME	SHIPTOLASTNAME	SHIPTOSTATE
SHIPTOSTREET	SHIPTOZIP	STATE	STREET
SWIPE	TAXAMT	PHONENUM	TAXEXEMPT
ZIP			

## Example Void Transaction Parameter String

This is an example Void transaction parameter string:

```
"TRXTYPE=V&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&PWD=x1y2z3&ORIGID=VPNE12564395"
```

## Submitting Inquiry Transactions

An Inquiry transaction (TRXTYPE=I) returns the result and status of a transaction.

### When To Use an Inquiry Transaction

You perform an inquiry using a reference to an original transaction—either the PNREF value returned for the original transaction or the CUSTREF value that you specified for the original transaction.

While the amount of information returned in an Inquiry transaction depends upon the VERBOSITY setting, Inquiry responses mimic the verbosity level of the original transaction as much as possible. For details on VERBOSITY, see [“VERBOSITY: Viewing Processor-Specific Transaction Results” on page 137](#).

### Required Parameters When Using the PNREF

To submit an Inquiry transaction when using the PNREF, you must pass the following parameter:

ORIGID

**TABLE 4.9 Inquiry request required parameter when using the PNREF**

Parameter	Description
ORIGID	<i>(Required by some transaction types)</i> ID of the original transaction that is being referenced. This ID is returned by the PNREF parameter. Limitations: 12 case-sensitive alphanumeric characters.

Set ORIGID to the PNREF (Transaction ID in PayPal Manager reports) value returned for the original transaction.

### Inquiry Transaction Parameter String Using the PNREF

This is an example Inquiry transaction parameter string using the ORIGID parameter set to the PNREF value:

```
TRXTYPE=I&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant  
&USER=SuperMerchant&PWD=x1y2z3&ORIGID=VPNE12564395
```

## Required Parameters When Using the CUSTREF

To submit an Inquiry transaction when using the CUSTREF, you must pass the following parameter:

CUSTREF

Optionally, specify the STARTTIME and ENDTIME parameters. The Inquiry transaction request parameters are described below.

**TABLE 4.10 Inquiry transaction request parameters when using the CUSTREF**

Parameter	Description
CUSTREF	<p>(<i>Required</i>) Merchant-defined identifier for reporting and auditing purposes. For example, you can set CUSTREF to the invoice number.</p> <p>You can use CUSTREF when performing Inquiry transactions. To ensure that you can always access the correct transaction when performing an Inquiry, you must provide a unique CUSTREF when submitting any transaction, including retries.</p> <p>Limitations: 12 alphanumeric characters.</p>
STARTTIME	<p>(<i>Optional</i>) For Inquiry transactions when using CUSTREF to specify the transaction.</p> <p>ENDTIME specifies the end of the time period during which the transaction specified by the CUSTREF occurred. See STARTTIME.</p> <p>ENDTIME must be less than 30 days after STARTTIME. An inquiry cannot be performed across a date range greater than 30 days.</p> <p>If you set ENDTIME, and not STARTTIME, then STARTTIME is defaulted to 30 days before ENDTIME.</p> <p>If neither STARTTIME nor ENDTIME is specified, then the system searches the last 30 days.</p> <p>Limitations: 14 numeric characters in the format <code>yyyymmddhhmmss</code>.</p>
ENDTIME	<p>(<i>Optional</i>) For Inquiry transactions when using CUSTREF to specify the transaction.</p> <p>ENDTIME specifies the end of the time period during which the transaction specified by the CUSTREF occurred. See STARTTIME.</p> <p>Limitations: 14 numeric characters.</p>

**IMPORTANT:** If there are multiple transactions with a particular CUSTREF value, then the Inquiry transaction returns only the last transaction with the specified CUSTREF. So, to ensure that you can always access the correct transaction, you must use a unique CUSTREF when submitting any transaction, including retries.

## Inquiry Transaction Parameter String Using the CUSTREF

This is an example Inquiry transaction parameter string using the CUSTREF:

```
TRXTYPE=I&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&P  
WD=xly2z3&CUSTREF=Inv00012345
```

---

## Recharging to the Same Credit Card (Reference Transactions)

If you need to recharge a credit card and you are not storing the credit card information in your local database, you can perform a *reference* transaction. A reference transaction takes the existing credit card information that is on file and reuses it.

**NOTE:** The PNREF returned in the original transaction is valid for use in reference transactions for a period of 12 months. A PNREF returned by Account Verification also can be used in a reference transaction.

### When To Use a Reference Transaction

Say that Joe Smith purchases a holiday gift from your web site store and requests that it be sent by UPS ground service. That evening, Joe becomes concerned that the item might not arrive in time for the holiday. So he calls you to upgrade shipping to second-day air. You obtain his approval for charging an extra \$10 for the upgrade. In this situation, you can create a reference transaction based on the original Authorization and charge an additional \$10 to Joe's credit card without having to ask him again for his credit card information.

**IMPORTANT:** As a security measure, reference transactions are disallowed by default. Only your account administrator can enable reference transactions for your account. If you attempt to perform a reference transaction in an account for which reference transactions are disallowed, RESULT value 117 is returned. See PayPal Manager online help for instructions on setting reference transactions and other security features.

Sale and Authorization transactions can make use of a reference transaction as a source of transaction data. PayPal looks up the reference transaction and copies its transaction data into the new Sale or Authorization transaction. With the exception of dollar amount data, which triggers a filter if out of range, reference transactions are not screened by Fraud Protection Services filters.

**IMPORTANT:** When PayPal looks up the reference transaction, neither the transaction being referenced nor any other transaction in the database is changed in any way. That is, a reference transaction is a read-only operation—only the new transaction is populated with data and acted upon. No linkage is maintained between the reference transaction and the new transaction.

You can also initiate reference transactions from PayPal Manager. See *PayPal Manager online help* for details.



## Transaction Types that Can Be Used as the Original Transaction

You can reference the following transaction types to supply data for a new Sale or Authorization transaction:

- Authorization (To capture the funds for an **approved** Authorization transaction, be sure to perform a Delayed Capture transaction—**not** a Reference transaction.)
- Credit
- Delayed Capture
- Sale
- Voice Authorization (The Voice Authorization code is not copied to the new transaction)
- Void

## Fields Copied From Reference Transactions

The following fields are copied from the reference transaction into the new Sale or Authorization transaction (if they exist in the original transaction). If you provide a value for any of these parameters when submitting the new transaction, then the new value is used.

**TABLE 4.11** *Fields copied from reference transactions*

ACCTTYPE	STREET
ACCT	CITY
EXPDATE	STATE
FIRSTNAME	ZIP
MIDDLENAME	BILLTOCOUNTRY
LASTNAME	SWIPE

## Example Reference Transaction

In this example, you authorize an amount of \$100 for a shipment and charge \$66 for the first partial shipment using a normal Delayed Capture transaction. You charge the \$34 for the final part of the shipment using a reference transaction to draw credit card and shipping address information from the initial Authorization transaction.

This example procedure creates a reference transaction:

#### 1. Submit the initial transaction, such as an Authorization.

You use an Authorization transaction for the full amount of the purchase of \$100 as shown in this transaction request:

```
TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&ACCT=5555555555554444&EXPDATE=0308&AMT=100.00&INVNUM=123456789&STREET=5199 MAPLE&ZIP=94588
```

Note the value of the PNREF in the response:

```
RESULT=0&PNREF=VXYZ01234567&RESPMSG=APPROVED&AUTHCODE=123456&AVSADDR=Y&AVSZIP=N
```

**NOTE:** The PNREF returned in the original transaction is valid for use in reference transactions for a period of 12 months.

#### 2. Capture the authorized funds for a partial shipment of \$66.

When you deliver the first \$66 worth of product, you use a normal Delayed Capture transaction to collect the \$66. Set ORIGID to the value of PNREF in the original Authorization as in this transaction request (See [“Required Delayed Capture Transaction Parameters” on page 30](#)):

```
TRXTYPE=D&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&ORIGID=VXYZ01234567&AMT=66.00
```

This is the response:

```
RESULT=0&PNREF=VXYZ01234568&AUTHCODE=25TEST&AVSADDR=Y&AVSZIP=N
```

#### 3. Submit a new Sale transaction or Authorization/Delayed Capture transaction of \$34 for the rest of the shipment.

Once you have shipped the remainder of the product, you can collect the remaining \$34 in a Sale transaction that uses the initial Authorization as a reference transaction. (This is a Sale transaction because only one Delayed Capture transaction is allowed per Authorization.) This is the Sale transaction request:

```
TRXTYPE=S&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&ORIGID=VXYZ01234567&AMT=34.00
```

This is the response:

```
RESULT=0&PNREF=VXYZ01234569&AUTHCODE=25TEST&AVSADDR=Y&AVSZIP=N
```

---

## Submitting Card-Present (SWIPE) Transactions

Payflow Pro supports card-present transactions (face-to-face purchases).

**NOTE:** SWIPE (card-present) transactions are not supported by the PayPal processor.

Follow these guidelines to take advantage of the lower card-present transaction rate:

- Contact your merchant account provider to ensure that they support card-present transactions.
- Contact PayPal Customer Service to request having your account set up properly for accepting and passing swipe data.

- If you plan to process card-present as well as card-not-present transactions, set up two separate Payflow Pro accounts. Request that one account be set up for card-present transactions, and use it solely for that purpose. Use the other for card-not-present transactions. Using the wrong account may result in downgrades.
- A Sale is the preferred method to use for card-present transactions. Consult with your acquiring bank for recommendations on other methods.

## Supported Processing Platforms

PayPal is certified to submit card-present transactions for the following processing platforms:

- American Express Phoenix
- First Data Merchant Services (FDMS) Nashville
- First Data Merchant Services (FDMS) North
- First Data Merchant Services (FDMS) South
- Global Payments Central
- Global Payments East
- Merchant e-Solutions
- Elavon (Formerly Nova)
- Paymentech Salem (New Hampshire)
- Paymentech Tampa
- TSYS Acquiring Solutions

## Card-present Transaction Syntax

Use the SWIPE parameter to pass the Track 1 or Track 2 data (the card's magnetic stripe information). Include either Track 1 or Track 2 data—not both (up to 80 alphanumeric characters). If Track 1 is physically damaged, the POS application can send Track 2 data instead.

The track data includes the disallowed = (equal sign) character. To enable you to use the data, the SWIPE parameter must include a length tag specifying the number of characters in the track data. For this reason, in addition to passing the track data, the POS application must count the characters in the track data and pass that number. Length tags are described in [“Using Special Characters in Values” on page 20](#). The length tag in the following example is [40].

Do not include the ACCT or EXPDATE parameters in card-present transactions, as this data is included in the SWIPE value.

This is an example card-present transaction parameter string:

```
"TRXTYPE=S&TENDER=C&PARTNER=PayPal&USER=SuperMerchant&PWD=SuperMerchant&SWIPE[40]=;4912000033330026=15121011000012345678?&AMT=21.00"
```

---

## Submitting Purchasing Card Transactions

A purchasing card (also referred to as a commercial card, corporate card, procurement card or business card) is a credit card that is issued at the request of an employer. It is usually reserved for business-related charges. The card issuer provides specialized reporting for this card type so the employer can monitor the use of the card. There is no method for determining whether a card is a purchase card or a commercial card based on the card number.

To obtain the best bank interchange rates for commercial cards, you must pass specific additional transaction information. Commercial card support and parameters vary from processor to processor. See [“Submitting Purchasing Card Level 2 and Level 3 Transactions” on page 97](#).

**NOTE:** Purchasing card transactions are not supported by the PayPal processor.

---

## Using Address Verification Service

To qualify for the lowest bank rate, you must pass address verification service information—street address and ZIP (postal) code.

Address verification service compares the submitted billing street address and zip code with the values on file at the cardholder’s bank. The response includes values for AVSADDR and AVSZIP: Y, N, or X for the match status of the customer’s street address and zip code. Y = match, N = no match, X = cardholder’s bank does not support address verification service. The address verification service result is for advice only. Banks do not decline transactions based on the address verification service result—the merchant makes the decision to approve or decline a transaction. Address verification service is supported by most US banks and some international banks.

**NOTE:** Address verification service checks only for a street number match, not a street name match, so 123 Main Street returns the same response as 123 Elm Street.

The international address verification service (IAVS) response indicates whether address verification service response is international (Y), USA (N), or cannot be determined (X).

---

## Processing Platforms Supporting Address Verification Service

**TABLE 4.12** Processing platforms supporting Address Verification Service

Processing Platform	American Express	Discover	Master Card	Visa
American Express Phoenix	X	—	—	—

**TABLE 4.12 Processing platforms supporting Address Verification Service**

Processing Platform	American Express	Discover	Master Card	Visa
American Express Brighton	X	—	—	—
FDMS Nashville	X	X	X	X
FDMS North	X	X	X	X
FDMS South	X	X	X	X
Global Payments Central	X	X	X	X
Global Payments East	X	X	X	X
Merchant e-Solutions	X	X	X	X
Elavon (formerly Nova)	X	X	X	X
Paymentech Salem (New Hampshire)	X	X	X	X
Paymentech Tampa	X	X	X	X
TSYS Acquiring Solutions (formerly Vital Processing Services)	X	X	X	X

See your processor's information in [“Processors Requiring Additional Transaction Parameters” on page 65](#) for information on their handling of address verification service.

## Example Address Verification Service Request Parameter List

This example request include the address verification service request parameters STREET and ZIP:

TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&&ACCT=5555555555554444&EXPDATE=0308&AMT=123.00&**STREET=5199 Maple&ZIP=98765**

## Example Address Verification Service Response

In this example, the address value matches the value in the bank's records, but the zip code does not. The AVSZIP response is N.

RESULT=0&PNREF=VXW412345678&RESPMSG=APPROVED&AUTHCODE=123456&AVSADDR=Y&**AVSZIP=N&IAVS=X**

## Card Security Code Validation

The card security code is a 3- or 4-digit number (not part of the credit card number) that is printed on the credit card. Because the card security code appears only on the card and not on receipts or statements, the card security code provides some assurance that the physical card is in the possession of the buyer.

This fraud prevention tool has various names, depending on the payment network. Visa calls it CVV2 and MasterCard calls it CVC2. To ensure that your customers see a consistent name, PayPal recommends use of the term *card security code* on all end-user materials.

**IMPORTANT:** To comply with credit card association regulations, do not store the CVV2 value.

On most cards, the card security code is printed on the back of the card (usually in the signature field). All or part of the card number appears before the card security code (567 in the example). For American Express, the 4-digit number (1122 in the example) is printed on the front of the card, above and to the right of the embossed account number. Be sure to explain this to your customers.

**FIGURE 4.1** Card security code



## Processing Platforms and Credit Cards Supporting Card Security Code

**NOTE:** You need to contact American Express to be set up to accept their CID card security code.

**TABLE 4.13** Processing platforms supporting card security code

Processing Platform	American Express	Discover	Master Card	Visa
American Express Phoenix	X	—	—	—
American Express Brighton	X	—	—	—
FDMS Nashville	X	X	X	X
FDMS North	X	X	X	X

**TABLE 4.13 Processing platforms supporting card security code**

Processing Platform	American Express	Discover	Master Card	Visa
FDMS South	X	X	X	X
Global Payments Central	X	X	X	X
Global Payments East	X	X	X	X
Merchant e-Solutions	X	X	X	X
Elavon (formerly Nova)	X	X	X	X
Paymentech Salem (New Hampshire)	X	X	X	X
Paymentech Tampa	X	X	X	X
TSYS Acquiring Solutions (formerly Vital Processing Services)	X	X	X	X





# 5

## Credit Card Testing

To test your application, direct all transactions to the host address for testing. For details, see [“Host Addresses” on page 13](#). Transactions directed to this URL are processed through PayPal’s simulated payment network, enabling you to test the configuration and operation of your application or storefront — no money changes hands. (You must activate your account and configure your application for live transactions before accepting real orders.)

---

### Testing Guidelines

The following are testing guidelines:

- While testing, use only the credit card numbers listed in this chapter. Other numbers produce an error.
- Expiration Date must be a valid date in the future (use the `mm/yy` format).
- To view the credit card processor that you have selected for testing, see **Account Info > Processor Info** in PayPal Manager.

---

### Credit Card Numbers Used for Testing

Use the following credit card numbers for testing. Any other card number produces a general failure.

**TABLE 5.1** *Test credit card numbers*

American Express	378282246310005
American Express	371449635398431
American Express Corporate	378734493671000
Diners Club	30569309025904
Diners Club	38520000023237
Discover	601111111111117
Discover	6011000990139424
JCB	3530111333300000
JCB	3566002020360505
MasterCard	5555555555554444

**TABLE 5.1 Test credit card numbers**

MasterCard	5105105105105100
Visa	4111111111111111
Visa	4012888888881881
Visa	422222222222

**NOTE:** Even though this number has a different character count than the other test numbers, it is the correct and functional number.

## Result Values in Responses

This section describes the result value responses that you receive.

### Testing Result Values in Responses

You can use the amount of the transaction to generate a particular result value. The table below lists the general guidelines for specifying amounts to submit in requests.

**TABLE 5.2 Results generated by the amount submitted**

Amount	Result
\$0 – \$1000	RESULT value 0 (Approved)
\$1001 – \$2000	Certain amounts in this range will return specific PayPal results, and can be generated by adding \$1000 to that RESULT value. For example, for RESULT value 13 (Referral), submit the amount 1013.  If the amount is in this range but does not correspond to a PayPal result supported by this testing mechanism, RESULT value 12 (Declined) is returned
\$2001+	RESULT value 12 (Declined)

## RESULT Values Returned Based on Transaction Amount

This table lists the RESULT values that you can generate using the amount of the transaction. To generate a specific code, submit an amount of 1000 plus the code number (for example, submit an amount of 1013 for a result code of 13).

**TABLE 5.3 Result values supporting the amount control**

Processing Platform	RESULT Values Available for Testing
American Express Phoenix American Express Brighton	0, 12, 13, 104, 1000

**TABLE 5.3 Result values supporting the amount control**

Processing Platform	RESULT Values Available for Testing
Elavon (Formerly Nova)	0, 12, 13, 104
First Data Merchant Services Nashville	0, 12, 13, 104
First Data Merchant Services North	0, 4, 5, 12, 13, 23, 24, 114, 1000
First Data Merchant Services South	0, 12, 13, 104
Global Payments Central	0, 4, 5, 8, 12, 13, 23, 24, 104, 111, 114, 1000
Global Payments East	0, 4, 5, 12, 13, 23, 24, 30, 100, 104, 114, 1000
Paymentech Salem (New Hampshire)	0, 12, 13, 104
Paymentech Tampa	0, 3, 4, 5, 12, 13, 23, 24, 1000
TSYS Acquiring Solutions (Formerly Vital Processing Services)	0, 4, 12, 13, 23, 104, 114, 1000

## Alternative Methods for Generating Specific RESULT Values

The table below shows another method for obtaining RESULT values. Non-zero RESULT values from processors are not returned by the servers, and therefore cannot be simulated using the amount. In some cases, you may get certain results using the RESULT value plus 1000 even though this table suggests another means of obtaining the RESULT value.

**TABLE 5.4 Obtaining RESULT value**

RESULT	Definition	How to test using Payflow Pro
0	Approved	Use an AMOUNT of \$1000 or less For all Processors except Global Payments Central (MAPP) and FDI Credit (C) and Force (F) transactions will always be approved regardless of dollar amount or card number
1	User authentication failed	Use an invalid PWD
2	Invalid tender	Use an invalid TENDER, such as G
3	Invalid transaction type	Use an invalid TRXTYPE, such as G
4	Invalid amount	Use an invalid AMOUNT, such as -1
5	Invalid merchant information	Use the AMOUNT 1005 - Applies only to the following processors: Global Payments East and Central, and American Express
7	Field format error	Submit a Delayed Capture transaction with no ORIGID
12	Declined	Use the AMOUNT 1012 or an AMOUNT of 2001 or more
13	Referral	Use the AMOUNT 1013

TABLE 5.4 Obtaining RESULT value

RESULT	Definition	How to test using Payflow Pro
19	Original transaction ID not found	Submit a Delayed Capture transaction with an invalid ORIGID
22	Invalid ABA number	Applies only to ACH transactions – submit an invalid ABA number (8 digits)
23	Invalid account number	Submit an invalid account number, for example, 0000000000000000
24	Invalid expiration date	Submit an invalid expiration date, for example, 0298
25	Transaction type not mapped to this host (Processor)	Submit a transaction for a card or tender you are not currently set up to accept, for example, a Diners card if you aren't set up to accept Diners
29	Invalid XML document	Pass a bad XML document (XMLPay users only)
30	Duplicate Transaction	Use the AMOUNT 1030 - Only applies to Global Payments East and Central processors
50	Insufficient funds available	Use the AMOUNT 1050 - Only applies to Paymentech
99	General error	Use the AMOUNT 1099 - Only applies to Global Payments East
100	Invalid transaction returned from host (Processor)	Use the AMOUNT 1100. Only applies to Global Payments East and Central
101	Time-out value too small	Set timeout value to 1
103	Error reading response from host (Processor)	Use the AMOUNT 1103
104	Timeout waiting for processor response	Use the AMOUNT 1104
105	Credit error	Attempt to credit an authorization
108	Void error	Attempt to void a captured authorization
111	Capture error	Capture an Authorization transaction twice or attempt to capture a transaction that is not an Authorization transaction
112	Failed AVS check	You cannot generate this RESULT value by submitting an amount of 1112, but must submit a value for Address Verification Service that will fail. In production, this error occurs only if your account is configured by PayPal customer service to use the "AVS Deny" feature
113	Cannot exceed sales cap	Applies to ACH transactions only
114	CVV2 Mismatch	Use the AMOUNT 1114. Only applies to TSYS Acquiring Solutions, Merchant e-Solutions, and Global Payments East and Central processors

**TABLE 5.4 Obtaining RESULT value**

RESULT	Definition	How to test using Payflow Pro
1000	Generic Host (Processor) Error	Use the AMOUNT 2000 - Does not apply to Elavon (formerly Nova), American Express, or Global Payments East processors

## Testing Address Verification Service

The Payflow testing server simulates Address Verification Service by returning a value for AVSADDR based on the first three characters of the submitted value for STREET.

The testing server returns a value for AVSZIP based on the submitted ZIP value as shown in the table.

If STREET starts with 667 or higher or begins with a non-numeric character, then the simulator returns AVSADDR=X, AVSZIP=X.

**TABLE 5.5 Testing AVSADDR**

Submitted Value for STREET	Example STREET Value	AVSADDR Result
000-333	24285 Elm	Y
334-666	49354 Main	N
667 or higher or begins with a non-numeric character	79232 Maple	X

**TABLE 5.6 Testing AVSZIP**

Submitted Value for ZIP	Example ZIP Value	AVSZIP Result
00000-50000	00382	Y
50001-99999	94303	N
Any value (if street address is 667 or higher or begins with a non-numeric character)	STREET=79232 Maple, ZIP=20304	X

## Testing Card Security Code

If you submit a value for the card security code, the cardholder's bank returns a Yes / No / Not Supported (Y / N / X) response on whether the value matches the number on file at the bank. Card security code is described in [“Card Security Code Validation” on page 46](#).

**NOTE:** Some processors will decline (RESULT value 12) a transaction if the card security code does not match without returning a CVV2MATCH value. Test the results and check with your processor to determine whether they support card security code checking.

For the testing server, the first three characters of the CVV2 value determine the CVV2MATCH result, as shown here.

**TABLE 5.7 Testing CVV2MATCH**

CVV2 Value	CVV2MATCH Value
000	Y
001–300	Y
301–600	N
601 or higher	X

# 6

## Responses to Transaction Requests

When a transaction finishes, the Payflow server returns a response string made up of name-value pairs. This is an example response string.

```
RESULT=0&PNREF=EFHP0D426A53&RESPMSG=APPROVED&AUTHCODE=25TEST&AVSADDR=Y&AVSZIP=N&CVV2MATCH=Y
```

### Contents of a Response to a Credit Card Transaction Request

The table below describes values that can be returned in response strings

**TABLE 6.8** Transaction response values

Field	Description
PNREF	Payflow Transaction ID, a unique number that identifies the transaction. Character length and limitations: 12 alphanumeric characters
PPREF	Unique transaction ID of the payment. Character length and limitations: 17-character string
RESULT	<p>The outcome of the attempted transaction. RESULT=0 means the transaction was approved.</p> <p><b>NOTE:</b> For Account Verification transactions, RESULT=0 with RESPMSG=Verified means a zero dollar authorization has been successfully performed.</p> <p>Any other value for RESULT indicates a decline or error.</p> <p>Character length and limitations: variable length, numeric</p>
CVV2MATCH	<p>Result of the card security code (CVV2) check. The issuing bank may decline the transaction if there is a mismatch. In other cases, the transaction may be approved despite a mismatch.</p> <p>Character length and limitations: 1 alpha character (Y, N, X, or no response)</p>
RESPMSG	<p>The response message returned with the transaction result. Exact wording varies. Sometimes a colon appears after the initial RESPMSG followed by more detailed information.</p> <p><b>NOTE:</b> For Account Verification transactions, RESULT=0 with RESPMSG=Verified means a zero dollar authorization has been successfully performed.</p> <p>Character length and limitations: variable, alphanumeric characters</p>

**TABLE 6.8 Transaction response values**

Field	Description
AUTHCODE	<p>Returned for Sale, Authorization, and Voice Authorization credit card transactions. AUTHCODE is the approval code obtained over the telephone from the processing network.</p> <p>AUTHCODE is required when submitting a Force (F) transaction.</p> <p>Character length and limitations: 6 alphanumeric characters</p>
AVSADDR	<p>Address Verification Service address response returned if you are using Address Verification Service. Address Verification Service address responses are for advice only. This process does not affect the outcome of the authorization.</p> <p>Character length and limitations: 1 alpha character (Y, N, X, or no response)</p>
AVSZIP	<p>Address Verification Service address response returned if you are using Address Verification Service. Address Verification Service address responses are for advice only. This process does not affect the outcome of the authorization.</p> <p>Character length and limitations: 1 alpha character (Y, N, X, or no response)</p>
IAVS	<p>International Address Verification Service address responses may be returned if you are using Address Verification Service. IAVS responses are for advice only. This value does not affect the outcome of the transaction. Indicates whether Address Verification Service response is international (Y), US (N), or cannot be determined (X). Client version 3.06 or later is required.</p> <p>Character length and limitations: 1 alpha character (Y, N, X, or no response)</p>
PROCAVS	<p>Address Verification Service response from the processor when you use Address Verification Service and send a VERBOSITY request parameter value of MEDIUM.</p> <p>Character length and limitations: 1 character</p>
PROCCVV2	<p>CVV2 response from the processor when you send a VERBOSITY request parameter value of MEDIUM.</p> <p>Character length and limitations: 1 character</p>
CORRELATIONID	<p>Value used for tracking this Direct Payment transaction.</p> <p>Character length and limitations: 13 alphanumeric characters</p>
AMEXID	<p>Unique transaction ID returned when VERBOSITY=MEDIUM or VERBOSITY=HIGH for tracking American Express CAPN transactions.</p> <p><b>NOTE:</b> American Express CAPN transactions only: used by merchants who authorize transactions through the payflow gateway but settle through a third-party solution.</p> <p>Character length and limitations: 15 numeric characters</p>



**TABLE 6.8 Transaction response values**

Field	Description
AMEXPOSDATA	Value returned when VERBOSITY=MEDIUM or VERBOSITY=HIGH.. Character length and limitations: 12 alphanumeric characters

## BALAMT Response Parameter and Stored Value Cards

BALAMT is a parameter that may be returned by transactions meeting Card Acceptance Processing Network (CAPN) requirements when that transaction involves a stored value card. Stored value cards typically are offered as “gift” cards, allowing the user to spend any amount up to the balance remaining on the card. BALAMT returns the balance on the card provided that the card is active and is not compromised. If the card is used to purchase merchandise exceeding the card balance, American Express declines the transaction and returns the card balance in BALAMT.

For details on American Express CAPN request transaction parameters, see [Appendix C, “Submitting Purchasing Card Level 2 and Level 3 Transactions.”](#)

### American Express CAPN Stored Value Card Example

The Authorization request is for a purchase of 123.00.

```
TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&ACCT=5555555555554444&EXPDATE=0308&AMT=123.00&STREET=5199
MAPLE&ZIP=94588
```

Because the response returns a BALAMT of 99.00, the Authorization is declined.

```
RESULT=12&PNREF=VXYZ01234567&RESPMSG=DECLINED&BALANCE=99.00&AVSADDR=Y&AVSZIP=N
```

## PNREF Value

The PNREF is a unique transaction identification number issued by PayPal that identifies the transaction for billing, reporting, and transaction data purposes. The PNREF value appears in the Transaction ID column in PayPal Manager reports.

- The PNREF value is used as the ORIGID value (original transaction ID) in Delayed Capture transactions (TRXTYPE=D), Credits (TRXTYPE=C), Inquiries (TRXTYPE=I), and Voids (TRXTYPE=V).
- The PNREF value is used as the ORIGID value (original transaction ID) value in reference transactions for Authorization (TRXTYPE=A) and Sale (TRXTYPE=S).

**NOTE:** The PNREF is also referred to as the Transaction ID in PayPal Manager.

## PNREF Format

The PNREF is a 12-character string of printable characters, for example:

- VADE0B248932
- ACRAF23DB3C4

**NOTE:** Printable characters also include symbols other than letters and numbers such as the question mark (?). A PNREF typically contains letters and numbers only.

The PNREF in a transaction response tells you that your transaction is connecting to PayPal.

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## RESULT Values and RESPMSG Text

The RESULT parameter and value is the first name-value pair returned in the response string. The value of RESULT indicates the overall status of the transaction attempt:

- A value of 0 (zero) indicates that no errors occurred and the transaction was approved.

**NOTE:** For Account Verification transactions, RESULT=0 with RESPMSG=Verified means a zero dollar authorization has been successfully performed.

- A value less than 0 indicates that a communication error occurred. In this case, no transaction is attempted.
- A value greater than 0 indicates a decline or error.

The response message (RESPMSG) provides a brief description for decline or error results.

## RESULT Values for Transaction Declines or Errors

For non-zero RESULT values, the response string includes a RESPMSG name-value pair. The exact wording of the RESPMSG (shown in **bold**) may vary. Sometimes a colon appears after the initial RESPMSG followed by more detailed information.

**TABLE 6.9** *Payflow Transaction RESULT Values and RESPMSG Text*

RESULT	RESPMSG and Explanation
0	<b>Approved</b>  <b>NOTE:</b> PayPal processor: Warning information may be returned that may be useful to the request application. See the PayPal API documentation on the PayPal website for information on corrective actions.

TABLE 6.9 Payflow Transaction RESULT Values and RESPMSG Text

RESULT	RESPMSG and Explanation
1	<b>User authentication failed.</b> Error is caused by one or more of the following: <ul style="list-style-type: none"> <li>• Login information is incorrect. Verify that USER, VENDOR, PARTNER, and PASSWORD have been entered correctly. VENDOR is your merchant ID and USER is the same as VENDOR unless you created a Payflow Pro user. All fields are case sensitive.</li> <li>• Invalid Processor information entered. Contact merchant bank to verify.</li> <li>• "Allowed IP Address" security feature implemented. The transaction is coming from an unknown IP address. See PayPal Manager online help for details on how to use Manager to update the allowed IP addresses.</li> <li>• You are using a test (not active) account to submit a transaction to the live PayPal servers. Change the host address from the test server URL to the live server URL</li> </ul>
2	<b>Invalid tender type.</b> Your merchant bank account does not support the following credit card type that was submitted.
3	<b>Invalid transaction type.</b> Transaction type is not appropriate for this transaction. For example, you cannot credit an authorization-only transaction
4	<b>Invalid amount format. Use the format: "#####.##" Do not include currency symbols or commas.</b>
5	<b>Invalid merchant information.</b> Processor does not recognize your merchant account information. Contact your bank account acquirer to resolve this problem.
6	<b>Invalid or unsupported currency code</b>
7	<b>Field format error.</b> Invalid information entered. See RESPMSG
8	<b>Not a transaction server</b>
9	<b>Too many parameters or invalid stream</b>
10	<b>Too many line items</b>
11	<b>Client time-out waiting for response</b>
12	<b>Declined.</b> Check the credit card number, expiration date, and transaction information to make sure they were entered correctly. If this does not resolve the problem, have the customer call their card issuing bank to resolve.
13	<b>Referral.</b> Transaction cannot be approved electronically but can be approved with a verbal authorization. Contact your merchant bank to obtain an authorization and submit a manual Voice Authorization transaction.
19	<b>Original transaction ID not found.</b> The transaction ID you entered for this transaction is not valid. See RESPMSG
20	<b>Cannot find the customer reference number</b>
22	<b>Invalid ABA number</b>

**TABLE 6.9 Payflow Transaction RESULT Values and RESPMSG Text**

<b>RESULT</b>	<b>RESPMSG and Explanation</b>
<b>23</b>	<b>Invalid account number.</b> Check credit card number and re-submit.
<b>24</b>	<b>Invalid expiration date.</b> Check and re-submit.
<b>25</b>	<b>Invalid Host Mapping.</b> You are trying to process a tender type such as Discover Card, but you are not set up with your merchant bank to accept this card type. <ul style="list-style-type: none"> <li>You are trying to process a tender type such as Discover Card, but you are not set up with your merchant bank to accept this card type.</li> <li>You are trying to process an Express Checkout transaction when your account is not set up to do so. Contact your account holder to have Express Checkout added to your account.</li> </ul>
<b>26</b>	<b>Invalid vendor account.</b> Login information is incorrect. Verify that USER, VENDOR, PARTNER, and PASSWORD have been entered correctly. VENDOR is your merchant ID and USER is the same as VENDOR unless you created a Payflow Pro user. All fields are case sensitive.
<b>27</b>	<b>Insufficient partner permissions</b>
<b>28</b>	<b>Insufficient user permissions</b>
<b>29</b>	<b>Invalid XML document.</b> This could be caused by an unrecognized XML tag or a bad XML format that cannot be parsed by the system.
<b>30</b>	<b>Duplicate transaction</b>
<b>31</b>	<b>Error in adding the recurring profile</b>
<b>32</b>	<b>Error in modifying the recurring profile</b>
<b>33</b>	<b>Error in canceling the recurring profile</b>
<b>34</b>	<b>Error in forcing the recurring profile</b>
<b>35</b>	<b>Error in reactivating the recurring profile</b>
<b>36</b>	<b>OLTP Transaction failed</b>
<b>37</b>	<b>Invalid recurring profile ID</b>
<b>50</b>	<b>Insufficient funds available in account</b>
<b>51</b>	<b>Exceeds per transaction limit</b>
<b>99</b>	<b>General error.</b> See RESPMSG.
<b>100</b>	<b>Transaction type not supported by host</b>
<b>101</b>	<b>Time-out value too small</b>
<b>102</b>	<b>Processor not available</b>
<b>103</b>	<b>Error reading response from host</b>

TABLE 6.9 Payflow Transaction RESULT Values and RESPMSG Text

RESULT	RESPMSG and Explanation
104	<b>Timeout waiting for processor response.</b> Try your transaction again.
105	<b>Credit error.</b> Make sure you have not already credited this transaction, or that this transaction ID is for a creditable transaction. (For example, you cannot credit an authorization.)
106	<b>Host not available</b>
107	<b>Duplicate suppression time-out</b>
108	<b>Void error.</b> See RESPMSG. Make sure the transaction ID entered has not already been voided. If not, then look at the Transaction Detail screen for this transaction to see if it has settled. (The Batch field is set to a number greater than zero if the transaction has been settled). If the transaction has already settled, your only recourse is a reversal (credit a payment or submit a payment for a credit)
109	<b>Time-out waiting for host response</b>
110	<b>Referenced auth (against order) Error</b>
111	<b>Capture error.</b> Either an attempt to capture a transaction that is not an authorization transaction type, or an attempt to capture an authorization transaction that has already been captured.
112	<b>Failed AVS check.</b> Address and ZIP code do not match. An authorization may still exist on the cardholder's account.
113	<b>Merchant sale total will exceed the sales cap with current transaction.</b> ACH transactions only.
114	<b>Card Security Code (CSC) Mismatch.</b> An authorization may still exist on the cardholder's account.
115	<b>System busy, try again later</b>
116	<b>VPS Internal error. Failed to lock terminal number</b>
117	<p><b>Failed merchant rule check.</b> One or more of the following three failures occurred:</p> <p>An attempt was made to submit a transaction that failed to meet the security settings specified on the PayPal Manager <i>Security Settings</i> page. If the transaction exceeded the Maximum Amount security setting, then no values are returned for AVS or CSC.</p> <p>AVS validation failed. The AVS return value should appear in the RESPMSG.</p> <p>CSC validation failed. The CSC return value should appear in the RESPMSG</p>
118	<b>Invalid keywords found in string fields</b>
120	<b>Attempt to reference a failed transaction</b>
121	<b>Not enabled for feature</b>

**TABLE 6.9 Payflow Transaction RESULT Values and RESPMSG Text**

RESULT	RESPMSG and Explanation
122	<b>Merchant sale total will exceed the credit cap with current transaction.</b> ACH transactions only.
125	<b>Fraud Protection Services Filter — Declined by filters</b>
126	<p><b>Fraud Protection Services Filter — Flagged for review by filters</b></p> <p><b>IMPORTANT:</b> RESULT value 126 indicates that a transaction triggered a fraud filter. This is not an error, but a notice that the transaction is in a review status. The transaction has been authorized but requires you to review and to manually accept the transaction before it will be allowed to settle.</p> <p>RESULT value 126 is intended to give you an idea of the kind of transaction that is considered suspicious to enable you to evaluate whether you can benefit from using the Fraud Protection Services.</p> <p>To eliminate RESULT 126, turn the filters off.</p> <p>For more information, see the fraud documentation for your payments solution.</p>
127	<b>Fraud Protection Services Filter — Not processed by filters</b>
128	<b>Fraud Protection Services Filter — Declined by merchant after being flagged for review by filters</b>
132	<b>Card has not been submitted for update</b>
133	<b>Data mismatch in HTTP retry request</b>
150	<b>Issuing bank timed out</b>
151	<b>Issuing bank unavailable</b>
200	<b>Reauth error</b>
201	<b>Order error</b>
600	<b>Cybercash Batch Error</b>
601	<b>Cybercash Query Error</b>
1000	<b>Generic host error.</b> This is a generic message returned by your credit card processor. The RESPMSG will contain more information describing the error.
1001	<b>Buyer Authentication Service unavailable</b>
1002	<b>Buyer Authentication Service — Transaction timeout</b>
1003	<b>Buyer Authentication Service — Invalid client version</b>
1004	<b>Buyer Authentication Service — Invalid timeout value</b>
1011	<b>Buyer Authentication Service unavailable</b>
1012	<b>Buyer Authentication Service unavailable</b>

**TABLE 6.9 Payflow Transaction RESULT Values and RESPMSG Text**

<b>RESULT</b>	<b>RESPMSG and Explanation</b>
<b>1013</b>	<b>Buyer Authentication Service unavailable</b>
<b>1014</b>	<b>Buyer Authentication Service — Merchant is not enrolled for Buyer Authentication Service (3-D Secure)</b>
<b>1016</b>	<b>Buyer Authentication Service — 3-D Secure error response received.</b> Instead of receiving a PARES response to a Validate Authentication transaction, an error response was received.
<b>1017</b>	<b>Buyer Authentication Service — 3-D Secure error response is invalid.</b> An error response is received and the response is not well formed for a Validate Authentication transaction.
<b>1021</b>	<b>Buyer Authentication Service — Invalid card type</b>
<b>1022</b>	<b>Buyer Authentication Service — Invalid or missing currency code</b>
<b>1023</b>	<b>Buyer Authentication Service — merchant status for 3D secure is invalid</b>
<b>1041</b>	<b>Buyer Authentication Service — Validate Authentication failed: missing or invalid PARES</b>
<b>1042</b>	<b>Buyer Authentication Service — Validate Authentication failed: PARES format is invalid</b>
<b>1043</b>	<b>Buyer Authentication Service — Validate Authentication failed: Cannot find successful Verify Enrollment</b>
<b>1044</b>	<b>Buyer Authentication Service — Validate Authentication failed: Signature validation failed for PARES</b>
<b>1045</b>	<b>Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid amount in PARES</b>
<b>1046</b>	<b>Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid acquirer in PARES</b>
<b>1047</b>	<b>Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid Merchant ID in PARES</b>
<b>1048</b>	<b>Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid card number in PARES</b>
<b>1049</b>	<b>Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid currency code in PARES</b>
<b>1050</b>	<b>Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid XID in PARES</b>
<b>1051</b>	<b>Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid order date in PARES</b>

**TABLE 6.9 Payflow Transaction RESULT Values and RESPMSG Text**

RESULT	RESPMSG and Explanation
1052	<b>Buyer Authentication Service — Validate Authentication failed: This PARES was already validated for a previous Validate Authentication transaction</b>

## RESULT Values for Communications Errors

A RESULT value less than zero indicates that a communication error occurred. In this case, no transaction is attempted.

A value of -1 or -2 usually indicates a configuration error caused by an incorrect URL or by configuration issues with your firewall. A value of -1 or -2 can also be possible if the PayPal servers are unavailable, or an incorrect server/socket pair has been specified. A value of -1 can also result when there are internet connectivity errors. Contact customer support regarding any other errors.

For information on firewall configuration, see [Chapter 2, “Downloading, Installing, and Activating.”](#)

Details of the response message may vary slightly from that shown in the table, depending on your SDK integration.

**TABLE 6.10 Communications RESULT values**

RESULT	Description
-1	<b>Failed to connect to host</b>
-2	<b>Failed to resolve hostname</b>
-5	<b>Failed to initialize SSL context</b>
-6	<b>Parameter list format error: &amp; in name</b>
-7	<b>Parameter list format error: invalid [ ] name length clause</b>
-8	<b>SSL failed to connect to host</b>
-9	<b>SSL read failed</b>
-10	<b>SSL write failed</b>
-11	<b>Proxy authorization failed</b>
-12	<b>Timeout waiting for response</b>
-13	<b>Select failure</b>
-14	<b>Too many connections</b>
-15	<b>Failed to set socket options</b>
-20	<b>Proxy read failed</b>



**TABLE 6.10 Communications RESULT values**

<b>RESULT</b>	<b>Description</b>
-21	Proxy write failed
-22	Failed to initialize SSL certificate
-23	Host address not specified
-24	Invalid transaction type
-25	Failed to create a socket
-26	Failed to initialize socket layer
-27	Parameter list format error: invalid [ ] name length clause
-28	Parameter list format error: name
-29	Failed to initialize SSL connection
-30	Invalid timeout value
-31	The certificate chain did not validate, no local certificate found
-32	The certificate chain did not validate, common name did not match URL
-40	Unexpected Request ID found in request
-41	Required Request ID not found in request
-99	Out of memory
-100	Parameter list cannot be empty
-103	Context initialization failed
-104	Unexpected transaction state
-105	Invalid name value pair request
-106	Invalid response format
-107	This XMLPay version is not supported
-108	The server certificate chain did not validate
-109	Unable to do logging
-111	The following error occurred while initializing from message file: <Details of the error message>
-113	Unable to round and truncate the currency value simultaneously



# A

## Processors Requiring Additional Transaction Parameters

This appendix lists both required and optional parameters supplementary to the common parameter set.

### In this Appendix

- [“American Express” on page 67](#)
- [“First Data Merchant Services \(FDMS\) Nashville” on page 76](#)
- [“First Data Merchant Services \(FDMS\) South” on page 77](#)
- [“First Data Merchant Services \(FDMS\) North” on page 77](#)
- [“Elavon \(Formerly Nova\)” on page 79](#)
- [“Paymentech” on page 79](#)
- [“TSYS Acquiring Solutions” on page 83](#)

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### American Express

In addition to the parameters in [Table 4.1](#), “[Credit card transaction request parameters](#),” American Express accepts the parameters described in this section. Parameters to meet American Express Card Acceptance and Processing Network (CAPN) requirements are described in [Table A.1](#). American Express (legacy) platform parameters are described in [Table A.2](#).

## American Express Additional Credit Card Parameters (CAPN)

**NOTE:** You should start coding to the CAPN parameters if you want to be able to impact what appears on AMEX statements and reports. With a few exceptions, most merchants in the United States follow CAPN requirements; international merchants do not. If you are not sure whether you should make the coding changes, contact Customer Service. See [“How to Contact Customer Support” on page 9](#) for contact information.

American Express Phoenix accepts the following parameters to meet CAPN requirements.

**TABLE A.1 American Express CAPN parameters**

Parameter	Description	Required	Type	Length
<b>Retail Transaction Advice Addendum Parameters (for SWIPE transactions)</b>				
L_DESCn	Description of this line-item (n is a line item number from 1 to 6)	No	Alpha-numeric	19
L_AMTn	Amount of this line-item (n is a line item number from 1 to 6) Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56) Examples: tip=3.00, convenience charge=2.00	No	Numeric	12
L_QTYn	Quantity of this line-item (n is a line item number from 1 to 6)	No	Numeric	3
<b>Internet Transaction Data Parameters</b>				
EMAIL	Account holder's email address	No	Alpha-numeric	60
PHONENUM	Account holder's telephone number	No	String	20
PHONETYPE	Telephone company provided ANI information identifier digits indicating the telephone call type Examples: cellular (61-63), payphone (27)	No	Alpha-numeric	2
CUSTHOSTNAME	Name of the server that the account holder is connected to Example: PHX.QW.AOL.COM	No	Alpha-numeric and special characters	60
CUSTBROWSER	Account holder's HTTP browser type Example: MOZILLA/4.0~(COMPATIBLE;~MSIE~5.0;~WINDOWS~95)	No	Alpha-numeric and special characters	60

**TABLE A.1** American Express CAPN parameters (Continued)

Parameter	Description	Required	Type	Length
CUSTIP	Account holder's IP address	No	Alpha-numeric and special characters	15
SHIPTOCOUNTRY	Numeric country code of ship-to country Example: USA: 840	No	Alpha-numeric	3
SHIPMETHOD	Shipping method code. The values are: 01 = Same day 02 = Overnight/next day 03 = Priority, 2 - 3 days 04 = Ground, 4 or more days 05 = Electronic delivery 06 - ZZ = Reserved for future use	No	Alpha-numeric	2
SKU	Merchant product SKU	No	Alpha-numeric	15
<b>AVS Parameters</b>				
STREET	Account holder's street address (number and street name)	No	Alpha-numeric	30
ZIP	Account holder's 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	String	9
PHONENUM	Account holder's telephone number. The formats are xxx-xxx-xxxx (US numbers) +xxxxxxxxxxxx (international numbers)	No	String	20
SHIPTOFIRSTNAME	First name in the shipping address	No	Alpha-numeric	30
SHIPTOLASTNAME	Last name in the shipping address	No	Alpha-numeric	30
SHIPTOSTREET	Shipping street address	No	Alpha-numeric	30
SHIPTOCOUNTRY	Numeric country code Example: USA: 840	No	Alpha-numeric	3

**TABLE A.1** American Express CAPN parameters (Continued)

Parameter	Description	Required	Type	Length
SHIPTOZIP	Shipping 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	Alpha-numeric	9
SHIPTOPHONENUM	Shipping telephone number	No	String	10
RECURRING	Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service APIs.  If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions.  If you subscribe to PayPal's Fraud Protection Services:  To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions.  To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Virtual Terminal. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.	No	Alpha-numeric Y or N	1
<b>Location Transaction Advice Addendum Parameters</b>				
MERCHANTNAME	Name of merchant	No		
MERCHANTSTREET	Merchant's street address (number and street name)	No	Alpha-numeric	30
MERCHANTCITY	Merchant's city	No		
MERCHANTSTATE	Merchant's state	No		
MERCHANTCOUNTRYCODE	Merchant's numeric country code Example: USA: 840	No	Alpha-numeric	3
MERCHANTZIP	Merchant's 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	Alpha-numeric	9
<b>Transaction Advice Detail Parameters</b>				

**TABLE A.1** American Express CAPN parameters (Continued)

Parameter	Description	Required	Type	Length
ADDLAMT $n$	Detail of a charge where $n$ is a value from 1 - 5 Use for additional breakdown of the amount Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56) Examples: tip=3.00, convenience charge=2.00	No	Numeric	12
ADDLAMTTYPE $n$	A 3-digit code indicating the type of the corresponding charge detail, where $n$ is a value from 1 - 5	No	Alpha-numeric	3
<b>Airline Passenger Data Parameters</b>				
AIR-DEPARTUREDATE	Departure date in the format YYYYMMDD.	No	Alpha-numeric	8
AIR-PASSENGERNAME	Name of the passenger in the following format with fields separated by a space: surname firstname middleinitial title	No	Alpha-numeric	60
AIR-ORIGIN	Airport code of the originating airport. For a list of airport codes, see <a href="http://www.world-airport-codes.com/alphabetical/airport-code/a.html">http://www.world-airport-codes.com/alphabetical/airport-code/a.html</a> . <b>NOTE:</b> Present day airport codes are three characters in length. The five character length is designed to allow for future expansion.	No	Alpha-numeric	5
AIR-DESTINATION	Destination airport code for the first segment of the trip; this is not necessarily the final destination. For example, if a passenger flies from STL to MIA with a layover at JFK, the destination airport is JFK. For a list of airport codes, see <a href="http://www.world-airport-codes.com/alphabetical/airport-code/a.html">http://www.world-airport-codes.com/alphabetical/airport-code/a.html</a> . <b>NOTE:</b> Present day airport codes are three characters in length. The five character length is designed to allow for future expansion.	No	Alpha-numeric	5

**TABLE A.1** American Express CAPN parameters (Continued)

Parameter	Description	Required	Type	Length
AIR- NUMBEROFCITIES	Number of unique cities in this trip including the cities of origin and destination, where a maximum value of 10 is allowed. For example, AIR- NUMBEROFCITIES is 3 for the following trip: DEN to LAX LAX to SFO SFO to DEN  If not provided, this value is equal to the number of AIR-ROUTINGCITY $n$ parameters.	No	Numeric	
AIR-ROUTINGCITY $n$	Airport codes of each city in this flight including cities of origin and destination, where $n$ is a value from 1 to 10.  For a list of airport codes, see <a href="http://www.world-airport-codes.com/alphabetical/airport-code/a.html">http://www.world-airport-codes.com/alphabetical/airport-code/a.html</a> .  <b>NOTE:</b> Present day airport codes are three characters in length. The five character length is designed to allow for future expansion.	No	Alpha- numeric	5
AIR-CARRIER $n$	Two character airline code for each unique airline in this flight, where $n$ is a value from 1 to 10.  If the same carrier is used for multiple segments of the trip, it is passed only once. For example, the two AIR-CARRIER $n$ values for the following trip are UA and AA: UA flight from IAD to DEN UA flight from DEN to LAX UA flight from LAX to SFO AA flight from SFO to DFW  For information about airlines codes, see <a href="http://en.wikipedia.org/wiki/Airline_codes-All">http://en.wikipedia.org/wiki/Airline_codes-All</a> .	No	Alpha- numeric	5
AIR-FAREBASIS	List discounts associated with the travel.	No	Alpha- numeric	24
AIR- NUMBEROFPASSENGER S	Number of passengers on this trip.	No	Numeric	
AIR-ISETICKET	If this is an electronic ticket. The values are: Y = yes N = no	No	Alpha- numeric	1
AIR- RESERVATIONCODE	Code assigned to the travel reservation before the ticket was purchased.	No	Alpha- numeric	15



**TABLE A.1** American Express CAPN parameters (Continued)

Parameter	Description	Required	Type	Length
<b>Other</b>				
FIRSTNAME	Account holder's first and last name. Note: Even though the parameter name indicates only the first name, this single parameter holds all of the person's name information (both first and last name, at a minimum).	No	Alpha-numeric	13
LASTNAME	Account holder's last name.	No	Alpha-numeric	13
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
ORDERDATE	Order date For example, July 28, 2003 is 072803. Format: mmddyy (with no slashes or dashes)	No	Numeric	7
ORDERDATETIME	Order time and date Format is either YYYY-MM-DD or YYYY-MM-DD HH:MI:SS (where HH is in 24-hour time). If the value does not conform to one of the formats or if the date is not valid (for example, 2004-17-35), then the transaction is rejected with: RESULT=7(SIG_FIELD_ERR) RESPMSG=Invalid ORDERTIME A truncated version of the ORDERTIME value (up to 7 characters) overwrites any value provided by ORDERDATE. If no value is provided, a NULL value is stored.	No		19
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction	No	Alpha-numeric	80

## American Express Additional Credit Card Parameters (Legacy)

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” American Express Phoenix accepts the following legacy parameters.

**NOTE:** Merchants in the United States follow the CAPN requirements and use the parameters described in [Table A.1](#); international merchants do not and instead use the legacy

parameters described in [Table A.2](#). There are a few exceptions. If you are not sure, contact Customer Service. See [“How to Contact Customer Support”](#) on [page 9](#) for contact information.

**TABLE A.2 American Express legacy parameters**

Parameter	Description	Required	Type	Length
DESC	Describes the transaction.	No	Alpha-numeric	Brighton 40 Other American Express platforms 23
DESC1	Describes the transaction.	No	Alpha-numeric	40
DESC2	Describes the transaction.	No	Alpha-numeric	40
DESC3	Describes the transaction.	No	Alpha-numeric	40
DESC4	Describes the transaction.	No	Alpha-numeric	40
FIRSTNAME	Account holder's first and last name. Note: Even though the parameter name indicates only the first name, this single parameter holds all of the person's name information (both first and last name, at a minimum).	No	Alpha-numeric	13
LASTNAME	Account holder's last name.	No	Alpha-numeric	13
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
ORDERDATE	Specifies an order date. For example, July 28, 2003 is 072803. Format: mmddyy (with no slashes or dashes)	No	Numeric	7

**TABLE A.2** American Express legacy parameters (Continued)

Parameter	Description	Required	Type	Length
ORDERDATE <sup>TIME</sup>	<p>Specifies an order time and date.</p> <p>Format is either            YYYY-MM-DD or            YYYY-MM-DD HH:MI:SS            (where HH is in 24-hour time). If the value does not conform to one of the formats or if the date is not valid (for example, 2004-17-35), then the transaction is rejected with:            RESULT=7(SIG_FIELD_ERR)            RESPMSG=Invalid ORDERTIME</p> <p>A truncated version of the ORDERTIME value (up to 7 characters) overwrites any value provided by ORDERDATE. If no value is provided, a NULL value is stored</p>	No		19
RECURRING	<p>Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service APIs.</p> <p>If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions.</p> <p>If you subscribe to PayPal's Fraud Protection Services:</p> <p>To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions.</p> <p>To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Manual Transactions page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.</p>	No	Alpha-numeric Y or N	1
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80

## First Data Merchant Services (FDMS) Nashville

### FDMS Nashville, Additional Credit Card Parameters

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” FDMS Nashville accepts the following parameters:

**TABLE A.3** FDMS Nashville additional parameters

Parameter	Description	Required	Type	Length
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
RECURRING	Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service API. If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions. If you subscribe to PayPal's Fraud Protection Services: To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions. To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Manual Transactions page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.	No	Alpha-numeric Y or N	1
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80

## First Data Merchant Services (FDMS) South

### FDMS South, Additional Credit Card Parameters

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” FDMS South accepts the following parameters:

**TABLE A.4** FDMS South additional parameters

Parameter	Description	Required	Type	Length
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80

## First Data Merchant Services (FDMS) North

### FDMS North, Additional Credit Card Parameters

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” FDMS North (also known as FDMS CardNet) accepts the parameters in [Table A.5](#).

**TABLE A.5** FDMS North additional parameters

Parameter	Description	Required	Type	Length
DESC	<p>Use the DESC* parameters to pass in your DBA name and other data describing the transaction. This information will be displayed in the end user’s statement.</p> <p>Note: FDMS North passes the descriptive data to the card associations with the following character lengths:</p> <ul style="list-style-type: none"> <li>• Visa: 25</li> <li>• MasterCard: 22</li> <li>• AMEX: 20</li> <li>• DISC: 22</li> </ul> <p>Some card associations truncate the value to 19 characters. If you have questions, consult the card association.</p>	No	Alpha-numeric	25
MERCHSVC	<p>Defaults to CITY (where the merchant outlet is located) for retail and to PHONENUM for non-retail. For example, 800 111-1111. Use uppercase characters. The first three positions must be numeric.</p>	No	Alpha-numeric	13

## Merchant e-Solutions

### Merchant e-Solutions, Additional Credit Card Parameters

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” Merchant e-Solutions accepts the following parameters:

**TABLE A.6** *TSYS Acquiring Solutions<sup>a</sup> additional parameters*

Parameter	Description	Required	Type	Length
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80
RECURRING	Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service APIs. If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions. If you subscribe to PayPal's Fraud Protection Services: To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions. To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Virtual Terminal page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.	No	Alpha-numeric Y or N	1

a. Formerly Vital Processing Services

## Elavon (Formerly Nova)

### Elavon, Additional Credit Card Parameters

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” Elavon accepts the following parameter:

**TABLE A.7** *Elavon additional parameters*

Parameter	Description	Required	Type	Length
RECURRING	<p>Identifies the transaction as recurring. This value does not activate PayPal’s Recurring Billing Service API.</p> <p>If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions.</p> <p>If you subscribe to PayPal’s Fraud Protection Services: To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions.</p> <p>To screen a prospective recurring customer, submit the transaction data using PayPal Manager’s Manual Transactions page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.</p>	No	Alpha-numeric Y or N	1

## Paymentech

### Paymentech Salem (New Hampshire), Additional Credit Card Parameters (CAPN)

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” Paymentech Salem (New Hampshire) accepts the parameters in [Table A.8](#) to meet CAPN requirements.

**TABLE A.8** *Additional Paymentech parameters to meet CAPN requirements*

Parameter	Description	Required	Type	Length
<b>Internet Transaction Data Parameters</b>				
EMAIL	Account holder’s email address	No	Alpha-numeric	60

**TABLE A.8 Additional Paymentech parameters to meet CAPN**

Parameter	Description	Required	Type	Length
PHONENUM	Account holder's telephone number	No	String	20
PHONETYPE	Telephone company provided ANI information identifier digits indicating the telephone call type Examples: cellular (61-63), payphone (27)	No	Alpha-numeric	2
CUSTHOSTNAME	Name of the server that the account holder is connected to Example: PHX.QW.AOL.COM	No	Alpha-numeric and special characters	60
CUSTBROWSER	Account holder's HTTP browser type Example: MOZILLA/4.0~(COMPATIBLE;~MSIE~5.0;~WINDOWS~95)	No	Alpha-numeric and special characters	60
CUSTIP	Account holder's IP address	No	Alpha-numeric and special characters	15
SHIPTOCOUNTRY	Numeric country code of ship-to country Example: USA: 840	No	Alpha-numeric	3
SHIPMETHOD	Shipping method code. The values are: 01 = Same day 02 = Overnight/next day 03 = Priority, 2 - 3 days 04 = Ground, 4 or more days 05 = Electronic delivery 06 - ZZ = Reserved for future use	No	Alpha-numeric	2
SKU	Merchant product SKU	No	Alpha-numeric	15
<b>AVS Parameters</b>				
STREET	Account holder's street address (number and street name)	No	Alpha-numeric	30



**TABLE A.8 Additional Paymentech parameters to meet CAPN**

Parameter	Description	Required	Type	Length
ZIP	Account holder's 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	String	9
PHONENUM	Account holder's telephone number. The formats are xxx-xxx-xxxx (US numbers) +xxxxxxxxxxxx (international numbers)	No	String	20
SHIPTOFIRSTNAME	First name in the shipping address	No	Alpha-numeric	30
SHIPTOLASTNAME	Last name in the shipping address	No	Alpha-numeric	30
SHIPTOSTREET	Shipping street address	No	Alpha-numeric	30
SHIPTOCOUNTRY	Numeric country code Example: USA: 840	No	Alpha-numeric	3
SHIPTOZIP	Shipping 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	Alpha-numeric	9
SHIPTOPHONENUM	Shipping telephone number	No	String	10
RECURRING	Identifies the transaction as recurring. This value does not activate the PayPal Recurring Billing Service API.  If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions.  If you subscribe to PayPal's Fraud Protection Services:  To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions.  To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Virtual Terminal. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.	No	Alpha-numeric Y or N	1

## Paymentech, Additional Credit Card Parameters (Legacy)

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” Paymentech accepts the following legacy parameters. For best AVS results, pass the city and state parameters in the parameter list.

**TABLE A.9 Additional Paymentech parameters (legacy)**

Parameter	Description	Required	Type	Length
CITY	Cardholder's billing city.	No	Alpha	20
BILLTOCOUNTRY	Cardholder's billing country code	Yes	Numeric	3
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
MERCHDESCR	Merchant descriptor. For example, ABCCMPY*FALLCATALOG	No	Alpha-numeric	22
MERCHSVC	Merchant telephone number. For example, 603-555-1212	No	Alpha-numeric	13
STATE	Cardholder's billing state.	No	Alpha	2
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80
RECURRING	Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service APIs.  If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions.  If you subscribe to PayPal's Fraud Protection Services:  To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions.  To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Manual Transactions page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.	No	Alpha-numeric Y or N	1

**TABLE A.9 Additional Paymentech parameters (legacy)**(Continued)

Parameter	Description	Required	Type	Length
RECURRINGTYPE	(Paymentech Tampa only) Type of transaction occurrence. The values are: F = First occurrence S = Subsequent occurrence (default)	No	Alpha	1

## TSYS Acquiring Solutions

### TSYS Acquiring Solutions, Additional Credit Card Parameters (CAPN)

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” TSYS Acquiring Solutions accepts the following parameters to meet CAPN requirements.

**TABLE A.10 Additional TSYS Acquiring Solutions parameters to meet CAPN requirements**

Parameter	Description	Required	Type	Length
<b>Retail Transaction Advice Addendum Parameters (for SWIPE transactions)</b>				
L_DESCh	Description of this line-item (n is a line item number from 1 to 6)	No	Alpha-numeric	19
L_AMTn	Amount of this line-item (n is a line item number from 1 to 6) Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56) Examples: tip=3.00, convenience charge=2.00	No	Numeric	12
L_QTYn	Quantity of this line-item (n is a line item number from 1 to 6)	No	Numeric	3
<b>Internet Transaction Data Parameters</b>				
EMAIL	Account holder’s email address	No	Alpha-numeric	60
PHONENUM	Account holder’s telephone number	No	String	20
PHONETYPE	Telephone company provided ANI information identifier digits indicating the telephone call type Examples: cellular (61–63), payphone (27)	No	Alpha-numeric	2

**TABLE A.10 Additional TSYS Acquiring Solutions parameters to meet CAPN requirements** (Continued)

Parameter	Description	Required	Type	Length
CUSTHOSTNAME	Name of the server that the account holder is connected to Example: PHX.QW.AOL.COM	No	Alpha-numeric and special characters	60
CUSTBROWSER	Account holder's HTTP browser type Example: MOZILLA/4.0~(COMPATIBLE;~MSIE~5.0;~WINDOWS~95)	No	Alpha-numeric and special characters	60
CUSTIP	Account holder's IP address	No	Alpha-numeric and special characters	15
SHIPTOCOUNTRY	Numeric country code of ship-to country Example: USA: 840	No	Alpha-numeric	3
SHIPMETHOD	Shipping method code. The values are: 01 = Same day 02 = Overnight/next day 03 = Priority, 2 - 3 days 04 = Ground, 4 or more days 05 = Electronic delivery 06 - ZZ = Reserved for future use	No	Alpha-numeric	2
SKU	Merchant product SKU	No	Alpha-numeric	15
<b>AVS Parameters</b>				
STREET	Account holder's street address (number and street name)	No	Alpha-numeric	30
ZIP	Account holder's 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	String	9
PHONENUM	Account holder's telephone number. The formats are xxx-xxx-xxxx (US numbers) +xxxxxxxxxxxx (international numbers)	No	String	20

**TABLE A.10 Additional TSYS Acquiring Solutions parameters to meet CAPN requirements** (Continued)

Parameter	Description	Required	Type	Length
SHIPTOFIRSTNAME	First name in the shipping address	No	Alpha-numeric	30
SHIPTOLASTNAME	Last name in the shipping address	No	Alpha-numeric	30
SHIPTOSTREET	Shipping street address	No	Alpha-numeric	30
SHIPTOCOUNTRY	Numeric country code Example: USA: 840	No	Alpha-numeric	3
SHIPTOZIP	Shipping 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	Alpha-numeric	9
SHIPTOPHONENUM	Shipping telephone number	No	String	10
RECURRING	Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service APIs.  If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions.  If you subscribe to PayPal's Fraud Protection Services:  To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions.  To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Virtual Terminal. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.	No	Alpha-numeric Y or N	1
<b>Location Transaction Advice Addendum Parameters</b>				
MERCHANTNAME	Name of merchant	No		
MERCHANTSTREET	Merchant's street address (number and street name)	No	Alpha-numeric	30
MERCHANTCITY	Merchant's city	No		
MERCHANTSTATE	Merchant's state	No		

**TABLE A.10 Additional TSYS Acquiring Solutions parameters to meet CAPN requirements** (Continued)

Parameter	Description	Required	Type	Length
MERCHANTCOUNTRYCODE	Merchant's numeric country code Example: USA: 840	No	Alpha-numeric	3
MERCHANTZIP	Merchant's 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	Alpha-numeric	9
<b>Transaction Advice Detail Parameters</b>				
ADDLAMT $n$	Detail of a charge where $n$ is a value from 1 - 5 Use for additional breakdown of the amount Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56) Examples: tip=3.00, convenience charge=2.00	No	Numeric	12
ADDLAMTTYPE $n$	A 3-digit code indicating the type of the corresponding charge detail, where $n$ is a value from 1 - 5	No	Alpha-numeric	3
<b>Airline Passenger Data Parameters</b>				
AIR-DEPARTUREDATE	Departure date in the format YYYYMMDD.	No	Alpha-numeric	8
AIR-PASSENGERNAME	Name of the passenger in the following format with fields separated by a space: surname firstname middleinitial title	No	Alpha-numeric	60
AIR-ORIGIN	Airport code of the originating airport. For a list of airport codes, see <a href="http://www.world-airport-codes.com/alphabetical/airport-code/a.html">http://www.world-airport-codes.com/alphabetical/airport-code/a.html</a> . <b>NOTE:</b> Present day airport codes are three characters in length. The five character length is designed to allow for future expansion.	No	Alpha-numeric	5

**TABLE A.10 Additional TSYS Acquiring Solutions parameters to meet CAPN requirements** (Continued)

Parameter	Description	Required	Type	Length
AIR-DESTINATION	<p>Destination airport code for the first segment of the trip; this is not necessarily the final destination. For example, if a passenger flies from STL to MIA with a layover at JFK, the destination airport is JFK.</p> <p>For a list of airport codes, see <a href="http://www.world-airport-codes.com/alphabetical/airport-code/a.html">http://www.world-airport-codes.com/alphabetical/airport-code/a.html</a>.</p> <p><b>NOTE:</b> Present day airport codes are three characters in length. The five character length is designed to allow for future expansion.</p>	No	Alpha-numeric	5
AIR-NUMBEROFCITIES	<p>Number of unique cities in this trip including the cities of origin and destination, where a maximum value of 10 is allowed. For example, AIR-NUMBEROFCITIES is 3 for the following trip:</p> <p>DEN to LAX LAX to SFO SFO to DEN</p> <p>If not provided, this value is equal to the number of AIR-ROUTINGCITY<math>n</math> parameters.</p>	No	Numeric	
AIR-ROUTINGCITY $n$	<p>Airport codes of each city in this flight including cities of origin and destination, where <math>n</math> is a value from 1 to 10.</p> <p>For a list of airport codes, see <a href="http://www.world-airport-codes.com/alphabetical/airport-code/a.html">http://www.world-airport-codes.com/alphabetical/airport-code/a.html</a>.</p> <p><b>NOTE:</b> Present day airport codes are three characters in length. The five character length is designed to allow for future expansion.</p>	No	Alpha-numeric	5

**TABLE A.10 Additional TSYS Acquiring Solutions parameters to meet CAPN requirements** (Continued)

Parameter	Description	Required	Type	Length
AIR-CARRIER $n$	Two character airline code for each unique airline in this flight, where $n$ is a value from 1 to 10.  If the same carrier is used for multiple segments of the trip, it is passed only once. For example, the two AIR-CARRIER $n$ values for the following trip are UA and AA: UA flight from IAD to DEN UA flight from DEN to LAX UA flight from LAX to SFO AA flight from SFO to DFW  For information about airlines codes, see <a href="http://en.wikipedia.org/wiki/Airline_codes-All">http://en.wikipedia.org/wiki/Airline_codes-All</a> .	No	Alpha-numeric	5
AIR-FAREBASIS	List discounts associated with the travel.	No	Alpha-numeric	24
AIR-NUMBEROFPASSENGERS	Number of passengers on this trip.	No	Numeric	
AIR-SETICKET	If this is an electronic ticket. The values are: Y = yes N = no	No	Alpha-numeric	1
AIR-RESERVATIONCODE	Code assigned to the travel reservation before the ticket was purchased.	No	Alpha-numeric	15
<b>Other</b>				
FIRSTNAME	Account holder's first and last name. Note: Even though the parameter name indicates only the first name, this single parameter holds all of the person's name information (both first and last name, at a minimum).	No	Alpha-numeric	13
LASTNAME	Account holder's last name.	No	Alpha-numeric	13
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
ORDERDATE	Order date For example, July 28, 2003 is 072803. Format: mmddyy (with no slashes or dashes)	No	Numeric	7



**TABLE A.10 Additional TSYS Acquiring Solutions parameters to meet CAPN requirements** (Continued)

Parameter	Description	Required	Type	Length
ORDERDATETIME	Order time and date Format is either YYYY-MM-DD or YYYY-MM-DD HH:MI:SS (where HH is in 24-hour time). If the value does not conform to one of the formats or if the date is not valid (for example, 2004-17-35), then the transaction is rejected with: RESULT=7(SIG_FIELD_ERR) RESPMSG=Invalid ORDERTIME A truncated version of the ORDERTIME value (up to 7 characters) overwrites any value provided by ORDERDATE. If no value is provided, a NULL value is stored.	No		19
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction	No	Alpha-numeric	80

## TSYS Acquiring Solutions, Additional Credit Card Parameters (Legacy)

In addition to the parameters in [Table 4.1](#), “Credit card transaction request parameters,” TSYS Acquiring Solutions accepts the following legacy parameters:

**TABLE A.11 TSYS Acquiring Solutions additional parameters (legacy)**

Parameter	Description	Required	Type	Length
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80

**TABLE A.11** *TSYS Acquiring Solutions additional parameters (legacy)* (Continued)

Parameter	Description	Required	Type	Length
RECURRING	<p>Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service API.</p> <p>If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions.</p> <p>If you subscribe to PayPal's Fraud Protection Services:</p> <p>To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions.</p> <p>To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Virtual Terminal page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.</p>	No	Alpha-numeric Y or N	1

# B

## Performing TeleCheck Electronic Check Transactions

This chapter describes Telecheck (electronic check) transaction processing and testing.

**NOTE:** TeleCheck transactions are not supported on the PayPal processor.

Paypal offers electronic check acceptance through TeleCheck. Before processing electronic check transactions, merchants must obtain an account through TeleCheck ([www.telecheck.com](http://www.telecheck.com)).

For information on:

- Performing credit card transactions, skip this chapter and see “[Credit Card Transactions](#)” on page 23.”
- Performing ACH transactions, contact your PayPal Sales Representative at [paymentsales@PayPal.com](mailto:paymentsales@PayPal.com)

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### TeleCheck Parameters

Parameters used for processing electronic checks through TeleCheck are described in [Table B.1](#). Required and optional parameters are noted.

**NOTE:** [Appendix E, “Additional Reporting Parameters,”](#) provides a list of parameters that you can pass for reporting purposes.

### Required Parameters

As a summary of [Table B.1](#), the following parameters are required for every electronic check transaction:

TRXTYPE  
TENDER  
CHKTYPE  
PARTNER  
VENDOR  
USER  
PWD  
AMT  
CITY  
DL or SS  
CHKNUM  
EMAIL  
MICR  
NAME  
STATE

STREET

ZIP

**TABLE B.1** *TeleCheck Parameters*

Parameter	Description	Required	Type	Length
AMT	This is the transaction amount. Default: U.S. dollars. The transaction amount should always specify a decimal, and the exact amount to the cent (for example, 34.00, instead of 34). Do not include comma separators in the amount. Use 1199.95 not 1,199.95.	Yes	Numeric US Dollars only.	7
CITY	Account holder's city	Yes	Alpha	20
COMMENT1	User-defined value for reporting and auditing purposes.	No	Alpha- numeric	128
COMMENT2	User-defined value for reporting and auditing purposes.	No	Alpha- numeric	128
CHKNUM	Account holder's next unused (available) check number	Yes	Numeric	7
CHKTYPE	Check type: P: personal (default) or C: company If CHKTYPE=P, then a value for either DL or SS must be passed as an identifier. If CHKTYPE=C, then the Federal Tax ID must be passed as the SS value.	Yes	Alpha	
DL	Driver's license number. If CHKTYPE=P, a value for either DL or SS must be passed as an identifier. Format: XXnnnnnnnn XX = State Code nnnnnnnn = DL Number	Yes	Alpha- numeric	33
DOB	Account holder's date of birth. Format: mmddyyyy. For example, July 28, 1965 is represented as 07281965.	No	Alpha- numeric	8
EMAIL	Account holder's e-mail address	Yes	Alpha- numeric	40
INVNUM	Check invoice number	No	Alpha- numeric	9
MICR	Magnetic Ink Check Reader. This is the entire line of numbers at the bottom of all checks. It includes the transit number, account number, and check number.	Yes	Alpha- numeric	35
NAME	Account holder's name as it appears on the check	Yes	Alpha- numeric	30

**TABLE B.1** *TeleCheck Parameters (Continued)*

Parameter	Description	Required	Type	Length
PARTNER	The authorized PayPal Reseller that registered you for the Payflow service provided you with a <b>Partner ID</b> . If you registered yourself, use <b>PayPal</b> . This parameter is case-sensitive.	Yes	Alpha-numeric	64
PHONENUM	Account holder's telephone number	No	Numeric	20
PWD	Case-sensitive 6- to 32-character password that you created while registering for the account.	Yes	Alpha-numeric	32
SS	Account holder's social security number. If CHKTYPE=P, a value for either DL or SS must be passed as an identifier. If CHKTYPE=C, the Federal Tax ID must be passed as the SS value.	No	Alpha-numeric	35
STATE	Account holder's state	Yes	Alpha	2
STREET	Account holder's street address	Yes	Alpha-numeric	30
TENDER	Tender type (method of payment). Use only the value <b>K</b> (electronic check).	Yes	Alpha	1
TRXTYPE	Type of transaction that should be processed. Allowed transaction types: Sale (S), Void (V), Inquiry (I).	Yes	Alpha	1
USER	Case-sensitive login ID for the Payflow Pro account that you created while registering for the account. In the future, each account will allow multiple users. This parameter will specify the user.	Yes	Alpha-numeric	64
VENDOR	Case-sensitive Vendor ID that you created while registering for the account.	Yes	Alpha-numeric	64
ZIP	Account holder's 5- to 9-digit postal code (called ZIP code in the USA). Do not use spaces, dashes, or non-numeric characters.	Yes	Alpha	9

## Testing TeleCheck Transactions

PayPal provides a test server to support testing and configuration. For information on the test server URL, see [“Host Addresses” on page 13](#).

### Example Test Transaction

```
"TRXTYPE=S&TENDER=K&CHKTYPE=P&PARTNER=<your Partner Name (typically
PayPal)>&VENDOR=<your Merchant Login Name>&USER=<your Merchant Login
```

Name>&PWD=<your Payflow password>&  
 AMT=42.00&STREET=1234 Main&CITY=Buffalo&DL=CA123456&CHKNUM=1001&EMAIL=<y  
 our e-mail address>&MICR=<Use a MICR value  
 from [Table B.2](#)>&NAME=Sally&STATE=CA&ZIP=95050"

**TABLE B.2** MICR values for testing

MICR	HOSTCODE	TeleCheck Result
1234567804390850001001	000800	Check Approved ECA
1234567804390850011001	000801	Check Approved No ECA
1234567804390850021001	000802	Check Approved ECA, No Guarantee
1234567804390850031001	000803	Check Approved No ECA, No Guarantee
1234567804390850041001	000804	Check Decline Negative Data
1234567804390850051001	000805	Check Decline Scoring
1234567804390850071001	000807	Check Failed

## Preparing for TeleCheck Production Transactions

Before going into production with your check integration, you must certify your storefront with TeleCheck. To begin the certification process, send an e-mail to [ica\\_certification@telecheck.com](mailto:ica_certification@telecheck.com). Be sure to include the following information:

- Your test website address where test transactions can be processed
- The name, e-mail address, and phone number of the person to contact about any needed corrections.

The certification process usually takes 2-3 days.

Use the host address of the live server described in [“Host Addresses” on page 13](#).

## Responses to Telecheck Transactions

When a transaction finishes, PayPal returns a response string made up of name-value pairs. For example:

RESULT=0&PNREF=VXYZ01234567&HOSTCODE=000500&RESPMSG=Approved

Telecheck transaction response values are described in [Table B.3](#).

**TABLE B.3** *Transaction responses common to all tender types*

Field	Description	Type	Length
RESULT	The outcome of the attempted transaction. A result of 0 (zero) indicates the transaction was approved. Any other number indicates a decline or error. RESULT values are described in <a href="#">“RESULT Values and RESPMSG Text” on page 58</a> .	Numeric	Variable
PNREF	PayPal Reference ID, a unique number that identifies the transaction. PNREF is described in <a href="#">“HOSTCODE Values” on page 95</a> .	Alpha-numeric	12
HOSTCODE	TeleCheck’s response code representing the results of the transaction authorization attempt. These values are described in <a href="#">“HOSTCODE Values” on page 95</a> .	Numeric	6
RESPMSG	A descriptive message associated with decline or error RESULTS. Response messages are described in <a href="#">Chapter , “Responses to Transaction Requests.”</a>	Alpha-numeric	Variable

## HOSTCODE Values

The HOSTCODE reflects the TeleCheck server result. The following tables describe the HOSTCODE values. TeleCheck requires that you display certain verbiage to the purchaser based on the returned HOSTCODE value—check with TeleCheck for details.

**NOTE:** Many of these codes will not be encountered under normal operating conditions—they are included as a troubleshooting aid. In the tables, the Frequency column indicates the likelihood that you will encounter the code.

**TABLE B.4** *Sale Approved HOSTCODE values*

Code	Response	Description	Frequency
000500	Sale Approved	Sale Approved by credit card network	Common
000501	Sale Time-out	Sale transaction time-out in credit card network	Common
000502	Test Card	Test card sale approved (never billed)	Common
000504	ANI Sale Approved	900/Telco sale approved	ANI bill only
000505	PB Sale Approved	Private billing sale approved	PB only
000800	Sale Approved	Direct Check Sale/ECA approved	Direct Check
000801	Sale Approved	Direct Check Sale approved (no ECA)	Direct Check
000802	Sale Approved	Direct Check Sale/ECA approved no guarantee	Direct Check
000803	Sale Approved	Direct Check Sale approved no ECA no guarantee	Direct Check

**TABLE B.5 Sale Declined HOSTCODE values**

Code	Response	Description	Frequency
000300	Sale Declined	Sale declined by credit card network	Common
000301	Sale Rejected	Sale does not meet risk standards	Common
000804	Check Declined	Direct Check Sale declined negative data	Direct Check
000805	Check Declined	Direct Check Sale Decline Scoring	Direct Check
000807	Check Failure	Direct Check Sale	Direct Check

**TABLE B.6 Inquiry Approved HOSTCODE values**

Code	Response	Description	Frequency
000400	OTB Approved	Preauthorization approved. AVS matches if provided.	Common
000401	No Response	No response from credit card network for preauth.	Common
000402	AVS Time-out	Preauthorization approved, AVS timed out	AVS only
000403	PB Approved	Private billing approved.	PB only
000410	Positive Record	Previous positive history.	Common
000420	Test card Approved	Test Card	Common
000421	OTB/AVS Approval	Preauthorization approved, AVS match	AVS only
000503	ANI Bill approved	900/TELCO billing approved	ANI bill only

**TABLE B.7 General Failure HOSTCODE values**

Code	Response	Description	Frequency
000100	General Failure	General host based failure	Rare
000101	Invalid Value	Invalid for one or more fields in transaction	Common
999999	Unknown Response	TeleCheck received an unknown response	Rare

**TABLE B.8 Inquiry Declined HOSTCODE values**

Code	Response	Description	Frequency
000200	Preauth Declined	Declined by credit card or Telco network (LIDB)	Common
000201	PIN Mismatch	Mismatch on PIN stored in TeleCheck database	Not Used



**TABLE B.8 Inquiry Declined HOSTCODE values**

Code	Response	Description	Frequency
000210	Negative Card Record	Temporary and permanent blocks. Prior OTB decline, sale decline or CS block Transaction falls below minimum scoring standards. Most frequently used for risk scoring declines, where a transaction falls below minimum standards.	Common
000215	Negative ANI Record	ANI previously blocked by CS	Common
000220	Chargeback Card	Card with chargeback history	Common
000225	Chargeback ANI	ANI with chargeback history	Common
000230	Exceed card profile <sup>a</sup>	Card has exceeded usage limits	Uncommon
000240	Too many Cards <sup>a</sup>	ANI has excessive number of cards	Uncommon
000250	Exceed ANI profile <sup>a</sup>	ANI has exceeded usage limits	Uncommon
000260	Too Many Phones <sup>a</sup>	Card has been used from excessive ANI	Uncommon
000270	OTB/AVS Decline	OTB decline and AVS mismatch	AVS OTB only
000271	OTB/AVS Decline	OTB approved and AVS mismatch	AVS OTB only
000272	OTB/AVS Decline	OTB decline and AVS match	AVS OTB only
000280	Risk Referral	Temporary Risk referral, AVS necessary	Common
000281	Card Not Qualified	Card does not meet minimum bank restrictions	Not Used
000282	PB Risk Referral	Private billing risk referral, AVS necessary	PB Only

a. This data is included in risk scoring decisions and a response of 210 has higher precedence.





# Submitting Purchasing Card Level 2 and Level 3 Transactions

PayPal Payment Services supports passing Purchasing Card Level 2 information (such as purchase order number, tax amount, and charge description) in the settlement file.

If additional required invoice information and line item details are included in the transaction, PayPal formats Purchasing Card Level 3 information in an appropriate format, for example, EDI (Electronic Data Interchange) 810 format as required by American Express during settlement processing.

---

## About Purchasing Cards

Purchasing Cards are used in the procurement process to eliminate paper-based order systems and associated costs, to improve control and accountability through itemized statements, to foster better risk controls through spending limits and buying from approved vendors, to reduce administrative overhead because employees are empowered to make small purchases, and to enable enterprises to negotiate better contract pricing and discounts with suppliers through the use of vendor detail reports.

To promote acceptance and usage of Purchasing Card programs, card issuers have established incentive rates for merchants. These rates are available for merchants who comply at either Level 2 or Level 3 (described in the next section). Transactions that comply at Level 1 qualify as normal credit card transactions.

**NOTE:** Card issuing institutions perform strict data verification on the enhanced data that is submitted with Level 2 or Level 3 transactions. Issuers may charge stiff penalties if fields contain either inaccurate or filler data. Only transactions that contain accurate data are eligible for the incentive rates.

---

## About Program Levels

The term Level does not apply to the card, but to the transaction data submitted for that card. Generally, a higher level means more detailed data for reporting.

[Table C.1](#) describes the transaction levels that are recognized.

**TABLE C.1    Transaction levels**

Level	Description
Level 1	Function as normal credit cards and are authorized and associated with normal transaction data in authorization and settlement. Any merchant who accepts credit cards supports this level.

**TABLE C.1 Transaction levels**

Level	Description
Level 2	Additional data regarding sales tax, customer code, purchase order number, invoice number are captured at the point of sale. In most cases, this information is combined with the merchant's tax ID number, state, and postal code data and is then passed through during settlement. For some processors and banks, however, a Level 2 authorization may include some of this data.
Level 3	Significant additional information such as line items, product codes, item descriptions, unit price, unit quantities, and ship-to postal data are added to the Level 2 data to provide optimal reporting to buyers and sellers. Settlement transactions typically carry Level 3 data.

Level 2 and Level 3 data is generally considered non-financial data. Lack of adequate data may cause a transaction to be downgraded.

PayPal generally requires up to Level 2 information in an Authorization transaction followed by additional Level 3 data in the associated Delayed Capture transaction. A Sale transaction should include all Level 3 data since it is authorized and later settled.

## Accepted BIN Ranges

Visa, MasterCard, and American Express publish specific *Bank Identification Number* (BIN) ranges for purchasing cards. Sometimes the determination of whether a card is a purchasing card is left to the processor (for example, TSYS Acquiring Solutions<sup>1</sup>). In other cases, the Payflow payments gateway makes the determination based on the BIN range (for example, FDMS South and American Express).

BIN ranges accepted for American Express Level 2 and Level 3 transactions are listed on page [102](#).

## About American Express Purchasing Card Transactions - Phoenix Processor

The information in this section applies to transactions processed by the American Express Phoenix Processor, not necessarily to all American Express cards. Level 2 and Level 3 purchasing card rules may differ for American Express card transactions processed by other processors such as Paymentech or First Data Nashville.

1. Formerly Vital Processing Services

## Supported Transaction Types

You can submit Level 3 parameters with Delayed Capture, Sale, Credit, or Force transactions. Level 3 data in Authorization transactions is ignored. The Payflow payments gateway decides whether a transaction meets Level 3 requirements during authorization.

Level 3 data is passed to the American Express Phoenix processor only during settlement.

## Avoiding Downgrade

If a transaction uses the purchasing card BIN range (see [“Accepted BIN Ranges” on page 100](#)) and contains a line item but does not include all mandatory Level 3 parameters, then the transaction succeeds but is processed as Level 2 or Level 1 during settlement (depending on which data was passed).

For downgraded transactions, with the VERBOSITY parameter set to MEDIUM or HIGH, a message like the following is returned in the ADDLMSG field:

```
Features not processed: PCARD L3 (missing or invalid: InvoiceNumber  
RequestorName)
```

— or —

```
Features not processed: PCARD L3 (line item 3 missing: Description)
```

For details on VERBOSITY, see Appendix D, [“VERBOSITY: Viewing Processor-Specific Transaction Results.”](#)

## Submitting Successful Level 3 Transactions

If a transaction uses the purchasing card BIN range, contains all mandatory Level 3 fields, and has at least one line item (with all mandatory line item fields), the Payflow payments gateway flags it as Level 3.

## Edit Check

PayPal performs an edit check on the transaction’s amount fields to ensure that all line item and tax amounts balance.

If the edit check fails, the transaction fails with **Result 4: Invalid Amount**.

To pass the edit check, the following relationship must be true:

Transaction Amount = Total Tax Amount + Total Freight Amount + Total Handling Amount + Total Line Item Amount.

Transaction Amount	Total amount for the transaction, AMT
Total Tax Amount	TAXAMT
Total Freight Amount	FREIGHTAMT, or, if not present, the summation of L_FREIGHTAMTn for all line items

Total Handling Amount	HANDLINGAMT, or, if not present, the summation of L_HANDLINGAMT <sub>n</sub> for all line items
Total Line Item Amount	Summation of L_QTY <sub>n</sub> * L_COST <sub>n</sub> for all line items (n as the line item number). For example, if there are 2 line items, then the Total Line Item Amount would be (L_QTY1 * L_COST1) + (L_QTY2 * L_COST2)

## Accepted BIN Ranges

The following BIN ranges are accepted for American Express Level 2 and Level 3 transactions:

37326  
37429  
37857  
37859  
37873  
37965

## American Express Phoenix Purchasing Card Transaction Processing

The American Express Phoenix platform supports Level 2 transaction data. The parameters to meet card acceptance and processor network (CAPN) requirements are described in [Table C.2](#). Level 2 parameters supported for legacy applications are described in [Table C.3](#).

**NOTE:** Most merchants in the United States follow CAPN requirements; international merchants do not. There are a few exceptions. If you are not sure, contact Customer Service. See [“How to Contact Customer Support” on page 9](#) for contact information.

## American Express Phoenix Level 2 Parameters (CAPN)

TABLE C.2 American Express Phoenix CAPN Level 2 parameters

Parameter	Description	Required	Type	Length
<b>CPC Level 2 Transaction Advice Addendum Parameters</b>				
PONUM	Purchase order number	Yes	Alpha-numeric	17
SHIPTOZIP	Ship-to postal code (called zip code in the USA). This field must contain one of the following values: <ul style="list-style-type: none"> <li>• Zip code of the destination where the merchandise is to be shipped</li> <li>• (If the above is not available) Zip code of the location where the merchant executed the transaction</li> </ul>	Yes	Alpha-numeric	15
TAXAMT	Total tax amount Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56)	No	Numeric	12
L_DESC1	Description of this line item; if not provided, DESC1 (if present) is used	No	Alpha-numeric	140
L_AMT1	Charge for this line item Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56)	No	Numeric	12
L_QTY1	Quantity of this line item	No	Numeric	3
L_DESC2	Description of this line item; if not provided, DESC2 (if present) is used	No	Alpha-numeric	40
L_AMT2	Charge for this line item Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56)	No	Numeric	12
L_QTY2	Quantity of this line item	No	Numeric	3
L_DESC3	Description of this line item; if not provided, DESC3 (if present) is used	No	Alpha-numeric	40
L_AMT3	Charge for this line item Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56)	No	Numeric	12
L_QTY3	Quantity of this line item	No	Numeric	3

**TABLE C.2 American Express Phoenix CAPN Level 2 parameters** (Continued)

Parameter	Description	Required	Type	Length
L_DESC4	Description of this line item; if not provided, DESC4 (if present) is used	No	Alpha-numeric	40
L_AMT4	Charge for this line item Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56)	No	Numeric	12
L_QTY4	Quantity of this line item	No	Numeric	3
<b>Location Transaction Advice Addendum Parameters</b>				
MERCHANTNAME	Name of merchant	No		38
MERCHANTSTREET	Merchant's street address (number and street name)	No	Alpha-numeric	38
MERCHANTCITY	Merchant's city	No		21
MERCHANTSTATE	Merchant's state	No		3
MERCHANTCOUNTRYCODE	Merchant's numeric country code Example: USA: 840	No	Alpha-numeric	3
MERCHANTZIP	Merchant's 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	Alpha-numeric	15
<b>Transaction Advice Detail Parameters</b>				
ADDLAMT $n$	Detail of a charge ( $n$ is the line item number, a value from 1 - 5); use for additional breakdown of the charge Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56) Examples: tip=3.00, convenience charge=2.00	No	Numeric	12
ADDLAMTTYPEn	A 3-digit code indicating the type of the corresponding charge detail ( $n$ is the line item number, a value from 1 - 5)	No	Alpha-numeric	3



## American Express Phoenix Level 2 Parameters (Legacy)

**TABLE C.3 American Express Phoenix Legacy Level 2 parameters**

Parameter	Description	Required	Type	Length
PONUM	Purchase order number	Yes	Alpha-numeric	17
SHIPTOZIP	Ship-to postal code (called zip code in the USA). This field must contain one of the following values: <ul style="list-style-type: none"> <li>• Zip code of the destination where the merchandise is to be shipped</li> <li>• (If the above is not available) Zip code of the location where the merchant executed the transaction</li> </ul>	Yes	Alpha-numeric	16
DESC1	Freeform description	No	Alpha-numeric	40
DESC2	Freeform description	No	Alpha-numeric	40
DESC3	Freeform description	No	Alpha-numeric	40
DESC4	Freeform description	No	Alpha-numeric	40

### Example American Express Phoenix Level 2 Transaction Parameter String

```
TRXTYPE=S&ACCT=372449635311003&AMT=20.06&CITY=Mountain
View&DESC1=desc1&DESC2=desc2&DESC3=desc3&DESC4=FRT10.00&EXPDATE=1209&NAME=C
ardholder
Name&PARTNER=PayPal&PONUM=12345&PWD=pwd&SHIPTOZIP=94045&STATE=CA&STREET=123
Main St.&TENDER=C&USER=user&ZIP=123451234
```

### American Express Phoenix Level 3 Parameters

The American Express Phoenix platform supports Level 3 transaction data. PayPal provides the Merchant Registration data values: Supplier Name, Supplier City, Supplier State, Supplier

## Submitting Purchasing Card Level 2 and Level 3 Transactions

### American Express Phoenix Purchasing Card Transaction Processing

Postal code, Merchant No, and Federal Tax ID. The merchant provides the values listed in [Table C.4](#).

**TABLE C.4 American Express Phoenix Level 3 Parameters**

AMEX Name (per American Express Specification)	Mandatory / Optional	Pay Flow SDK parameter	XMLPayRequest parameter (See <i>Payflow Pro XMLPay Developer's Guide</i> for detailed instructions.)	Format (min/max, type)
Supplier Reference Number	O	INVNUM Defaults to PNREF if not present.	Invoice.InvNum	1/9, AN
Authorization Code	M	AUTHCODE (Passed transparently for delayed capture. Use only with voice authorized force capture transactions)	ForceCapture.Authcode	
Requester Name	M	REQNAME	ExtData "REQNAME"	1/40, AN
Cardmember Reference No	M	PONUM	BillTo.PONum	1/17, AN
Ship to ZIP	M	SHIPTOZIP Ship-to postal code (called zip code in the USA). This field must contain one of the following values: <ul style="list-style-type: none"> <li>• Zip code of the destination where the merchandise is to be shipped</li> <li>• (If the above is not available) Zip code of the location where the merchant executed the transaction</li> </ul>	ShipTo.Address.ZIP	5/6, AN
Invoice Date	O	INVOICEDATE Defaults to Transaction Date if not present.	Invoice.Date	YYYYMM DD, string

TABLE C.4 American Express Phoenix Level 3 Parameters (Continued)

AMEX Name (per American Express Specification)	Mandatory / Optional	Pay Flow SDK parameter	XMLPayRequest parameter (See <i>Payflow Pro XMLPay Developer's Guide</i> for detailed instructions.)	Format (min/max, type)
Total Transaction Amount	M	AMT  The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).  <b>NOTE:</b> American Express Phoenix Level 3 processing requires that this parameter have a maximum field length of 8 for Level 3 processing.	Invoice.TotalAmt	1/8 NUM
Total Tax Amount	M	TAXAMT  The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	Invoice.TaxAmt	1/6 NUM
Charge Description	O	DESC Defaults to "NO"	Invoice.Description	1/40, AN
Total Freight Amt	O	FREIGHTAMT	Invoice.FreightAmt	1/15, AN
Total Handling Amt	O	HANDLINGAMT	Invoice.HandlingAmt	1/15, AN
Quantity Invoiced	M	L_QTYn	Item.Quantity	1/10, NUM
Unit of Measure	M	L_UOMn	Item.UnitOfMeasurement	2/2, AN
Unit Price	M	L_COSTn	Item.UnitPrice	1/15, NUM
Item Description	M	L_DESCn	Item.Description	1/80, AN
Supplier Catalog No	M	L_CATALOGNUMn	Item.CatalogNumber	1/20, AN
Cost Center No	M	L_COSTCENTERNUMn	Item.CostCenterNumber	1/30, AN
Supplier Stock Keeping Unit Number	O	L_PRODCODEn	Item.SKU	1/30, AN
Universal Product Code	O	L_UPCn	Item.UPC	1/30, AN
Item Tax Amount	O	L_TAXAMTn	Item.TaxAmt	1/6, NUM

## Submitting Purchasing Card Level 2 and Level 3 Transactions

First Data Merchant Services (FDMS) Nashville Purchasing Card Transaction Processing

**TABLE C.4 American Express Phoenix Level 3 Parameters** (Continued)

AMEX Name (per American Express Specification)	Mandatory / Optional	Pay Flow SDK parameter	XMLPayRequest parameter (See <i>Payflow Pro XMLPay Developer's Guide</i> for detailed instructions.)	Format (min/max, type)
Freight Amount	O	L_FREIGHTAMTn	Item.FreightAmt	1/15, NUM
Handling Amount	O	L_HANDLINGAMTn	Item.HandlingAmt	1/15, NUM
Tracking Number	O	L_TRACKINGNUMn	Item.TrackingNumber	1/30, AN
Drop-off Address1	O	L_PICKUPSTREETn	Item.PickUp.Address.Street	1/40, AN
Drop-off City	O	L_PICKUPCITYn	Item.PickUp.Address.City	2/30, AN
Drop-off State	O	L_PICKUPSTATEn	Item.PickUp.Address.State	2/2, AN
Drop-off ZIP	O	L_PICKUPZIPn	Item.PickUp.Address.ZIP	3/15, AN
Drop-off Country	O	L_PICKUPCOUNTRYn	Item.PickUp.Address.Country	2/3, AN
UNSPSC Code	O	L_UNSPSCCODEn	Item.UNSPSCCode	1/30, AN

### Example American Express Phoenix Level 3 Transaction Parameter String

```
TRXTYPE=S&TENDER=C&partner=partner&PWD=test&USER=test&ACCT=378734493671000&EXPDATE=12
13&AMT=5.00&COMMENT1=PCARD Test&COMMENT2=Testing&ZIP=940151234&STREET=123 Lincoln
WAY&CVV2=052&SHIPTOCOUNTRY=USA&CUSTCODE=12345&FREIGHTAMT=1.00&ORDERDATE=021700&HANDLI
NGAMT=1.00&PONUM=1234567890123456789012345&SHIPFROMZIP=940151234&SHIPTOZIP=940151234&
TAXAMT=1.00&TAXEXEMPT=N&L_UPC1=PN&L_QTY1=1&L_DESC1=Test
123&L_UOM1=12&L_COST1=1.00&L_PRODCODE1=123&L_COSTCENTERNUM1=55&L_TAXAMT1=0&L_QTY2=1&L
_UPC1=PN&L_DESC2=Test&L_UOM2=12&L_COST2=1.00&L_PRODCODE2=1234&L_COSTCENTERNUM2=55&L_T
AXAMT2=1.00&REQNAME=Robert&SHIPTOZIP=543210&INVNUM=123456789&VERBOSITY=2
```

## First Data Merchant Services (FDMS) Nashville Purchasing Card Transaction Processing

**NOTE:** FDMS Nashville supports Level 2 transaction processing only.

The following parameters are recommended to obtain the best rates for purchasing card transactions with FDMS Nashville.

**TABLE C.5 FDMS commercial card parameters**

Parameter	Description	Required	Type	Length
COMMCARD	One-character value representing type of purchasing card account number sent. P Purchase Card C Corporate Card B Business Card U Unknown (default) N None	No (defaults to U - Unknown)	Alpha-numeric	1
DUTYAMT	Sometimes called import tax. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	No	Currency	10
FREIGHTAMT	Freight amount. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56)..	No	Currency	10
PONUM	Purchase order number.	No (but provides best rate when used)	Alpha-numeric	25
SHIPTOZIP	Ship to postal code (called zip code in the USA).	No (but provides best rate when used)	Numeric	9
TAXAMT	Tax amount. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56)..	No (but provides best rate when used)	Currency	10
TAXEXEMPT	Is the customer tax exempt? Y or N	No	Alpha	1

## First Data Merchant Services (FDMS) North Purchasing Card Transaction Processing

The following parameters are recommended to obtain the best rates for Level 2 and Level 3 purchasing card transactions with FDMS North:

**TABLE C.6** *FDMS North purchasing card parameters*

Parameter	Description	Required	Type	Length
SHIPTOCOUNTRY	Destination country code. Visa and MasterCard are different. Refer to country code tables. (See <a href="#">Appendix F, “ISO Country Codes”</a> )	No	Alpha	4
DISCOUNT	Discount amount on total sale	No	Currency	10
DUTYAMT	Sometimes called import tax. If the currency uses a decimal, then the value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56) See “ <a href="#">FDMS South Currency Codes and Decimal Positions</a> ” on page 166.	No	Currency	10
FREIGHTAMT	Freight amount If the currency uses a decimal, then the value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See “ <a href="#">FDMS South Currency Codes and Decimal Positions</a> ” on page 166.	No	Currency	10
PONUM	Purchase order number / merchant-related data.	No (but provides best rate when used)	Alpha-numeric	25
SHIPFROMZIP	The postal code (called zip code in the USA) from which shipping occurs.	No (but provides best rate when used)	Numeric	9
SHIPTOZIP	Ship to postal code (called zip code in the USA).	No (but provides best rate when used)	Numeric	9

**TABLE C.6** FDMS North purchasing card parameters (Continued)

Parameter	Description	Required	Type	Length
TAXAMT	Tax amount. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See <a href="#">“FDMS South Currency Codes and Decimal Positions”</a> on page 166.	No (but provides best rate when used)	Currency	10

## FDMS North Purchasing Card Line Item Parameters

Line item data (Level 3) describes the details of the item purchased and can be passed for each transaction. The convention for passing line item data in name/value pairs is that each name/value starts with L\_ and ends with n where n is the line item number. For example L\_QTY0=1 is the quantity for line item 0 and is equal to 1, with n starting at 0. In addition, the SHIPFROMZIP parameter is required for Level 3 transactions.

**TABLE C.7** FDMS North line item parameters

Parameter	Description	Required	Type	Length
L_QTYn	Quantity (whole units only).	Yes	Numeric	10
L_COMMCODEn	Item commodity code.	No	Alpha-numeric	12
L_DESCn	Item description.	No	Alpha-numeric	35
L_UOMn	Item unit of measure. See <a href="#">“Units of Measure”</a> on page 161.	No	Alpha	3
L_COSTn	Cost per item, excluding tax.	No	Currency	10
L_UPCn	Supplier specific product code.	No	Alpha-numeric	12
L_DISCOUNTn	Discount per line item.	No	Currency	10
L_AMTn	Total line item amount including tax and discount. + for debit, - for credits.	Yes	Currency	10
L_TAXAMTn	Line item tax amount.	No	Currency	10

## First Data Merchant Services South (FDMS) Purchasing Card Transaction Processing

The following parameters are recommended to obtain the best rates for Level 2 and Level 3 purchasing card transactions with FDMS South.

**TABLE C.8 FDMS South Level 2 and Level 3 purchasing card parameters**

Parameter	Description	Required	Type	Length
CITY	Cardholder's city.	No	Alpha	13
SHIPTOCOUNTRY	Destination Country Code. Visa and MasterCard are different. Refer to Country Code tables. (See <a href="#">Appendix F, "ISO Country Codes"</a> )	No	Alpha	4
CUSTCODE	Customer code/customer reference ID.	No	Alpha-numeric	17
DISCOUNT	Discount amount on total sale.	No	Currency	10
DUTYAMT	Sometimes called import tax. If the currency uses a decimal, then the value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See <a href="#">"FDMS South Currency Codes and Decimal Positions"</a> on page 166.	No	Currency	10
FIRSTNAME	Cardholder's first name.	No	Alpha	15
FREIGHTAMT	Freight amount. If the currency uses a decimal, then the value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56)). See <a href="#">"FDMS South Currency Codes and Decimal Positions"</a> on page 166.	No	Currency	10
INVNUM	Merchant invoice number. This reference number (PNREF—generated by PayPal) is used for authorizations and settlements. The acquirer decides if this information will appear on the merchant's bank reconciliation statement.	No	Alpha-numeric	9
LASTNAME	Cardholder's last name.	No	Alpha	15
ORDERDATE	Order date. Format is mmddyy with no slashes or dashes. For example, July 28, 2003 is 072803.	No	Numeric	6



**TABLE C.8 FDMS South Level 2 and Level 3 purchasing card parameters** (Continued)

Parameter	Description	Required	Type	Length
ORDERTIME	Order time and date. Format is either YYYY-MM-DD or YYYY-MM-DD HH:MI:SS (where HH is in 24-hour time).  If the value does not conform to one of the formats or if the date is not valid (for example, 2004-17-35), then the transaction is rejected with a RESULT=7 (SIG_FIELD_ERR) and RESPMSG=Invalid ORDERTIME.  A truncated version of the ORDERTIME value (up to 7 characters) overwrites any value provided by ORDERDATE.  If no value is provided, a NULL value is stored.	No	Alphanumeric	19
PONUM	Purchase order number / merchant-related data.	No (but provides best rate when used)	Alpha-numeric	25
SHIPFROMZIP	The postal code (called zip code in the USA) from which shipping occurs.	No (but provides best rate when used)	Numeric	9
SHIPTOZIP	Ship to postal code (called zip code in the USA).	No (but provides best rate when used)	Numeric	9
STATE	Cardholder's state.	No	Alpha	2
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80
TAXAMT	Tax amount.  The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See <a href="#">“FDMS South Currency Codes and Decimal Positions”</a> on page 166.	No (but provides best rate when used)	Currency	10
TAXEXEMPT	Is the customer tax exempt? Y or N	No	Alpha	1

## FDMS South Line Item Parameters

Line item data (Level 3) describes the details of the item purchased and can be passed for each transaction. The convention for passing line item data in name-value pairs is that each

## Submitting Purchasing Card Level 2 and Level 3 Transactions

### First Data Merchant Services South (FDMS) Purchasing Card Transaction Processing

name-value starts with L\_ and ends with *n* where *n* is the line item number. For example L\_QTY0=1 is the quantity for line item 0 and is equal to 1, with *n* starting at 0.

**TABLE C.9 FDMS South purchasing card line item parameters**

Parameter	Description	Required	Type	Length
L_QTY $n$	Quantity (whole units only).	Yes	Numeric	10
L_COMMCODE $n$	Item commodity code.	No	Alpha-numeric	12
L_DESC $n$	Item description.	No	Alpha-numeric	35
L_UOM $n$	Item unit of measure. See <a href="#">“Units of Measure” on page 161</a> .	No	Alpha	3
L_COST $n$	Cost per item, excluding tax.	No	Currency	10
L_PRODCODE $n$	Supplier-specific product code.	No	Alpha-numeric	12
L_DISCOUNT $n$	Discount per line item.	No	Currency	10
L_AMT $n$	Total line item amount including tax and discount. + for debit, - for credits.	Yes	Currency	10
L_TAXAMT $n$	Line item tax amount.	No	Currency	10

### Example FDMS South Purchasing Card Level 2 and 3 Parameter String

```
"TRXTYPE=S&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&
PWD=x1y2z3&STATE=CA&FIRSTNAME=John&LASTNAME=Smith&CITY=Redwood&SHIPTOCOUNTRY=USA&CUSTCODE=12345&DISCOUNT=.25&DUTYAMT=34.00&FREIGHTAMT=12.00&INVNUM=123456789&ORDERDATE=021700&PONUM=1234567890123456789012345&SHIPFROMZIP=940151234&SHIPTOZIP=94065&TAXAMT=1.00&TAXEXEMPT=Y"
```

### Example FDMS South Line Item Parameter String

```
"TRXTYPE=S&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&
PWD=x1y2z3&STATE=CA&FIRSTNAME=John&LASTNAME=Smith&CITY=Redwood&SHIPTOCOUNTRY=USA&CUSTCODE=12345&DISCOUNT=.25&DUTYAMT=34.00&FREIGHTAMT=12.00&INVNUM=123456789&ORDERDATE=021700&PONUM=1234567890123456789012345&SHIPFROMZIP=940151234&SHIPTOZIP=94065&TAXAMT=1.00&TAXEXEMPT=Y&L_QTY1=1&L_UPC1=PN&L_DESC1=Test&L_UOM1=INQ&L_COST1=1.00&L_PRODCODE1=12345&L_DISCOUNT1=.25&L_AMT1=.75&L_TAXAMT1=0"
```

## Global Payments - Central Purchasing Card Transaction Processing

Global Payments - Central (MAPP) supports Level 2 parameters for MasterCard, and Visa Sale, Credit, and Delayed Capture transactions.

### Global Payments - Central Level 2 Parameters

Both Level 2 parameters in [Table C.10](#) are required to get the discount rate. You must pass the following parameters.

**TABLE C.10 Global Payments - Central Level 2 parameters**

Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Code	M	CUSTCODE	1/16, Char
Sales Tax	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	NUM

### Example Global Payments - Central Level 2 Visa or MasterCard Transaction Parameter String

```
TRXTYPE=S&ACCT=5105105105105100&AMT=20.10&CITY=Mountain View&COMMENT1=L2
Testing&EXPDATE=1209&NAME=Cardholder
Name&PARTNER=PayPal&PWD=pwd&STATE=CA&STREET=123 Main
St.&TENDER=C&USER=user&ZIP=94043&CUSTCODE=123456&TAXAMT=1.34
```

## Global Payments - East Purchasing Card Transaction Processing

Global Payments - East (NDCE) supports Level 2 parameters for American Express, MasterCard, and Visa.

## Global Payments - East Level 2 Parameters

Both Level 2 parameters listed in [Table C.11](#) are required to get the discount rate. You must pass these parameters in Authorization and Sale transactions.

**TABLE C.11 Global Payments - East Level 2 parameters**

Data Items	Payflow Parameter	Required	Type	Length (min/ max)
Customer Code	CUSTCODE	Yes	char	1/16
Sales Tax	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	Yes	numeric	

## Example Global Payments - East Level 2 Visa or MasterCard Transaction Parameter String

```
TRXTYPE=S&ACCT=5105105105105100&AMT=20.10&CITY=Mountain View&COMMENT1=L2
Testing&EXPDATE=1209&NAME=Cardholder
Name&PARTNER=PayPal&PWD=pwd&STATE=CA&STREET=123 Main
St. &TENDER=C&USER=user&ZIP=94043&CUSTCODE=123456&TAXAMT=1.34
```

Global Payments - Central (MAPP) supports Level 2 for MasterCard, and Visa Sale, Credit, and Delayed Capture transactions.

## Merchant e-Solutions Purchasing Card Transaction Processing

### Merchant e-Solutions Level 2 Parameters

Merchant e-Solutions supports MasterCard and Visa for Level 2 processing.

Merchant e-Solutions indicates in the authorization response whether or not the credit card in the transaction is a commercial card. Based in the commercial card indicator, PayPal will format the Level 2 information in the settlement request.

**Merchant e-Solutions Level 2 Transaction Data**

Level 2 values marked as mandatory in [Table C.12](#) are required to get the discount rate.

**TABLE C.12 Merchant e-Solutions Level 2 parameters**

Merchant e-Solutions Name	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Cust Ref ID	M	PONUM	1/17, AN
Tax Amount	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM
Tax Amount Identifier	O	TAXEXEMPT, Y or N	1, A

**Example Merchant e-Solutions Level 2 Visa Transaction Parameter String**

```
TRXTYPE=S&ACCT=4111111111111111&AMT=20.02&CITY=Mountain View&COMMENT1=L2
Testing&EXPDATE=1209&INVNUM=661254585&NAME=CardHolder
Name&PARTNER=PayPal&PWD=pwd&STATE=CA&STREET=123 Main
St.&TAXAMT=1.01&TAXEXEMPT=N&TENDER=C&USER=user&ZIP=94043
```

**Merchant e-Solutions Level 3 MasterCard Parameters**

To qualify for Level 3, the authorization response for the transaction must have the commercial card indicator set and one or more line items should be present in the Delayed Capture or Sale request.

Level 2 transaction parameters marked as mandatory are required for Level 3 transactions. Level 3 transactions that do not include the mandatory Level 2 values are rejected.

**IMPORTANT:** *The values required for Level 3 status vary by bank, so contact your bank for details.*

**Merchant e-Solutions Level 2 MasterCard Parameters Required for Level 3 Transactions****TABLE C.13 Merchant e-Solutions Level 2 MasterCard parameters for Level 3 line item transactions**

Merchant e-Solutions Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Purchase Identifier	M	PONUM Value of TransID is sent if no value is provided.	25, AN
Tax Amt	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM
Lcl Tax	O	LOCALTAXAMT	12, NUM
Lcl Tax Incl Flag	O	TAXEXEMPT, Y or N	1, AN
National Tax Amt	O	NATIONALTAXAMT You may omit this parameter if there is no such tax.	12, NUM
Purch Ord #/Cust Ref ID	M	INVNUM Value of PNREF is sent if no value is provided.	9, AN

**Merchant e-Solutions Level 3 MasterCard Extended Data**

The parameters listed in [Table C.14](#) apply to Level 3 MasterCard transactions as extended data.

**TABLE C.14 Merchant e-Solutions Level 3 MasterCard Extended Data**

Merchant e-Solutions Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Freight Amt	O	FREIGHTAMT	12, NUM
Duty Amt	O	DUTYAMT	12, NUM
Dest Postal / ZIP Code	M	SHIPTOZIP The zip code of the address to which the goods are shipped.	10, AN
Ship from Postal / ZIP Code	M	SHIPFROMZIP The postal code (called zip code in the USA) from which shipping occurs.	10, AN
Dest Country Code	O	SHIPTOCOUNTRY	4, AN
Alt Tax Amt	O	ALTAXAMT	9, NUM

## Merchant e-Solutions Level 3 MasterCard Line item Detail Records

TABLE C.15 Merchant e-Solutions Level 3 MasterCard line item detail record

Merchant e-Solutions Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
<b>NOTE:</b> For these values, n is a sequence counter that should begin with 1 and increase in sequence. Each line item should also contain quantity (L_QTY<n>) and unit price (L_COST<n>) fields.			
Item Descriptor	M	L_DESCn	35, AN
Product Code	O	L_UPCn	12, AN
Quantity	M	L_QTYn	12, NUM
Unit of Measure/Code	M	L_UOMn	12, AN
Tax Rate Applied	O	L_TAXRATEn	4, NUM
Tax Type Applied	O	L_TAXTYPEn	4, AN
Tax Amount	O	L_TAXAMTn	12, NUM
Discount Amount	O	L_DISCOUNTh	12, NUM

## Example Merchant e-Solutions Level 3 MasterCard Transaction Parameter String

```

TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=552500000000
0005&EXPDATE=0406&AMT=1.00&STREET=5199
JOHNSON&ZIP=94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.00&NATIO
NALTAXAMT=1.00&COMMCODE=22222&VATAXAMT=1.00&VATAXPERCENT=10&TAXEXEMPT=Y&DIS
COUNT=1.00&FREIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&S
HIPTOCOUNTRY=840&ORDERDATE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line
item 1
description&L_UPC1=CBA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.00&L
_TAXAMT1=1.00&L_TAXRATE1=1.00&L_DISCOUNT1=1.00&L_AMT1=1.00&L_TAXTYPE1=TT3

```

## Merchant e-Solutions Level 3 Visa Parameters

To qualify for Level 3 transactions, the authorization response for the transaction must have the commercial card indicator set and one or more line items should be present in the Delayed Capture or Sale request.

Level 2 transaction parameters marked as mandatory are required for Level 3 transactions. Level 3 transactions that do not include the mandatory Level 2 values are rejected.

**IMPORTANT:** The values required for Level 3 status vary by bank, so contact your bank for details.

### Merchant e-Solutions Level 2 Visa Parameters Required for Level 3 Transactions

**TABLE C.16 Merchant e-Solutions Level 2 Visa parameters for Level 3 line item transactions**

Merchant e-Solutions Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Purchase Identifier	M	PONUM Value of TransID is sent if no value is provided.	25, AN
Tax Amount	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM
Lcl Tax	O	LOCALTAXAMT	12, NUM
Lcl Tax Incl Flag		TAXEXEMPT, Y or N.	1, AN
National Tax Amt	O	NATIONALTAXAMT	12, NUM
Purch Ord #/Cust Ref ID	M	INVNUM Value of TransID is sent if no value is provided.	9, AN

### Merchant e-Solutions Level 3 Visa Extended Data

The parameters listed in [Table C.17](#) apply to Level 3 Visa transactions as extended data.

**TABLE C.17 Merchant e-Solutions Level 3 Visa extended data**

Merchant e-Solutions Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Summary Commodity Code	M	COMMCODE Commodity code identifier for the business.	4, AN
Discount Amt	O	DISCOUNT	12, NUM
Freight Amt	M	FREIGHTAMT	12, NUM
Duty Amt	O	DUTYAMT	12, NUM
Order Date	O	ORDERDATE Format is mmddyy with no slashes or dashes. For example, July 28, 2003 is 072803	6, NUM
Dest Postal / ZIP Code	M	SHIPTOZIP The zip code of the address to which the goods are shipped.	10, AN



**TABLE C.17 Merchant e-Solutions Level 3 Visa extended data** (Continued)

<b>Merchant e-Solutions Name</b>	<b>Mandatory / Optional</b>	<b>Payflow Parameter</b>	<b>Length, Data Type</b>
Ship from Postal / ZIP Code	M	SHIPFROMZIP The postal code (called zip code in the USA) from which shipping occurs.	10, AN
Dest Country Code	O	SHIPTOCOUNTRY	4, AN
VAT Registration Number	M	VATREGNUM Can be part of the registration data or passed with each transaction.	20, AN
Unique VAT Inv Ref #	M	INVNUM Can be part of the registration data or passed with each transaction.	9, AN
Cust VAT Registr #	M	CUSTVATREGNUM	13, AN
VAT/Tax Amt (Freight/Ship)	O	VATTAXAMT	12, NUM
VAT/Tax Rate (Freight/Ship)	O	VATTAXPERCENT	4, NUM

## Merchant e-Solutions Level 3 Visa Line item Detail Records

TABLE C.18 Merchant e-Solutions Level 3 Visa line item detail record

Merchant e-Solutions Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
<b>NOTE:</b> For these values, n is a sequence counter that should begin with 1 and increase in sequence. Each line item should also contain quantity (L_QTY<n>) and unit price (L_COST<n>) fields.			
Item Commodity Code	O	L_COMMCODEn	12, AN
Item Descriptor	M	L_DESCn	35, AN
Product Code	M	L_UPCn	12, AN
Quantity	M	L_QTYn	12, NUM
Unit of Measure/Code	M	L_UOMn	12, AN
Unit Cost	M	L_COSTn	12, NUM
VAT/Tax Amount	O	L_TAXAMTn	12, NUM
VAT/Tax Rate	O	L_TAXRATEn	4, NUM
Discount Per Line Item	M	L_DISCOUNTn	12, NUM
Line-item Total	O	L_AMTn	12, NUM

## Example Merchant e-Solutions Level 3 Visa Transaction Parameter String

```

TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=411111111111
1111&EXPDATE=0406&AMT=1.00&STREET=5199
JOHNSON&TAXAMT=106&ZIP=94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT
=1.01&NATIONALTAXAMT=1.02&COMMCODE=22222&VATAXAMT=1.03&VATAXPERCENT=55&TAXE
XEMPT=N&DISCOUNT=.50&FREIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZ
IP=44444&SHIPTOCOUNTRY=840&ORDERDATE=020725&L_COMMCODE1=123456789ABC&L_DESC
1=Line item 1
description&L_UPC1=CBA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.50&L
_TAXAMT1=1.05&L_TAXRATE1=12&L_DISCOUNT1=.50&L_AMT1=1.00&L_TAXTYPE1=TT1

```

## Elavon (Formerly Nova) Purchasing Card Transaction Processing

Elavon supports Level 2 for Visa or MasterCard Sale, Credit, or Delayed Capture transactions.

### Elavon Level 2 Parameters

Both Level 2 parameters listed in [Table C.19](#) are required to get the discount rate. You must pass these parameters in Authorization and Sale transactions.

**TABLE C.19 Elavon Level 2 parameters**

Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Code	M	CUSTCODE Value of {ServerID}{TransID} is sent if no value is provided.	1/16, char
Sales Tax	M	TAXAMT Value of 0 (zero) is sent if no value is provided. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM

### Elavon Additional Parameters

The following parameters are recommended to obtain the best rates for purchasing card transactions with Elavon:

**TABLE C.20 Elavon additional parameters**

Parameter	Description	Required	Type	Length
COMMCARD	One-character value representing the type of commercial card. P Purchase Card C Corporate Card B Business Card U Unknown (default) N None	No (defaults to U - Unknown)	AN	1
PONUM	Purchase Order Number.	No (when used provides best rate)	AN	25

**TABLE C.20 Elavon additional parameters** (Continued)

Parameter	Description	Required	Type	Length
TAXAMT	Tax Amount. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	No (when used provides best rate)	Currency	10

### Example Elavon Level 2 Transaction Parameter String

```
TRXTYPE=S&ACCT=5105105105105100&AMT=20.10&CITY=Mountain View&COMMENT1=L2
Testing&EXPDATE=1209&NAME=Cardholder
Name&PARTNER=PayPal&PWD=pwd&STATE=CA&STREET=123 Main
St.&TENDER=C&USER=user&ZIP=94043&CUSTCODE=123456&TAXAMT=1.34
```

## Paymentech Salem (New Hampshire) Purchasing Card Transaction Processing

### Paymentech Salem (New Hampshire) Level 2 Parameters (CAPN)

The Paymentech Salem (New Hampshire) platform supports Level 2 parameters for American Express, MasterCard, Visa, and Switch/Solo Maestro.

The parameters to meet card acceptance and processor network (CAPN) requirements are described in [Table C.21](#). Level 2 parameters supported for legacy applications are described in [Table C.22](#).

**NOTE:** Most merchants in the United States follow CAPN requirements; international merchants do not. There are a few exceptions. If you are not sure, contact Customer Service. See [“How to Contact Customer Support”](#) on page 9 for contact information.

**TABLE C.21 Paymentech Salem (New Hampshire) CAPN Level 2 parameters**

Parameter	Description	Required	Type	Length
<b>CPC Level 2 Transaction Advice Addendum Parameters</b>				
PONUM	Purchase order number	Yes	Alpha-numeric	17
SHIPTOZIP	Ship-to postal code (called zip code in the USA)	Yes	Alpha-numeric	15
TAXAMT	Total tax amount Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56)	No	Numeric	12

**TABLE C.21 Paymentech Salem (New Hampshire) CAPN Level 2 parameters**

Parameter	Description	Required	Type	Length
L_DESC1	Description of this line item; if not provided, DESC1 (if present) is used	No	Alpha-numeric	140
L_AMT1	Charge for this line item Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56)	No	Numeric	12
L_QTY1	Quantity of this line item	No	Numeric	3
L_DESC2	Description of this line item; if not provided, DESC2 (if present) is used	No	Alpha-numeric	40
L_AMT2	Charge for this line item Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56))	No	Numeric	12
L_QTY2	Quantity of this line item	No	Numeric	3
L_DESC3	Description of this line item; if not provided, DESC3 (if present) is used	No	Alpha-numeric	40
L_AMT3	Charge for this line item Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56))	No	Numeric	12
L_QTY3	Quantity of this line item	No	Numeric	3
L_DESC4	Description of this line item; if not provided, DESC4 (if present) is used	No	Alpha-numeric	40
L_AMT4	Charge for this line item Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56)	No	Numeric	12
L_QTY4	Quantity of this line item	No	Numeric	3
<b>Location Transaction Advice Addendum Parameters</b>				
MERCHANTNAME	Name of merchant	No		38
MERCHANTSTREET	Merchant's street address (number and street name)	No	Alpha-numeric	38
MERCHANTCITY	Merchant's city	No		21
MERCHANTSTATE	Merchant's state	No		3

## Submitting Purchasing Card Level 2 and Level 3 Transactions

### Paymentech Salem (New Hampshire) Purchasing Card Transaction Processing

**TABLE C.21 Paymentech Salem (New Hampshire) CAPN Level 2 parameters**

Parameter	Description	Required	Type	Length
MERCHANTCOUNTRY CODE	Merchant's numeric country code Example: USA: 840	No	Alpha- numeric	3
MERCHANTZIP	Merchant's 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters Example: 951121737	No	Alpha- numeric	15
<b>Transaction Advice Detail Parameters</b>				
ADDLAMTn	Detail of a charge ( <i>n</i> is the line item number, a value from 1 - 5); use for additional breakdown of the charge  Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56) Examples: tip=3.00, convenience charge=2.00	No	Numeric	12
ADDLAMTTYPEn	A 3-digit code indicating the type of the corresponding charge detail ( <i>n</i> is the line item number, a value from 1 - 5)	No	Alpha- numeric	3

## Paymentech Salem (New Hampshire) Level 2 Parameters (Legacy)

Paymentech Salem (New Hampshire) supports Level 2 parameters for American Express, MasterCard, Visa, and Switch/Solo Maestro.

Both Level 2 parameters listed in [Table C.22](#) are required to get the discount rate.

**TABLE C.22 Paymentech Salem (New Hampshire) Level 2 legacy parameters**

Paymentech Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Ref No	M	PONUM	1/17, char
Sales Tax	M	TAXAMT  Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56) To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	NUM

### Example Paymentech Salem (New Hampshire) Level 2 Visa and MasterCard Transaction Parameter String

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=548018000000  
0024&EXPDATE=1203&AMT=1.00&COMMENT1=0508&NAME=Robert&STREET=1600&ZIP=94065&  
CVV2=426&PONUM=ABCDEFGHJIJ&TAXAMT=1.00
```

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=427533001234  
5626&EXPDATE=1203&AMT=1.00&COMMENT1=0508&STREET=1600&ZIP=94065&CVV2=426&PON  
UM=ABCDEFGHJIJ&TAXAMT=1.00
```

### Example American Express Level 2 Transaction Parameter String

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=378734493671  
000&EXPDATE=1203&AMT=1.00&COMMENT1=0508&NAME=Robert&STREET=1600&ZIP=94065&D  
ESC=Descriptor&DESC1=Descriptor1&DESC2=Descriptor2&DESC3=Descriptor3&DESC4=  
Descriptor4
```

## Paymentech Salem (New Hampshire) Level 3 Purchasing Card Parameters

Paymentech Salem (New Hampshire) supports Level 3 parameters for MasterCard and Visa.

Both Level 2 transaction parameters are required for Level 3 transactions. Level 3 transactions that do not include the Level 2 values are rejected.

### Paymentech Salem (New Hampshire) Level 2 Parameters Required for Level 3 Transactions

Both Level 2 parameters listed in [Table C.23](#) are required to get the discount rate.

**TABLE C.23 Paymentech Salem (New Hampshire) Level 2 parameters**

Paymentech Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Ref No	M	PONUM	1/17, char
Sales Tax	M	TAXAMT Must include a decimal and be exact to the cent (42.00, not 42) and exclude comma separators (1234.56 not 1,234.56). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	NUM

## Paymentech Salem (New Hampshire) Level 3 MasterCard Parameters

TABLE C.24 Paymentech Salem (New Hampshire) Level 3 MasterCard order and line item parameters

Paymentech MasterCard data item	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
<b>Order</b>			
Freight Amt	M	FREIGHTAMT	NUM
Duty Amt	M	DUTYAMT	NUM
Destination ZIP	M	SHIPTOZIP	
Destination Country	M	SHIPTOCOUNTRY	
Ship from ZIP	M	SHIPPEDFROMZIP	
Discount Amount	M	DISCOUNT	NUM
Alternate Tax ID	M	ALTERNATETAXID	
Alternate Tax Amt	M	ALTERNATETAXAMT	NUM
<b>Line Item Record #1</b>			
Description	M	L_DESCn	
Product Code	O	L_PRODCODEn	
Quantity	M	L_QTYn	NUM
Unit of measure	M	L_UOMn	
Tax Amt	O	TAXAMTn	NUM
Tax Rate	O	TAXPERCENTAGEN	
<b>Line Item Record #2</b>			
Line-item Total	O	L_AMTn	NUM
Discount Amt	O	L_DISCOUNTh	NUM
Tax Type Applied	O	L_TAXTYPEEn	



### Paymentech Salem (New Hampshire) Level 3 Visa Parameters

Level 3 transactions should include at least one line item.

**TABLE C.25 Paymentech Salem (New Hampshire) Level 3 Visa order and line item parameters**

Paymentech Visa data item	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
<b>Order</b>			
Freight Amt	M	FREIGHTAMT	NUM
Duty Amt	M	DUTYAMT	NUM
Destination ZIP	M	SHIPTOZIP	
Destination Country	M	SHIPTOCOUNTRY	
Ship from ZIP	M	SHIPPEDFROMZIP	
Discount Amount	M	DISCOUNT	NUM
VAT/Tax Amt	M	TAXAMT	NUM
VAT/Tax Rate	M	TAXPERCENTAGE	
<b>Line Item Record #1</b>			
Description	M	L_DESCn	
Product Code	M	L_PRODCODEn	
Quantity	M	L_QTYn	NUM
Unit of measure	M	L_UOMn	
Tax Amt	O	L_TAXAMTh	NUM
Tax Rate	O	L_TAXRATEh	
<b>Line Item Record #2</b>			
Line-item Total	M	L_AMTh	NUM
Discount Amt	M	L_DISCOUNTh	NUM
Item commodity code	M	L_UPCn	
Unit cost	M	L_COSTh	NUM

**Example Paymentech Salem (New Hampshire) Level 3 MasterCard Transaction Parameter String**

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=548018000000
0024&EXPDATE=1203&AMT=1.00&COMMENT1=0508&NAME=Robert&STREET=1600&ZIP=94065&
CVV2=426&PONUM=ABCDEFGHJIJ&TAXAMT=1.00&FREIGHTAMT=2.00&DUTYAMT=3.00&SHIPTOZI
P=94543&SHIPTOCOUNTRY=840&SHIPFROMZIP=94509&ALTERNATETAXID=10&ALTERNATETAXA
MT=4.00&L_DESC1=MC Pcard&L_UPC1=1&L_QTY1=2&L_UOM1=3&L_TAXAMT1=4&L_TAXRATE1=
5&L_AMT1=6&L_DISCOUNT1=7&L_TAXTYPE1=8
```

**Example Paymentech Salem (New Hampshire) Level 3 Visa Transaction Parameter String**

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=427533001234
5626&EXPDATE=1203&AMT=1.00&COMMENT1=0508&NAME=Robert&STREET=1600&ZIP=94065&
CVV2=426&PONUM=ABCDEFGHJIJ&TAXAMT=1.00&FREIGHTAMT=2.00&DUTYAMT=3.00&SHIPTOZI
P=94543&SHIPTOCOUNTRY=840&SHIPFROMZIP=94509&DISCOUNT=4.00&VATAXAMT=5.00&VAT
AXPERCENT=10&L_DESC1=TSYS Acquiring Solutions Pcard&L_UPC1=1&L_UOM1=2&L_QTY
1=3&L_TAXAMT1=4&L_TAXRATE1=5&L_AMT1=6&L_DISCOUNT1=7&L_COMMCODE1=8&L_COST1=9
&L_COST1=10
```

---

**Paymentech Tampa Level 2 Purchasing Card Transaction Processing**

Paymentech Tampa supports Level 2 purchasing card processing for MasterCard and Visa.

## Paymentech Tampa Level 2 Parameters

**TABLE C.26 Paymentech Tampa Level 2 parameters**

Paymentech Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Ref No	M	PONUM	1/17, char
Sales Tax	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	NUM
Tax Exempt	O	TAXEXEMPT, Y or N Contact your acquiring bank to determine if your transactions are tax exempt.	1
Ship to ZIP Code	O	SHIPTOZIP (called zip code in the USA).	1/16

### Example Paymentech Tampa Level 2 Visa and MasterCard Transaction Parameter String

```
"TRXTYPE=S&TENDER=C&PWD=PWD&USER=USER&PARTNER=PARTNER&ACCT=4275330012345675&EXPDATE=0209&AMT=12.59&VERBOSITY=1&STREET=123 main street&ZIP=49801&CVV2=248&TAXAMT=1.22&PONUM=AB12345678&SHIPTOZIP=98765&TAXEXEMPT=N"
```

## TSYS Acquiring Solutions Purchasing Card Transaction Processing

TSYS Acquiring Solutions supports MasterCard and Visa for performing Level 2 and Level 3 purchasing card transactions.

### TSYS Acquiring Solutions Level 2 Parameters

TSYS Acquiring Solutions supports MasterCard and Visa for Level 2 purchasing card transactions.

TSYS Acquiring Solutions indicates in the authorization response whether or not the credit card in the transaction is a commercial card. Based in the commercial card indicator, PayPal will format the Level 2 information in the settlement request.

## Submitting Purchasing Card Level 2 and Level 3 Transactions

### TSYS Acquiring Solutions Purchasing Card Transaction Processing

Level 2 parameters marked as mandatory in [Table C.27](#) are required to get the discount rate.

**TABLE C.27 TSYS Acquiring Solutions Level 2 parameters**

Name	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Cust Ref ID	M	PONUM	1/17, AN
Tax Amount	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM
Tax Amount Identifier	O	TAXEXEMPT, Y or N	1, A

#### Example TSYS Acquiring Solutions Level 2 Visa Transaction Parameter String

```
TRXTYPE=S&ACCT=4111111111111111&AMT=20.02&CITY=Mountain View&COMMENT1=L2
Testing&EXPDATE=1209&INVNUM=661254585&NAME=CardHolder
Name&PARTNER=PayPal&PWD=pwd&STATE=CA&STREET=123 Main
St.&TAXAMT=1.01&TAXEXEMPT=N&TENDER=C&USER=user&ZIP=94043
```

## TSYS Acquiring Solutions Level 3 MasterCard Parameters

To qualify for Level 3 purchasing card transaction processing, the authorization response for the transaction must have the commercial card indicator set and one or more line items should be present in the Delayed Capture or Sale request.

Level 2 transaction parameters marked as mandatory are required for Level 3 transactions. Level 3 transactions that do not include the mandatory Level 2 values are rejected.

**IMPORTANT:** *The values required for Level 3 status vary by bank, so contact your bank for details.*

**TSYS Acquiring Solutions Level 2 MasterCard Parameters Required for Level 3 Line Item Transactions****TABLE C.28 TSYS Acquiring Solutions Level 2 MasterCard transaction data for line item transactions**

Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Purchase Identifier	M	PONUM Value of TransID is sent if no value is provided.	25, AN
Tax Amt	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM
Lcl Tax	O	LOCALTAXAMT	12, NUM
Lcl Tax Incl Flag	O	TAXEXEMPT, Y or N	1, AN
National Tax Amt	O	NATIONALTAXAMT You may omit this parameter if there is no such tax.	12, NUM
Purch Ord #/Cust Ref ID	M	INVNUM Value of PNREF is sent if no value is provided.	9, AN

**TSYS Acquiring Solutions Level 3 MasterCard Extended Data**

The parameters listed in [Table C.29](#) apply to Level 3 MasterCard transactions as extended data.

**TABLE C.29 TSYS Acquiring Solutions Level 3 MasterCard Extended Data**

Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Freight Amt	O	FREIGHTAMT	12, NUM
Duty Amt	O	DUTYAMT	12, NUM
Dest Postal / ZIP Code	M	SHIPTOZIP The zip code of the address to which the goods are shipped.	10, AN
Ship from Postal / ZIP Code	M	SHIPFROMZIP The postal code (called zip code in the USA) from which shipping occurs.	10, AN
Dest Country Code	O	SHIPTOCOUNTRY	4, AN
Alt Tax Amt	O	ALTTAXAMT	9, NUM

## TSYS Acquiring Solutions Level 3 MasterCard Line item Detail Records

TABLE C.30 TSYS Acquiring Solutions Level 3 MasterCard line item detail record

Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
<b>NOTE:</b> For these values, n is a sequence counter that should begin with 1 and increase in sequence. Each line item should also contain quantity (L_QTY<n>) and unit price (L_COST<n>) fields.			
Item Descriptor	M	L_DESCn	35, AN
Product Code	O	L_UPCn	12, AN
Quantity	M	L_QTYn	12, NUM
Unit of Measure/Code	M	L_UOMn	12, AN
Tax Rate Applied	O	L_TAXRATEn	4, NUM
Tax Type Applied	O	L_TAXTYPEn	4, AN
Tax Amount	O	L_TAXAMTn	12, NUM
Discount Amount	O	L_DISCOUNTn	12, NUM

## Example TSYS Acquiring Solutions Level 3 MasterCard Transaction Parameter String

```

TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=552500000000
0005&EXPDATE=0406&AMT=1.00&STREET=5199
JOHNSON&ZIP=94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.00&NATIO
NALTAXAMT=1.00&COMMCODE=22222&VATAXAMT=1.00&VATAXPERCENT=10&TAXEXEMPT=Y&DIS
COUNT=1.00&FREIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&S
HIPTOCOUNTRY=840&ORDERDATE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line
item 1
description&L_UPC1=CBA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.00&L
_TAXAMT1=1.00&L_TAXRATE1=1.00&L_DISCOUNT1=1.00&L_AMT1=1.00&L_TAXTYPE1=TT3

```

## TSYS Acquiring Solutions Level 3 Visa Parameters

To qualify for Level 3 purchasing card transaction processing, the authorization response for the transaction must have the commercial card indicator set and one or more line items should be present in the Delayed Capture or Sale request.

Level 2 transaction parameters marked as mandatory are required for Level 3 transactions. Level 3 transactions that do not include the mandatory Level 2 values are rejected.

**IMPORTANT:** The values required for Level 3 status vary by bank, so contact your bank for details.

**TSYS Acquiring Solutions Level 2 Visa Parameters for Level 3 Line Item Transactions****TABLE C.31 TSYS Acquiring Solutions Level 2 Visa transaction data for line item transactions**

Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Purchase Identifier	M	PONUM Value of TransID is sent if no value is provided.	25, AN
Tax Amount	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM
Lcl Tax	O	LOCALTAXAMT	12, NUM
Lcl Tax Incl Flag		TAXEXEMPT, Y or N	1, AN
National Tax Amt	O	NATIONALTAXAMT	12, NUM
Purch Ord #/Cust Ref ID	M	INVNUM Value of TransID is sent if no value is provided.	9, AN

**TSYS Acquiring Solutions Level 3 Visa Extended Data**

The parameters listed in [Table C.32](#) apply to Level 3 Visa transactions as extended data.

**TABLE C.32 TSYS Acquiring Solutions Level 3 Visa extended data**

Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Summary Commodity Code	M	COMMCODE Commodity code identifier for the business.	4, AN
Discount Amt	O	DISCOUNT	12, NUM
Freight Amt	M	FREIGHTAMT	12, NUM
Duty Amt	O	DUTYAMT	12, NUM
Order Date	O	ORDERDATE Format is yymmdd with no slashes or dashes. For example, November 28, 2008 is 081128	6, NUM
Dest Postal / ZIP Code	M	SHIPTOZIP The zip code of the address to which the goods are shipped.	10, AN

**TABLE C.32 TSYS Acquiring Solutions Level 3 Visa extended data** (Continued)

<b>Name</b>	<b>Mandatory / Optional</b>	<b>Payflow Parameter</b>	<b>Length, Data Type</b>
Ship from Postal / ZIP Code	M	SHIPFROMZIP The postal code (called zip code in the USA) from which shipping occurs.	10, AN
Dest Country Code	O	SHIPTOCOUNTRY	4, AN
VAT Registration Number	M	VATREGNUM Can be part of the registration data or passed with each transaction.	20, AN
Unique VAT Inv Ref #	M	INVNUM Can be part of the registration data or passed with each transaction.	9, AN
Cust VAT Registr #	M	CUSTVATREGNUM	13, AN
VAT/Tax Amt (Freight/Ship)	O	VATTAXAMT	12, NUM
VAT/Tax Rate (Freight/Ship)	O	VATTAXPERCENT	4, NUM



## TSYS Acquiring Solutions Level 3 Visa Line item Detail Records

TABLE C.33 TSYS Acquiring Solutions Level 3 Visa line item detail record

Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
<b>NOTE:</b> For these values, n is a sequence counter that should begin with 1 and increase in sequence. Each line item should also contain quantity (L_QTY<n>) and unit price (L_COST<n>) fields.			
Item Commodity Code	O	L_COMMCODEn	12, AN
Item Descriptor	M	L_DESCn	35, AN
Product Code	M	L_UPCn	12, AN
Quantity	M	L_QTYn	12, NUM
Unit of Measure/Code	M	L_UOMn	12, AN
Unit Cost	M	L_COSTn	12, NUM
VAT/Tax Amount	O	L_TAXAMTn	12, NUM
VAT/Tax Rate	O	L_TAXRATEn	4, NUM
Discount Per Line Item	M	L_DISCOUNTn	12, NUM
Line-item Total	O	L_AMTn	12, NUM

## Example TSYS Acquiring Solutions Level 3 Visa Transaction Parameter String

```

TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=411111111111
1111&EXPDATE=0406&AMT=1.00&STREET=5199
JOHNSON&TAXAMT=106&ZIP=94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT
=1.01&NATIONALTAXAMT=1.02&COMMCODE=22222&VATAXAMT=1.03&VATAXPERCENT=55&TAXE
XEMPT=N&DISCOUNT=.50&FREIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZ
IP=44444&SHIPTOCOUNTRY=840&ORDERDATE=081125&L_COMMCODE1=123456789ABC&L_DESC
1=Line item 1
description&L_UPC1=CBA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.50&L
_TAXAMT1=1.05&L_TAXRATE1=12&L_DISCOUNT1=.50&L_AMT1=1.00&L_TAXTYPE1=TT1

```





# VERBOSITY: Viewing Processor-Specific Transaction Results

Transaction results (especially values for declines and error conditions) returned by each PayPal-supported processor vary in detail level and in format. The Payflow VERBOSITY parameter described below enables you to control the kind and level of information you want returned.

**TABLE D.1** VERBOSITY parameter

Parameter	Description
VERBOSITY	<p>(Optional) Enables you to obtain additional processor information for a transaction. Values are LOW or MEDIUM.</p> <ul style="list-style-type: none"><li>• LOW is the default setting—normalized values</li><li>• MEDIUM returns the processor’s raw response values</li></ul> <p>VERBOSITY is also part of an Inquiry transaction. For more information, see <a href="#">“Submitting Inquiry Transactions” on page 38</a>.</p>

By default, VERBOSITY is set to LOW. A LOW setting causes PayPal to normalize the transaction result values. Normalizing the values limits them to a standardized set of values and simplifies the process of integrating the Payflow SDK.

By setting VERBOSITY to MEDIUM, you can view the processor’s raw response values. This setting is more “verbose” than the LOW setting in that it returns more detailed, processor-specific information.

## Supported Verbosity Settings

The following VERBOSITY settings are supported for PayPal-supported processors. Contact your processor or bank for definitions of the returned values.

- **LOW:** This is the default setting for PayPal accounts. The following values are returned: {RESULT, PNREF, RESPMSG, AUTHCODE, AVSADDR, AVSZIP, CVV2MATCH, IAVS, CARDSECURE}
- **MEDIUM:** All of the values returned for a LOW setting, plus the following values:

**NOTE:** For information on interpreting the responses returned by the processor for the MEDIUM VERBOSITY setting, contact your processor directly.

**TABLE D.2 Processor responses**

Field Name	Type	Length	Description
HOSTCODE	Char	7	Response code returned by the processor. This value is not normalized by PayPal.
RESPTEXT	Char	17	Text corresponding to the response code returned by the processor. This text is not normalized by PayPal.
PROCAVS	Char	1	Address Verification Service response from the processor
PROCCVV2	Char	1	CVV2 (buyer authentication) response from the processor
PROCCARDSECURE	Char	1	VPAS/SPA response from the processor
ADDLMSGS	char	Up to 1048 characters. Typically 50 characters.	Additional error message that indicates that the merchant used a feature that is disabled

**TABLE D.2 Processor responses**(Continued)

Field Name	Type	Length	Description
TRANSSTATE	Integer	10	State of the transaction. The values are: 0 = Account Verification (no settlement involved) 1 = General error state 3 = Authorization approved 6 = Settlement pending (transaction is scheduled to be settled) 7 = Settlement in progress (transaction involved in a currently ongoing settlement) 8 = Settled successfully 9 = Authorization captured (once an authorization type transaction is captured, its TRANSSTATE becomes 9) 10 = Capture failed (an error occurred while trying to capture an authorization because the transaction was already captured) 11 = Failed to settle (transactions fail settlement usually because of problems with the merchant's processor or because the card type is not set up with the merchant's processor) 12 = Unsettled transaction because of incorrect account information 14 = For various reasons, the batch containing this transaction failed settlement 15 = Settlement incomplete due to a charge back 16 = Merchant ACH settlement failed; (need to manually collect it) 106 = Unknown Status Transaction - Transactions not settled 206 = Transactions on hold pending customer intervention
DATE_TO_SETTLE	Date format YYYY-MM-DD HH:MM:SS	19	Value available only before settlement has started
BATCHID	Integer	10	Value available only after settlement has assigned a Batch ID
SETTLE_DATE	Date format YYYY-MM-DD HH:MM:SS	19	Value available only after settlement has completed

**TABLE D.2 Processor responses**(Continued)

Field Name	Type	Length	Description
AMEXID	Numeric	15	American Express transactions meeting CAPN requirements:  <b>NOTE:</b> Used only by merchants who authorize transactions through the payflow gateway but settle through a third-party solution.
AMEXPOSDATA	Alphanumeric	12	American Express transactions meeting CAPN requirements:  <b>NOTE:</b> Used only by merchants who authorize transactions through the payflow gateway but settle through a third-party solution.

**TABLE D.2 Processor responses**(Continued)

Field Name	Type	Length	Description
VISACARDLEVEL	Alphanumeric	2	<p>Card product level indicator returned by VISA. The values are:</p> <p>A = Visa Traditional</p> <p>B = Visa Traditional Rewards</p> <p>C = Visa Signature</p> <p>D = Visa Infinite</p> <p>E = Reserved</p> <p>F = Reserved</p> <p>G = Visa Business Card</p> <p>H = Visa Check Card</p> <p>I = Visa Commerce</p> <p>J = Reserved</p> <p>K = Visa Corporate Card</p> <p>L = Reserved</p> <p>M = MasterCard/EuroCard and Diners*</p> <p>N = Reserved</p> <p>O = Reserved</p> <p>P = Reserved</p> <p>Q = Private Label</p> <p>R = Proprietary Card</p> <p>S = Visa Purchasing Card</p> <p>T = Reserved/Interlink</p> <p>U = Visa TravelMoney</p> <p>W -Z = Reserved</p> <p>0 - 9 = Reserved</p> <p>G1 = Visa Signature Business</p> <p>G2= Visa Business Check Card</p> <p>J1 = Visa General Prepaid</p> <p>J2 = Visa Prepaid Gift Card</p> <p>J3 = Visa Prepaid Healthcare</p> <p>J4 = Visa Prepaid Commercial</p> <p>K1 = Visa GSA Corporate T&amp;E</p> <p>Q1 = Private Label Prepaid</p> <p>S1 = Visa Purchasing with Fleet</p> <p>S2 = Visa GSA Purchasing</p> <p>S3 = Visa GSA Purchasing with Fleet</p> <p>V1 = Reserved</p> <p>DI = Discover*</p> <p>AX = American Express*</p> <p><b>NOTE:</b> Because length is 2, single character values are followed by a space.</p>

Table D.3 shows the increments that are possible on basic TRANSSTATE values.

**TABLE D.3** *TRANSSTATE increments*

Increment	Meaning
+100	If no client acknowledgment (ACK) is received for the transaction, the original TRANSSTATE value is incremented by 100. For example, if the original TRANSSTATE is 6, it is incremented to 106. Transactions in this range do not settle. For transactions in TRANSSTATE 106, use Auto Resettle in PayPal Manager's Virtual Terminal to submit them for settlement or void them using a manual Void.
+200	If the host process never receives an ACK from the transaction broker (or backend payment server) for the transaction, the original TRANSSTATE value is incremented by 200. For example, if the original TRANSSTATE is 6, it is incremented to 206. Transactions in this range are basically in limbo and will not be settled.
+1000	If a Void transaction is run (through the API, PayPal Virtual Terminal, or by PayPal Customer Service) against a successful Authorization or Sale transaction, the original TRANSSTATE is incremented by 1000. For example, if the original TRANSSTATE is 6, it is incremented to 1006.

## Changing the Verbosity Setting

### Setting the Verbosity Level on a Per-Transaction Basis

To specify a setting for Verbosity that differs from your account's current setting, include the `VERBOSITY=<value>` name-value pair in the transaction request, where `<value>` is `LOW` or `MEDIUM`.

### Setting the Default Verbosity Level for All Transactions

Contact Customer Service to set your account's `VERBOSITY` setting to `LOW` or `MEDIUM` for all transaction requests. For details, see [“How to Contact Customer Support” on page 9](#).



## E

# Additional Reporting Parameters

This appendix lists parameters whose values can appear in PayPal Manager reports. For example, the *Shipping and Billing* report displays these values. Some of the following parameters may also have other purposes. The STREET and ZIP parameters, for instance, are also used for Address Verification Service.

**NOTE:** For regular credit card transactions, reporting parameters are normally not passed to the processor. See [Appendix A, “Processors Requiring Additional Transaction Parameters,”](#) to learn which fields are sent to your processor.

**TABLE E.1** Additional reporting parameters

Parameter	Description	Required	Type	Max Length
CITY	Cardholder's billing city	No	Alpha	20
COMMENT1	User-defined value for reporting and auditing purposes (PayPal parameter only)	No	Alpha-numeric	128
COMMENT2	User-defined value for reporting and auditing purposes (PayPal parameter only)	No	Alpha-numeric	128
BILLTOCOUNTRY	Cardholder's billing country code	No	Alpha-numeric	4
COMPANYNAME	Cardholder's company	No	Alpha-numeric	30
CUSTCODE	Customer code	No	Alpha-numeric	30
DUTYAMT	Duty amount	No	Alpha-numeric	10
EMAIL	Cardholder's email address	No	Alpha-numeric	64
FIRSTNAME	Cardholder's first name	No	Alpha-numeric	15
FREIGHTAMT	Freight amount	No	Alpha-numeric	10
LASTNAME	Cardholder's last name	No	Alpha-numeric	15

**TABLE E.1** *Additional reporting parameters*

Parameter	Description	Required	Type	Max Length
NAME	Cardholder's name	No	Alpha-numeric	15
PONUM	Purchase order number	No	Alpha-numeric	15
SHIPTOCITY	Shipping city	No	Alpha-numeric	30
SHIPTOFIRSTNAME	First name in the shipping address	No	Alpha-numeric	30
SHIPTOLASTNAME	Last name in the shipping address	No	Alpha-numeric	30
SHIPTOSTATE	Shipping state US = 2 letter state code; outside US, use full name	No	Alpha-numeric	10
SHIPTOSTREET	Shipping street address	No	Alpha-numeric	30
SHIPTOZIP	Shipping postal code (called zip code in the USA)	No	Alpha-numeric	9
STATE	Cardholder's billing state code	No	Alpha-numeric	2
STREET	Cardholder's billing street address (used for Address Verification Service and reporting)	No	Alpha-numeric	30
TAXAMT	Tax amount	No	Currency	10
ZIP	Account holder's 5-to-9-digit postal code (called zip in the USA). Do not use spaces, dashes, or non-numeric characters. The postal code is verified by Address Verification Service.	No	Numeric	9



# ISO Country Codes

The following International Standards Organization (ISO) country codes are used when filling the order fields BILLTOCOUNTRY, SHIPTOCOUNTRY, and CORPCOUNTRY:

**TABLE F.1** ISO country codes

Country Name	Code	Country Name	Code
Afghanistan	4	Bangladesh	50
Albania	8	Barbados	52
Algeria	12	Belarus	112
American Samoa	16	Belgium	56
Andorra	20	Belize	84
Angola	24	Benin	204
Anguilla	660	Bermuda	60
Antarctica	10	Bhutan	64
Antigua and Barbuda	28	Bolivia	68
Argentina	32	Bosnia-Herzegovina	70
Armenia	51	Botswana	72
Aruba	533	Bouvet Island	74
Australia	36	Brazil	76
Austria	40	British Indian Ocean Territory	86
Azerbaijan	31	Brunei Darussalam	96
Bahamas	44	Bulgaria	100
Bahrain	48	Burkina Faso	854
Burundi	108	Dominican Republic	214
Cambodia	116	East Timor	626
Cameroon	120	Ecuador	218
Canada	124	Egypt	818
Cape Verde	132	El Salvador	222
Cayman Islands	136	Equatorial Guinea	226
Central African Republic	140	Eritrea	232

TABLE F.1 ISO country codes

Country Name	Code	Country Name	Code
Chad	148	Estonia	233
Chile	152	Ethiopia	231
China	156	Falkland Islands (Malvinas)	238
Christmas Island	162	Faroe Islands	234
Cocos (Keeling) Islands	166	Fiji	242
Colombia	170	Finland	246
Comoros	174	France	250
Congo	178	France, Metropolitan	249
Cook Islands	184	French Guiana	254
Costa Rica	188	French Polynesia	258
Cote D'ivoire (Ivory Coast)	384	French Southern Territories	260
Croatia (local name: Hrvatska)	191	Gabon	266
Cuba	192	Gambia	270
Cyprus	196	Georgia	268
Czech Republic	203	Germany	276
Denmark	208	Ghana	288
Djibouti	262	Gibraltar	292
Dominica	212	Greece	300
Greenland	304	Jordan	400
Grenada	308	Kazakhstan	398
Guadeloupe	312	Kenya	404
Guam	316	Kiribati	296
Guatemala	320	Korea, Democratic People's Republic of (formerly North Korea)	408
Guinea	324	Korea, Republic of (formerly South Korea)	410
Guinea-Bissau	624	Kuwait	414
Guyana	328	Kyrgyzstan	417
Haiti	332	Lao People's Democratic Republic (formerly Laos)	418
Heard and McDonald Islands	334	Latvia	428

**TABLE F.1** ISO country codes

Country Name	Code	Country Name	Code
Honduras	340	Lebanon	422
Hong Kong	344	Lesotho	426
Hungary	348	Liberia	430
Iceland	352	Libyan Arab Jamahiriya (formerly Libya)	434
India	356	Liechtenstein	438
Indonesia	360	Lithuania	440
Iran (Islamic Republic of)	364	Luxembourg	442
Iraq	368	Macau	446
Ireland	372	Macedonia, the Former Yugoslav Republic of	807
Israel	376	Madagascar	450
Italy	380	Malawi	454
Jamaica	388	Malaysia	458
Japan	392	Maldives	462
Mali	466	Niue	570
Malta	470	Norfolk Island	574
Marshall Islands	584	Northern Mariana Islands	580
Martinique	474	Norway	578
Mauritania	478	Oman	512
Mauritius	480	Pakistan	586
Mayotte	175	Palau	585
Mexico	484	Panama	591
Micronesia, Federated States of	583	Papua New Guinea	598
Moldova, Republic of	498	Paraguay	600
Monaco	492	Peru	604
Mongolia	496	Philippines	608
Montserrat	500	Pitcairn	612
Morocco	504	Poland	616
Mozambique	508	Portugal	620
Myanmar (formerly Burma)	104	Puerto Rico	630

TABLE F.1 ISO country codes

Country Name	Code	Country Name	Code
Namibia	516	Qatar	634
Nauru	520	Reunion	638
Nepal	524	Romania	642
Netherlands	528	Russian Federation	643
Netherlands Antilles	530	Rwanda	646
New Caledonia	540	Saint Kitts and Nevis	659
New Zealand	554	Saint Lucia	662
Nicaragua	558	Saint Vincent and the Grenadines	670
Niger	562	Samoa	882
Nigeria	566	San Marino	674
Sao Tome and Principe	678	Tajikistan	762
Saudi Arabia	682	Tanzania, United Republic of	834
Senegal	686	Thailand	764
Seychelles	690	Togo	768
Sierra Leona	694	Tokelau	772
Singapore	702	Tonga	776
Slovakia (Slovak Republic)	703	Trinidad and Tobago	780
Slovenia	705	Tunisia	788
Solomon Islands	90	Turkey	792
Somalia	706	Turkmenistan	795
South Africa	710	Turks and Caicos Islands	796
South Georgia and the South Sandwich Islands	239	Tuvalu	798
Spain	724	Uganda	800
Sri Lanka	144	Ukraine	804
St. Helena	654	United Arab Emirates	784
St. Pierre and Miquelon	666	United Kingdom	826
Sudan	736	United States	840
Suriname	740	United States Minor Outlying Islands	581
Svalbard and Jan Mayen Islands	744	Uruguay	858

**TABLE F.1** *ISO country codes*

<b>Country Name</b>	<b>Code</b>	<b>Country Name</b>	<b>Code</b>
Swaziland	748	Uzbekistan	860
Sweden	752	Vanuatu	548
Switzerland	756	Vatican City State	336
Syrian Arab Republic (formerly Syria)	760	Venezuela	862
Taiwan, Province of China	158	Viet Nam	704
Virgin Islands (British)	92	Western Samoa	882
Virgin Islands (U.S.)	850	Yemen	887
Wallis and Futuna Islands	876	Yugoslavia	891
Virgin Islands (British)	92	Zaire	180
Virgin Islands (U.S.)	850	Zambia	894
Western Sahara	732	Zimbabwe	716







# Codes Used by FDMS South Only

Codes used by FDMS South only are Country Codes, Units of Measure, and Currency Codes.

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## MasterCard Country Codes

**TABLE G.1** *MasterCard country codes*

ALBANIA	ALB
ALGERIA	DZA
AMERICAN SAMOA	ASM
ANDORRA	AND
ANGOLA	AGO
ANGUILLA	AIA
ANTARCTICA	ATA
ANTIGUA	ATG
AO PEOPLES DEMOCRATIC	LAO
APHGANISTAN	AFG
ARGENTINA	ARG
ARMENIA	ARN
ARUBA	ABW
AUSTRALIA	AUS
AUSTRIA	AUT
AZERBAIJAN	AZE
BAHAMAS	BHS
BAHRAIN	BHR
BANGLADESH	BGD
BARBADOS	BRB
BELARUS	BLR
BELGIUM	BEL

**TABLE G.1 MasterCard country codes**

BELIZE	BLZ
BENIN	BEN
BERMUDA	BMU
BHUTAN	BTN
BOLIVIA	BOL
BOSNIA AND HERZIGOVINA	BIH
BOTSWANA	BWA
BOUVET ISLAND	BVT
BRAZIL	BRA
BRITISH INDIAN OCEAN TERRITORY	IOT
BRUNEI	BRN
BULGARIA	BGR
BURKINA FASO	BFA
BURUNDI	BDI
CAMBODIA	KHM
CANADA	CAN
CAPE VERDE	CPV
CAYMAN ISLANDS	CYM
CENTRAL AFRICAN REPUBLIC	CAF
CHAD	TCD
CHILE	CHL
CHINA	CHN
CHRISTMAS ISLAND	CXR
CMEROON, UNITED REP.	CMR
COCOS (KEELING) ISLAND	CCK
COLOMBIA	COL
COMOROS	COM
CONGO	GOG
COOK ISLANDS	COK
COSTA RICA	CRI

**TABLE G.1 MasterCard country codes**

COTED'IVOIRE	CIV
CROATIA	HRV
CYPRUS	CYP
CZECH REPUBLIC	CZE
DENMARK	DNK
DJIBOUTI	DJI
DOMINICA	DMA
DOMINICAN REPUBLIC	DOM
EL SALVADOR	SLV
EQUATORIAL GUINEA	GNQ
ESTONIA	EST
ETHIOPIA	ETH
FAEROE ISLANDS	FRO
FALKLAND ISLANDS (MALVINAS)	FLK
FIJI	FJI
FINLAND	FIN
FRANCE	FRA
FRENCH GUIANA	GUF
FRENCH POLYNESIA	PYF
FRENCH SOUTHERN TERRITORY	ATF
GABON	GAB
GAMBIA	GMB
GEORGIA	GEO
GERMAN DEMOCRATIC REP	DDR
GERMANY	DEU
GHANA	GHA
GIBRALTER	GIB
GRECE	GRC
GREENLAND	GRL
GRENADA	GRD
GUADALUPE	GLP

**TABLE G.1 MasterCard country codes**

GUAM	GUM
GUATEMALA	GTM
GUINEA	GIN
GUINEA-BISSAU	GNB
GUYANA	GUY
HAITI	HTI
HEARD & MCDONALDS ISLAND	HMD
HONDURAS	HND
HONG KONG	HKG
HUNGARY	HUN
ICELAND	ISL
INDIA	IND
INDONESIA	IDN
IRAN	IRN
IRAQ	IRQ
IRELAND	IRL
ISRAEL	ISR
ITALY	ITA
JAMAICA	JAM
JAPAN	JPN
JORDAN	JOR
KAZAKHSTAN	KAZ
KENYA	KEN
KOREA, REPUBLIC OF	KOR
KUWAIT	KWT
KYRGYZSTAN	KGZ
LATVIA	LVA
LEBANON	LBN
LESOTHO	LSO
LIBERIA	LBR
LIBYAN ARAB JAMAHIRIYA	LBY

**TABLE G.1 MasterCard country codes**

LIECHTNSTIEN	LIE
LITHUANIA	LTU
LUXEMBOURG	LUX
MACAU	MAC
MALAYSIA	MYS
MALDIVES	MDV
MALI	MLI
MALTA	MLT
MANACO	MCO
MARSHALL ISLANDS	MHL
MATINIQUE	MTQ
MAURITANIA	MRT
MAURITIUS	MUS
MEXICO	MEX
MICRONESIA	FSM
MOLDOVA	MDA
MONGOLIA	MNG
MONTSERRAT	MSR
MOROCCO	MAR
MOZAMBIQUE	MOZ
MYANMAR	MMR
NAMIBIA	NAM
NAURU	NRU
NEGEL	SEN
NEPAL	NPL
NETHERLANDS	NLD
NETHERLANDS ANTILLES	ANT
NEW CALDONIA	NCL
NEW ZEALAND	NZL
NICARAGUA	NIC
NIGER	NER

**TABLE G.1 MasterCard country codes**

NIGERIA	NGA
NIUE	NIU
NORFOLK ISLAND	NFK
NORTHERN MARIANA ISLAND	MNP
NORWAY	NOR
OMAN	OMN
PAKISTAN	PAK
PALAU	PLW
PANAMA	PAN
PAPUA NEW GUINEA	PNG
PARAGUAY	PRY
PERU	PER
PHILIPPINES	PHI
PITCAIRN ISLAND	PCN
POLAND	POL
PORTUGAL	PRT
PUERTO RICO	PRI
QATAR	QAT
REUNION	REU
ROMANIA	ROM
RUSSIAN FEDERATION	RUS
RWANDA	RWA
SAMOA	WSM
SAN MARINO	SMR
SAN TOME AND PRINCE	STP
SAUDI ARABIA	SAU
SEYCHELLES	SYC
SIERRA LEONE	SLE
SINGAPORE	SGP
ST. HELENA	SHN
ST. KITTS-NEVIS-ANGUILLA	KNA

**TABLE G.1 MasterCard country codes**

ST. LUCIA	LCA
ST. PIERRE AND MIQUELON	SPM
ST. VINCENT AND THE GRENADINES	VCT
SUDAN	SDN
SURINAM	SUR
SVALBARD & JAN MAYEN IS.	SJM
SWAZILAND	SWZ
SWEDEN	SWE
SWITZERLAND	CHE
SYRIAN ARAB REPUBLIC	SYR
TAIWAN, PROVINCE OF CHINA	TWN
TAJIKISTAN	TJK
TANZANIA, UNITED REPUBLIC	TZA
THAILAND	THA
TOGO	TGO
TOKELAU	TKL
TONGA	TON
TRINIDAD AND TOBAGO	TTO
TUNISIA	TUN
TURKEY	TR
TURKMENISTAN	TM
TURKS & CAICOS ISLANDS	TC
TUVALU	TUV
U.S. MINOR OUTLYING ISL.	UMI
UGANDA	UGA
UKRAINIAN SSR	UKR
UNITED ARAB EMIRATES	ARE
UNITED KINGDOM	GBR
UNITED STATES	USA
URUGUAY	URY

**TABLE G.1 MasterCard country codes**

UZBEKISTAN	UZB
VANUATU	VUT
VATICAN CITY STATE	VAT
VENEZUELA	VEN
VIETNAM	VNM
VIRGIN ISLANDS BRITISH	VGB
VIRGIN ISLANDS US	VIR
WALLIS AND FUTUNA IS	WLF
WESTERN SAHARA	ESH
YEMEN	YEM
YUGOSLAVIA	YUG
ZAIRE	ZAR
ZAMBIA	ZMB
ZIMBABWE	RHO

## Visa Country Codes

**TABLE G.2 Visa country codes**

ALBANIA	AL
ALGERIA	DZ
AMERICAN SAMOA	AS
ANDORRA	AD
ANGOLA	AO
ANGUILLA	AI
ANTARCTICA	AQ
ANTIGUA	AG
APHGANISTAN	AF
ARGENTINA	AR
ARMENIA	AM

**TABLE G.2 Visa country codes**

ARUBA	AW
AUSTRALIA	AU
AUSTRIA	AT
AZERBAIJAN	AZ
BAHAMAS	BS
BAHRAIN	BH
BANGLADESH	BD
BARBADOS	BB
BELARUS	BY
BELGIUM	BE
BELIZE	BZ
BENIN	BJ
BERMUDA	BM

**TABLE G.2 Visa country codes**

BHUTAN	BT
BOLIVIA	BO
BOSNIA AND HERZIGOVINA	BA
BOTSWANA	BW
BOUVET ISLAND	BV
BRAZIL	BR
BRITISH INDIAN OCEAN TERRITORY	IO
BRUNEI	BN
BULGARIA	BG
BURKINA FASO	BF
BURUNDI	BI
CAMBODIA	KH
CANADA	CA
CAPE VERDE	CV
CAYMAN ISLANDS	KY
CENTRAL AFRICAN REPUBLIC	CF
CHACOS (KEELING) ISLAND	CC
CHAD	TD
CHILE	CL
CHINA	CN
CHRISTMAS ISLAND	CX
CMEROON, UNITED REP.	CM
COLUMBIA	CO
COMOROS	KM
CONGO	CG
COOK ISLANDS	CK
COSTA RICA	CR
COTED'IVOIRE	CI
CROATIA	HR
CYPRUS	CY

**TABLE G.2 Visa country codes**

CZECH REPUBLIC	CZ
DENMARK	DK
DJIBOUTI	DJ
DOMINICA	DM
DOMINICAN REPUBLIC	DO
EAST TIMOR	TP
ECUADOR	EC
EGYPT	EG
EL SALVADOR	SV
EQUATORIAL GUINEA	GQ
ERITREA	ER
ESTONIA	EE
ETHIOPIA	ET
FAEROE ISLANDS	FO
FALKLAND ISLANDS	FK
FIJI	FJ
FINLAND	FI
FRANCE	FR
FRENCH GUIANA	GF
FRENCH METROPOLITAN	FX
FRENCH POLYNESIA	PF
FRENCH SOUTHERN TERRITORY	TF
GABON	GA
GAMBIA	GM
GEORGIA	GE
GERMANY	DE
GHANA	GH
GIBRALTER	GI
GRECE	GR
GREENLAND	GL
GRENADA	GD

**TABLE G.2 Visa country codes**

GUADALUPE	GP
GUAM	GU
GUATEMALA	GT
GUINEA	GN
GUINEA-BISSAU	GW
GUYANA	GY
HAITI	HT
HEARD & MCDONALDS ISLAND	HM
HONDURAS	HN
HONG KONG	HK
HUNGARY	HU
ICELAND	IS
INDIA	IN
INDONESIA	ID
IRAN	IR
IRAQ	IQ
IRELAND	IE
ISRAEL	IL
ITALY	IT
JAMAICA	JM
JAPAN	JP
JORDAN	JO
KAZAKHSTAN	KZ
KENYA	KE
KIRIBATI	KI
KOREA, REPUBLIC OF	KR
KUWAIT	KW
KYRGYZSTAN	KG
LAO PEOPLES DEMOCRATIC	LA
LATVIA	LV
LEBANON	LB

**TABLE G.2 Visa country codes**

LESOTHO	LS
LIBERIA	LR
LIBYAN ARAB JAMAHIRIYA	LY
LIECHTNSTIEN	LI
LITHUANIA	LT
LUXEMBOURG	LU
MACAU	MO
MACEDONIA	MK
MADAGASCAR	MG
MALAWI	MW
MALAYSIA	MY
MALDIVES	MV
MALI	ML
MALTA	MT
MANACO	MC
MARSHALL ISLANDS	MH
MATINIQUE	MQ
MAURITANIA	MR
MAURITIUS	MU
MAYOTTE	YT
MEXICO	MX
MICRONESIA	FM
MOLDOVA	MD
MONGOLIA	MN
MONTSERRAT	MS
MOROCCO	MA
MOZAMBIQUE	MZ
MYANMAR	MM
NAMIBIA	NA
NAURU	NR
NEPAL	NP

**TABLE G.2 Visa country codes**

NETHERLANDS	NL
NETHERLANDS ANTILLES	AN
NEW CALDONIA	NC
NEW ZEALAND	NZ
NICARAGUA	NI
NIGER	NE
NIGERIA	NG
NIUE	NU
NORFOLK ISLAND	NF
NORTHERN MARIANA ISLAND	MP
NORWAY	NO
OMAN	OM
PAKISTAN	PK
PALAU	PW
PANAMA	PA
PAPUA NEW GUINEA	PG
PARAGUAY	PY
PERU	PE
PHILIPPINES	PH
PITCAIRN ISLAND	PN
POLAND	PL
PORTUGAL	PT
PUERTO RICO	PR
QATAR	QA
REUNION	RE
ROMANIA	RO
RUSSIAN FEDERATION	RU
RWANDA	RW
SAMOA	WS
SAN MARINO	SM
SAN TOME AND PRINCE	ST

**TABLE G.2 Visa country codes**

SAUDI ARABIA	SA
SENEGAL	SN
SEYCHELLES	SC
SIERRA LEONE	SL
SINGAPORE	SG
ST. HELENA	SH
ST. KITTS-NEVIS-ANGUILLA	KN
ST. LUCIA	LC
ST. PIERRE AND MIQUELON	PM
ST. VINCENT AND THE GRENADINES	VC
SUDAN	SD
SURINAM	SR
SVALBARD & JAN MAYEN IS.	SJ
SWAZILAND	SZ
SWEDEN	SE
SWITZERLAND	CH
SYRIAN ARAB REPUBLIC	SY
TAIWAN, PROVINCE OF CHINA	TW
TAJIKISTAN	TJ
TANZANIA, UNITED REPUBLIC	TZ
THAILAND	TH
TOGO	TG
TOKELAU	TK
TONGA	TO
TRINIDAD AND TOBAGO	TT
TUNISIA	TN
TURKEY	TR
TURKMENISTAN	TM
TURKS & CAICOS ISLANDS	TC
TUVALU	TV



**TABLE G.2 Visa country codes**

U.S. MINOR OUTLYING ISL.	UM
UGANDA	UG
UKRAINIAN SSR	UA
UNITED ARAB EMIRATES	AE
UNITED KINGDOM	GB
UNITED STATES	US
URAGUAY	UY
UZBEKISTAN	UZ
VANUATU	VU
VATICAN CITY STATE	VA
VENEZUELA	VE
VIETNAM	VN
VIRGIN ISLANDS BRITISH	VG
VIRGIN ISLANDS US	VI
WALLIS AND FUTUNA IS	WF
WESTERN SAHARA	EH
YEMEN	YE
YUGOSLAVIA	YU
ZAIRE	ZR
ZAMBIA	ZM
ZIMBABWE	ZW

## Units of Measure

**TABLE G.3 Units of measure**

Acre (4840 yd2)	ACR
Alcoholic strength by mass	ASM
Alcoholic strength by volume	ASV
Ampere*	AMP

**TABLE G.3 Units of measure**

Ampere=hour (3,6 kC)*	AMH
Are (100 m2)	ARE
Bar*	BAR
Barrel (petroleum) (158,987 dm3)	BLL
Becquerel*	BQL
Billion EUR	BIL

**TABLE G.3 Units of measure**

Billion US	MLD
Board foot	BFT
Brake horse power (245,7 watts)	BHP
British thermal unit (1,055 kilojoules)	BTU
Bushel (35,2391 dm <sup>3</sup> )	BUA
Bushel (36,36874 dm <sup>3</sup> )	BUI
Candela*	CDL
Carrying capacity in metric tonnes	CCT
Cental GB (45,359237 kg)	CNT
Center, metric (100 kg) (syn.: Hectokilogram)	DTN
Centigram*	CGM
Centilitre*	CLT
Centimetre*	CMT
Cord (3,63 m <sup>3</sup> )	WCD
Coulomb per kilogram*	CKG
Coulomb*	COU
Cubic centimetre*	CMQ
Cubic decimetre*	DMQ
Cubic foot	FTQ
Cubic inch	INQ
Cubic metre per hour*	MQH
Cubic metre per second*	MQS
Cubic metre*	MTQ
Cubic millimetre*	MMQ
Cubic yard	YDQ
Curie	CUR
Day*	DAY
Decade (ten years)	DEC
Decare	DAA
Decilitre*	DLT

**TABLE G.3 Units of measure**

Decimetre*	DMT
Decitonne*	DTN
Degree Celsius	CEL
Degree Fahrenheit	FAH
Degree Kelvin: Kelvin	
Displacement tonnage	DPT
Dozen	DZN
Dozen packs	DZP
Dozen pairs	DZR
Dozen pieces	DCP
Dozen rolls	DRL
Drachm GB (3,887935 g)	DRM
Dram GB (1,771745 g)	DRI
Dram US (3,887935 g)	DRA
Dry Barrel (115,627 dm <sup>3</sup> )	BLD
Dry gallon (4,404884 dm <sup>3</sup> )	GLD
Dry pint (0,55061 dm <sup>3</sup> )	PTD
Dry quart (1,101221 dm <sup>3</sup> )	QTD
Farad*	FAR
Fluid ounce (28,413 cm <sup>3</sup> )	OZI
Fluid ounce (29,5735 cm <sup>3</sup> )	OZA
Foot (0,3048 m)	FOT
Gallon (4,546092 dm <sup>3</sup> )	GLI
Gigabecquerel*	GBQ
Gigawatt-hour (1 million kW/h)*	GWH
Gill (0,142065 dm <sup>3</sup> )	GII
Gill (11,8294 cm <sup>3</sup> )	GIA
Grain GB, US (64,798910 mg)	GRN
Gram of fissile isotopes	GFI
Gram*	GRM
Great gross (12 gross)	GGR

**TABLE G.3 Units of measure**

Gross	GRO
Gross (register) ton	GRT
Half year (six months)	SAN
Hectare	HAR
Hectobar*	HBA
Hectogram*	HGM
Hectokilogram*	DTH
Hectolitre of pure alcohol	HPA
Hectolitre*	HLT
Hectometre*	HMT
Hertz*	HTZ
Hour*	HUR
Hundred	CEN
Hundred boxes	BHX
Hundred international units	HIU
Hundred leaves	CLF
Hundred packs	CNP
Hundredweight US (45,3592 kg)	CWA
Inch (25,4 mm)	INH
Joule*	JOU
Kelvin*	KEL
Kilobar*	KBA
Kilogram of caustic potash	KPH
Kilogram of caustic soda	KSH
Kilogram of named substance	KNS
Kilogram of nitrogen	KNI
Kilogram of phosphonic anhydride	KPP
Kilogram of phosphorus pentoxide	KPP
Kilogram of potassium hydroxide	KPH
Kilogram of potassium oxide	KPO

**TABLE G.3 Units of measure**

Kilogram of sodium hydroxide	KSH
Kilogram of substance 90 percent dry	KSD
Kilogram per cubic meter*	KMQ
Kilogram per second*	KGS
Kilogram*	KGM
Kilohertz*	KHZ
Kilojoule*	KJO
Kilometre per hour*	KMH
Kilometre*	KMT
Kilopascal*	KPA
Kilogram of uranium	KUR
Kilotonne*	KTN
Kilovar	KVR
Kilovolt*	KVT
Kilovolt-ampere*	KVA
Kilowatt*	KWT
Kilowatt-hour*	KWH
Knot (1 nautical mile per hour)	KNT
Leaf	LEF
Liquid gallon (3,78541 dm3)	GLL
Liquid pint (0,473176 dm3)	PTL
Liquid quart (0,946353 dm3)	QTL
Litre (1 dm3)*	LTR
Litre of pure alcohol	LPA
Long ton GB, US (1,0160469 t)	LTN
(long) hundredweight GB (50,802345 kg)	CWI
Lumen*	LUM
Lux	LUX
Megahertz*	MHZ
Megalitre*	MAL

**TABLE G.3 Units of measure**

Megametre*	MAM
Megapascal*	MPA
Megavolt-ampere (1000 KVA)*	MVA
Megawatt*	MAW
Megawatt-hour (100 kW/h)*	MWH
Metre per second squared*	MSK
Metre per second*	MTS
Metre*	MTR
Metric carat (200 mg=2,10-4 kg)	CTM
Metric ton (1000 kg)	TNE
Milliard	MLD
Millibar*	MBR
Millicurie	MCU
Milligram*	MGM
Millilitre*	MLT
Millimetre*	MMT
Million	MIO
Million cubic metres*	HMQ
Million international units	MIU
Minute*	MIN
Month	MON
Nautical mile (1852 m)	NMI
Net (register) ton	NTT
Newton*	NEW
Number	NMB
Number of articles	NAR
Number of bobbons	NBB
Number of cells*	NCL
Number of international units	NIU
Number of packs	NMP
Number of pairs	NMR

**TABLE G.3 Units of measure**

Number of parcels	NPL
Number of parts	NPT
Number of rolls	NRL
Ohm*	OHM
Ounce GB, US (28,349523 g)	ONZ
Ounce GB, US (31,103448 g) (syn: Troy ounce)	APZ
Pascal*	PAL
Pennyweight GB, US (1555174 g)	DWT
Piece	PCE
Pint (0,568262 dm <sup>3</sup> )	PTI
Pound GB, US (0,45359237 kg)	LBR
Proof gallon	PGL
Quart (1,136523 dm <sup>3</sup> )	QTI
Quarter (of a year)	QAN
Quarter, GB (12,700586 kg)	QTR
Quintal, metric (100 kg)	DTN
Revolution per minute*	RPM
Revolution per second*	RPS
Score	SCO
scruple, GB (1,2955982 g)	SCR
Second*	SEC
Set	SET
Shipping ton	SHT
Short standard (7200 matches)	SST
Short ton GB, US (0,90718474 t)	STN
Siemens*	SIE
Square centimetre*	CMK
Square decimetre*	DMK
Square foot	FTK
Square inch	INK

**TABLE G.3 Units of measure**

Square kilometre*	KMK
Square metre*	MTK
Square mile	MIK
Square millimetre*	MMK
Square yard	YDK
Standard	WSD
standard atmosphere (101325 Pa)	ATM
(statue) mile (1609,344 m)	SMI
Stone GB (6,350293 kg)	STI
Technical atmosphere (98066,5 Pa)	ATT
Ten days	DAD
Ten pairs	TPR
Thousand	MIL
Thousand ampere-hour*	TAH
Thousand board feet (2,36 m <sup>3</sup> )	MBF
Thousand cubic metres per day*	TQD
Thousand standard brick equivalent	MBE
Ton of steam per hour	TSH
Tonne (1000 kg)*	TNE
Tonne of substance 90 percent dry	TSD
Trillion EUR	TRL
Trillion US	BIL
Troy ounce	APZ
Troy pound, US (373,242 g)	LBT
Volt*	VLT
Watt*	WTT
Watt-hour*	WHR
Weber	WEB
Week	WEE
Yard (0,9144 m)	YRD
Year	ANN

## FDMS South Currency Codes and Decimal Positions

**TABLE G.4** *FDMS South currency codes*

Currency Name	Currency Code	Decimal Positions
Argentine Peso	32	2
Australian Dollar	36	2
Austrian Schilling	40	2
Belgian Franc	56	0
Canadian Dollar	124	2
Chilean Peso	152	2
Czech Koruna	203	2
Danish Krone	208	2
Dominican Peso	214	2
Markka	246	2
French Franc	250	2
Deutsche Mark	280	2
Drachma	300	0
Hong Kong Dollar	344	2
Indian Rupee	356	2
Irish Punt	372	2
Shekel	376	2
Italian Lira	380	0
Yen	392	0
Won	410	0
Luxembourg Franc	442	0
Mexican Nuevo Peso	484	2
Netherlands Guilder	528	2
New Zealand Dollar	554	2
Norwegian Frone	578	2
Philippine Peso	608	2

**TABLE G.4** *FDMS South currency codes*

Currency Name	Currency Code	Decimal Positions
Portuguese Escudo	620	0
Rand	710	2
Spanish Peseta	724	0
Swedish Krona	752	2
Swiss Franc	756	2
Thailand Baht	764	2
Pound Sterling	826	2
Russian Ruble	810	2
U.S Dollar	840	2
Bolivar	862	2
New Taiwan Dollar	901	2
Euro	978	2
Polish New Zloty	985	2
Brazilian Real	986	2



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## About XMLPay

XMLPay specifies an XML syntax for payment requests and associated responses in a payment-processing network. Instead of using name/value pairs, the Payflow SDK allows the use of XML documents based on XMLPay 2.0 schema.

The typical user of XMLPay is an internet merchant or merchant aggregator who wants to dispatch credit card, corporate purchase card, Automated Clearinghouse (ACH), or other payment requests to a financial processing network.

Using the data type definitions specified by XMLPay, such a user creates a client payment request and dispatches it in the same fashion as using name/value pairs to an associated XMLPay-compliant server component. Responses are also formatted in XML and convey the results of the payment requests to the client.

---

## Payflow Pro XMLPay Developer's Guide

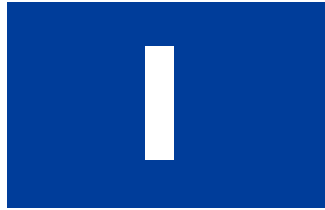
*Payflow Pro XMLPay Developer's Guide* defines an XML syntax for payment transaction requests, responses, and receipts in a payment processing network.

You may obtain a copy of this document via the PayPal Manager Documentation page.

**NOTE:** For specific examples of how to submit XML documents using the Payflow client API, see the Payflow SDK Download package.







# Additional Processor Information

This appendix provides additional processor information.

---

## Moneris Solutions

The Moneris Solutions processor has the following characteristics:

- It supports ecommerce and mail order or telephone order (MOTO) transactions.
- It supports the four basic credit card types: American Express, Discover, MasterCard, and Visa.
- To process live transactions, it requires undergoing a certification process. For details, see the *Moneris Receipts Specification* available on the [Payflow Pro page](#) on Developer Central.



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