PayPal™

Gateway Developer Guide and Reference

PayPal Payments Advanced
PayPal Payments Pro
Payflow Pro
Payflow Link

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Gateway Developer Guide and Reference

Preface

This guide describes the data parameters for the Gateway payments solutions.

Scope

This guide is a reference to the payment card data parameters available for submitting in transaction requests over the Gateway to multiple supported processors. It also covers the resulting response data parameters and errors.

The guide describes the requirements of an ever growing list of processing platforms. It organizes parameters into a core set of request parameters supported by all processors, additional parameters unique to individual processors, and purchasing card parameters specialized to monitor credit card use in businesses. It also provides a section on response parameters and error codes (PNREF values that are not 0).

Although this guide provides guidance on getting started with the SDK, setting up credit card processing, and testing your integration, its broad scope does not lend to use as a tutorial on integration. Refer to the PayPal Developer website and the Payflow Gateway SDK for detailed working examples and use cases.

Related Documentation

For additional information on the Gateway payments solutions:

- See PayPal Manager at:

  https://manager.paypal.com/

- For more information on Payflow documentation, examples, and very current information, see the PayPal developer site at the following URL:

  https://www.x.com/developers/paypal

Intended Audience

This guide provides Gateway payments solutions to readers who:

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

Who Should Use This Document

This comprehensive developer guide includes integration information for multiple Gateway solutions. Legacy Payflow Link features are not included in this guide. For legacy Payflow Link features refer to the Payflow Link User's Guide. Additionally, all the Gateway features explained in this guide are not necessarily available to every Gateway customer. This section will help you determine whether you should use this document and which sections of the document are relevant to you.

To view the Gateway solutions available to you, login to PayPal Manager at https://manager.paypal.com/. PayPal Manager displays your Gateway *Services* in the *Service Summary* box.

- **Payflow Link**

  Payflow Link customers can choose PayPal or another merchant bank to process their transactions via the Payflow Gateway.

  A) Legacy Payflow Link users will see the following in the *Service Summary* box in PayPal Manager:

  Payflow Link

Service Summary		
Service	**Status** ⊙	**Mode** ⊙
Payflow Link	Live	Test

  If you are a legacy Payflow Link user, do not use this guide; instead, use the Payflow Link User's Guide.

  B) New Payflow Link users will see the following in the *Service Summary* box in PayPal Manager:

  Hosted Checkout Pages & Payflow SDK/API (Limited Access). (If PayPal Payments Advanced is also listed, then you are not a Payflow Link customer).

New Payflow Link users who are using the Secure Token or the API should use this guide. However, new Payflow Link users who are using the legacy Payflow Link input tag integration should use the Payflow Link User's Guide instead.

Limited API Access means you can perform all API functions except for Sales and Authorization transactions. For Sales and Authorization type transactions you must use the Hosted Checkout Pages.

- **Payflow Pro**

  Payflow Pro customers can choose PayPal or another merchant bank to process their transactions via the Gateway.

  A) Legacy Payflow Pro users will see the following in the *Service Summary* box in PayPal Manager:

  Payflow Pro

  Legacy Payflow Pro users should use this guide; however, these users can only use the API integration and do not have the Hosted Checkout Pages service. If you are a legacy Payflow Pro user, you should skip the chapter on Hosted Checkout Pages - "Configuring Hosted Checkout Pages" on page 37.

  B) New Payflow Pro users can take advantage of all of the Gateway features including Hosted Checkout Pages. These users will see the following in the *Service Summary* box in PayPal Manager:

  Hosted Checkout Pages & Payflow SDK/API (Full Access)

- **PayPal Payments Advanced**

  Transactions submitted by PayPal Payments Advanced customers are processed through the Gateway with PayPal acting as the merchant bank. PayPal Payments Advanced users will see the following in the *Service Summary* box in PayPal Manager:

  PayPal Payments Advanced with *Hosted Checkout Pages* & *Payflow SDK/API (Limited Access)*

  Limited API Access means you can perform all API functions except for Sales and Authorization transactions. For Sales and Authorization type transactions you must use Hosted Checkout Pages.

- **PayPal Payments Pro**

  Transactions submitted by PayPal Payments Pro customers are processed through the Gateway with PayPal acting as the merchant bank. PayPal Payments Pro users can use all of the Gateway features supported by PayPal. These users will see the following in the *Service Summary* box in PayPal Manager:

  PayPal Payments Pro with *Hosted Checkout Pages* & *Payflow SDK/API (Full Access)*

Revision History

Revision History for the *Gateway Developer Guide and Reference*:

Date	Description
25 Apr 2013	Updated the description of the Driver's License - `DL` field in Required TeleCheck Parameters.
22 Feb 2013	Updated the description of the Driver's License - `DL` field in Required TeleCheck Parameters.
28 Jan 2013	Added a new Appendix on Payflow Header Parameters. Added information about duplicate parameters in the Name-Value Parameter Syntax Guidelines. In the Hosted Pages Chapter, added the Passing Other Data to Your Server Using Post or Silent Post section, and clarified that Silent Posts are returned for both approved and declined transactions. Updated the Payflow Link legacy parameters and the equivalent Payflow parameters parameter table. Removed legacy Payflow Link parameters with identical Payflow equivalents. Updated the description of the `BILLTOSTATE` and `SHIPTOSTATE` parameters in the Core Credit Card Parameters table. Added a note to the introduction of the Submitting Credit Card Transactions chapter. Revised the introduction to the Payflow SDK chapter. Updated some of the external links in the guide. Corrected the format of the `ORDERDATE` parameter in TSYS Acquiring Solutions Level 3 Visa Extended Data.
28 Dec 2012	Updated the description of the Driver's Licencse - `DL` field in Required TeleCheck Parameters.
11 Dec 2012	Added info on forcing the Cancel URL with layout template C to Configuring Hosted Pages Using PayPal Manager. Added Secure Token error codes to Secure Token Errors and to RESULT Values and RESPMSG Text.
04 Oct 2012	Added a new section on Hosted Pages and Mobile Browsers and updated the Configuring Hosted Checkout Pages chapter. Added a new section: Supported Languages. Added a new section: Using the PARMLIST Parameter. Added information to the Host URL Addresses section.

Date	Description
29 Aug 2012	Added the Payflow Gateway MagTek Parameters Appendix.
31 July 2012	Added a list of Setup Params and Customize Params. These parameters override PayPal Manager settings for Hosted Pages.
	Briefly explained the differences between Submitting Credit Transactions and Submitting Void Transactions.
	Updated the parameters in the Payflow Link legacy parameters and the equivalent Payflow parameters table.
	Added DATE_TO_SETTLE to Credit Card Transaction Responses parameters table.
	Added a note to the About Credit Card Processing section.
23 July 2012	Added the Bill Me Later feature to the Gateway Product Details section.
16 July 2012	Updated required value for BILLTOCITY, BILLTOSTATE & BILLTOCOUNTRY in PayPal Credit Card Transaction Request Parameters table.
June 2012	Who Should Use This Document section added to the Preface.
	Integrating the Secure Token Without the Hosted Checkout Pages: Transparent Redirect section: corrected value of SILENTTRAN to "True"
	Silent Posts section added to Hosted Checkout Pages chapter.
	ISO Country Codes: removed the legacy paramater CORPCOUNTRY
May 2012	**Added new sections to the Testing Transactions chapter:** Testing Address Verification ServiceTesting Card Security Code
	Added PayPal Acquirer chapter: Contains links to PayPal API Ref country and currency codes
May 2012 *(cont.)*	**Document maintenance:** Added cross-references and external links; reorganized content; removed no longer applicable content.

Date	Description
April 2012	**Added new transaction type:** Balance Inquiry (`TRXTYPE=B`) can be used to obtain the balance of a pre-paid card.
	Updated TeleCheck chapter: Updated MICR values in Testing TeleCheck Transactions section Added TeleCheck Adjustment Response Code Values table
	Updated parameters and examples: Added a description for response parameters `HOSTCODE, RESPTEXT, PROCCARDSECURE, ADDLMSGS` and an explanation on how to use these parameters to obtain the processor's raw response codes and response messages. Changed Litle parameters from `STREET2,STREET3` to `BILLTOSTREET2, BILLTOSTREET3` Corrected description of `MERCHSVC` parameter for FDMS North, Heartland, Litle, Merchant e-Solutions, Paymentech Salem Updated examples and removed legacy parameters to include:`FIRSTNAME, LASTNAME, STREET, CITY, STATE, ZIP, COUNTRY`
	Updated processor and entity names: Vantiv, previously known as Fifth Third Processing Solutions PayPal Australia, previously known as First Data Australia
January 2012	**Added new processors:** First Third International Heartland Payment Systems Planet Payment SecureNet TeleCheck WorldPay
	Added new transaction types: `TRXTYPE=L` can be used to upload credit card data, easing PCI compliance. You can store the resulting `PNREF` locally for use in performing reference transactions.

Date	Description
January 2012 *(cont.)*	**Added request NVPs:**
	ADDLAMTn
	ADDLAMTTYPEn
	AUTHDATE
	CATTYPE
	CONTACTLESS
	CUSTDATA
	CUSTOMERID
	CUSTOMERNUMBER
	DISCOUNT
	DUTYAMT
	DLNAME
	DLNUM
	DOB
	L_ALTTAXAMTn
	L_ALTTAXIDn
	L_ALTTAXRATEn
	L_CARRIERSERVICELEVELCODEn
	L_COMMCODEn
	L_EXTAMTn
	L_PRODCODEn
	L_TAXTYPEn
	ORDERID
	MERCHANTDESCR
	MERCHANTINVNUM
	MERCHANTNAME
	MERCHANTURL
	MERCHANTVATNUM
	MERCHANTZIP
	MISCDATA
	REPORTGROUP
	SILENTTRAN
	STREET3
	VATINVNUM
	VATTAXAMT
	VATTAXRATE
	Added response NVPs:
	DUPLICATE (response)
	EXTRMSG (response)

Date	Description
January 2012 *(cont.)*	**Added concepts:**
	Gateway Product Solutions - PayPal Payments Advanced, PayPal Payments Pro, Payflow Pro, Payflow Link
	Transaction Flow
	Transparent Redirect
February 2011	First publication.

1 Introducing the Gateway Checkout Solutions

The Gateway provides checkout solutions for novice and advanced use. It provides merchants with a rich set of options to handle payment transactions.

- "About the Gateway Checkout Solutions" on page 23
- "About the Gateway Transaction Flow" on page 25
- "About Security" on page 26
- "Processing Platforms Supporting Card-Present Transactions" on page 28
- "Supported Payment Types" on page 29
- "Recurring Billing Service" on page 30

About the Gateway Checkout Solutions

Gateway checkout consists of the following four solutions:

- Payflow Link
- Payflow Pro
- PayPal Payments Advanced
- PayPal Payments Pro

Summary of the Gateway Checkout Solutions

Below is a basic comparison of the Gateway checkout solutions:

- Payflow Link uses hosted checkout pages to send transactions to a supported processor. Merchants can use the Payflow SDK APIs to perform all transactions except authorization and sale transactions. By using hosted pages with a secure token, the merchant adheres to compliance rules for handling customer data in a secure way: data is stored on PayPal so that it is not exposed to compromise.

- Payflow Pro can send transactions to a number of different supported processors, requirements for which are described in this documentation. Merchants select a supported processor and obtain an acquiring bank. Typically merchants integrate with, and have full access to, the Payflow SDK or use HTTPS to send transactions to the processor. Using hosted pages is an option.

- PayPal Payments Advanced uses web pages hosted by PayPal (also known as *hosted checkout pages*) to send transactions to the PayPal processor. With PayPal Payments Advanced, PayPal is the acquiring bank. By using hosted checkout pages with a secure

token, the merchant adheres to compliance rules for handling customer data in a secure way: data is stored on PayPal so that it is not exposed to compromise.

- Like PayPal Payments Advanced, PayPal Payments Pro sends transactions to the PayPal processor and PayPal is the acquiring bank. Using hosted checkout pages is an option. Typically merchants integrate with the Payflow SDK or use HTTPS to send transactions to the PayPal processor.

NOTE: PayPal strongly recommends that all users of Gateway checkout solutions take advantage of the secure token and the hosted checkout pages. Doing so provides automatic compliance with processing card industry (PCI) standards for protecting cardholder data.

Gateway Product Details

The table below compares how the Gateway checkout solutions support payment processing features.

Feature	PayPal Payments Advanced Payflow Link	PayPal Payments Pro Payflow Pro
Hosted checkout page (including an iFrame version)	Yes	Yes
PayPal payments	Included	Optional
Bill Me Later payments (Available to US merchants only on Hosted checkout pages.)	Included	Optional
PayPal branding on full page templates	Yes	Optional
Transparent Redirect	No	Yes
Supports PayPal as a processor and an acquirer	Yes	Yes
Credit and debit cards	Yes	Yes
Level 2 and Level 3 purchase cards	Yes	Yes
TeleCheck (guaranteed electronic checks)	No	Yes
ACH (electronic checks)	No	Yes
Virtual Terminal support, including card-present data passage	Yes	Yes
Virtual Terminal	Payflow Link only	Yes
API	Limited access (no authorization or sale)	Full access

Feature	PayPal Payments Advanced Payflow Link	PayPal Payments Pro Payflow Pro
Reference transactions (Tokenization)	Yes	Yes
Secure token to preset hosted checkout page	Yes	Yes
Reporting APIs	Yes	Yes
Desktop integration	Yes	Yes
Recurring billing	Yes	Yes
Basic fraud protection	Yes	Yes
Advanced fraud protection	Yes	Yes
Partner/channel distribution support (Partner Manager, registration, XML registration) resale and referral	Yes	Yes

About the Gateway Transaction Flow

The traditional transaction flow is as follows. Numbers correspond to numbers in the figure.

1. At your website, the customer clicks **Buy** to purchase merchandise.

2. You send the transaction request to the Gateway server.

3. The Gateway sends the transaction to the payment processing network.

4. Your processor sends the response back to the Gateway server and processes the transaction (obtains the payment from the customer bank and deposits it in the merchant bank).

5. The Gateway server returns the response to your website.

6. Your website displays the result to the customer.
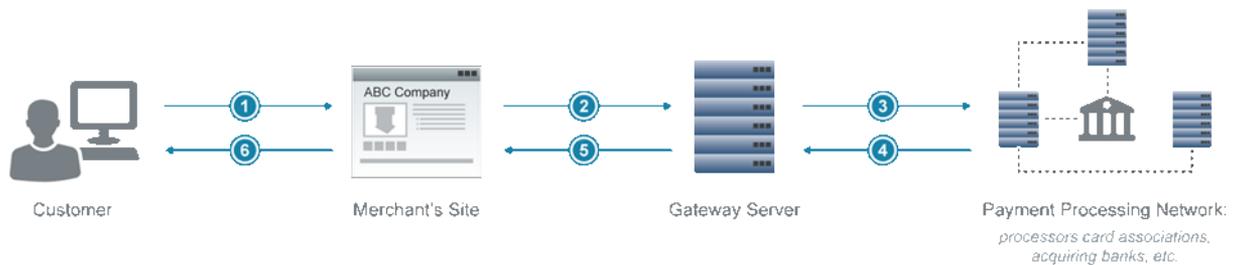
You can use the core transaction parameters supported by all Gateway processors described in this dcumentation to send transaction data to your processor. In addition:

- Each Gateway processor may support various additional parameters beyond the core set that you can send in transaction requests.

- Your processor may also support *purchasing cards* (credit cards employers issue for business-related charges). Purchasing card Level 2 and Level 3 parameters provide specialized reporting so an employer can monitor card use. The parameter information may appear on the customer's statement or describe line items in greater detail. Be sure to check for your processor's Level 2 and 3 parameters in this documentation.

The sections in this documentation describing the above parameters alphabetically organize parameters by processor name.

About Security

It is your responsibility to adhere to PCI compliance standards to protect personal information and implement security safeguards on your website when processing payment card transactions.

Gateway solutions make available a secure token and hosted checkout pages to help you meet PCI compliance. Hosted pages are optional to PayPal Payments Pro and Payflow Pro users. If you do not use a secure token or hosted pages, you must provide your own means of meeting compliance requirements.

NOTE: PayPal Payments Advanced and Payflow Link merchants are required to use hosted pages.

Secure Token

The secure token stores request transaction data on the Gateway server. It eliminates the need to resend the parameter data for display in a hosted checkout page where the data might be subject to compromise.

Hosted Checkout Pages

The Gateway enables the use of hosted checkout pages, which help you achieve PCI compliance. The hosted checkout pages enable you to pass transaction data securely to the server and to collect credit card acceptance data.

NOTE: You are required to use hosted pages with PayPal Payments Advanced and Payflow Link.

The following figure shows the transaction flow when using hosted pages and a secure token.
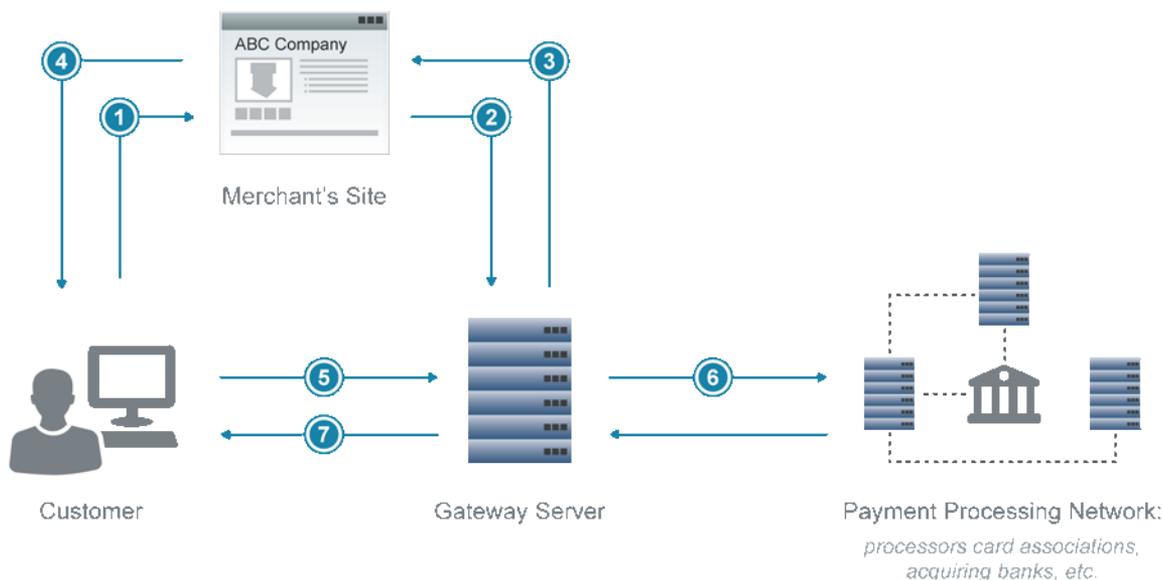
Numbers in the figure correspond to the numbered comments below:

1. The customer clicks **Buy** to purchase merchandise on your website.

2. You request a secure token by passing a token ID to the Gateway server.

3. The Gateway server returns the secure token and your token ID to your website.

4. You submit the secure token and token ID in an HTTP post to pages hosted on the Gateway server and redirect the customer's browser to the hosted pages.

5. The Gateway server uses the secure token to retrieve the amount and other transaction data. The customer submits their credit card number, expiration date, and other sensitive data directly to the host pages rather than to your website, easing your PCI compliance requirements.

6. The Gateway processes the payment through the payment processing network.

7. The Gateway server transparently returns the customer to the location on your website that you specified in the request to obtain a secure token. You display the results to the customer on your website.

NOTE: If you do not get a response from the Gateway server, submit an Inquiry transaction, passing in the secure token to see if the transaction has completed. For details, see "Submitting Inquiry Transactions" on page 69.

PCI Compliance Without Hosted Pages: Transparent Redirect

PayPal Payments Pro and Payflow Pro merchants who want PCI compliance while maintaining full control over designing and hosting checkout pages on their website can use Transparent Redirect. Transparent Redirect posts payment details silently to the Gateway server, so this sensitive information never goes through the merchant's website.

Implementing Transparent Redirect is very similar to implementing hosted pages. It differs only in the steps shown in boldface below:

1. The customer clicks **Buy** to purchase merchandise on your website.

2. You request a secure token by passing a secure token ID to the Gateway server. **In the request, you pass the name-value pair,** `SILENTTRAN=TRUE`**. This name-value pair prevents the hosted pages from displaying.**

3. The Gateway server returns the secure token and your token ID to your website.

4. **You display the credit card fields to the customer in a checkout page on your website.**

5. **The customer enters their credit card number, expiration date, and other sensitive data into the credit card fields and clicks Submit. The browser posts the payment data directly to the Gateway server, avoiding your website and easing your PCI compliance requirements.**

    NOTE: To ensure that the post goes from the browser directly to PayPal and not back to your website, you should add scripting.

6. The Gateway processes the payment through the payment processing network.

7. The Gateway server transparently sends the customer to the location on your website that you specified in the request to obtain a secure token. You display the results to the customer on your website.

Processing Platforms Supporting Card-Present Transactions

The following processing platforms support card-present transactions.

American Express
American Express APAC
Elavon
First Data Merchant Services (FDMS) Nashville
First Data Merchant Services (FDMS) North
First Data Merchant Services (FDMS) South
Global Payments Central
Global Payments East
Heartland Payment Systems
Litle
Merchant e-Solutions

Moneris Solutions
Paymentech Salem
Paymentech Tampa
PayPal
SecureNet
TeleCheck
TSYS Acquiring Solutions
Vantiv
WorldPay

Supported Payment Types

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 2 and Level 3
Automated Clearing House (ACH). For information on performing ACH transactions, contact your PayPal Sales Representative.

Supported Languages

The Payflow Gateway only supports customer input and API parameter values that are in regular ASCII (English language) characters. Payflow does not support extended ASCII characters or any other character sets other than regular ASCII at this time. Additionally, the Payflow hosted checkout pages and PayPal manager account settings pages are available in English only. For information on a similar PayPal product that offers multi-lingual support, see Website Payments Pro Hosted Solution.

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, you can bill your customers a monthly fee of $42 for 36 months with an initial fee of $129.

You enroll separately for the Recurring Billing Service. You can learn about the Recurring Billing Service in the Payflow Pro – Recurring Billing Service User's Guide. If you already have this service, this user guide will show you how to define and manage recurring transactions programmatically. You can also manage Recurring Billing tasks in PayPal Manager.

Fraud Protection Service

Fraud Protection Services can help you significantly reduce the cost of fraud and the resulting damage to your business. This service uses Fraud Protection filters to help protect you from fraudsters using stolen or false credit card information. These filters identify potentially fraudulent activity and let you decide whether to accept or reject the suspicious transaction. Fraud Protection Service can also minimize the risk of hacking your customer database by enabling you to place powerful constraints on access to and use of your PayPal Manager and Payflow Gateway accounts.

You enroll separately for the Fraud Protection Service. You can learn more about Fraud Protection Service in the Payflow Pro Fraud Protection Services User's Guide. If you already have this service, this user guide will show you how to setup Fraud Protection filters. You can also manage some aspects of your Fraud Protection Service in PayPal Manager.

2 Secure Token

This section describes the secure token.

About the Secure Token

Use a *secure token* to send non-credit card transaction data to the Gateway server for safer storage. The secure token prevents anyone from intercepting or manipulating the data. You must use a secure token if you use hosted checkout pages. The token is good for a one-time transaction and is valid for 30 minutes.

NOTE: PayPal Payments Pro and Payflow Pro merchants who do not use a secure token must host their own payment pages. When hosting your own pages, you are responsible for meeting PCI requirements by handling data securely. PayPal Payments Advanced and Payflow Link merchants must use a secure token with hosted checkout pages.

To obtain a secure token, pass a unique, 36-character secure token ID and set CREATESECURETOKEN=Y in a request to the Gateway server. The Gateway server associates your ID with a secure token and returns the token as a string of up to 32 alphanumeric characters.

To pass the transaction data to the hosted checkout page, you pass the secure token and secure token ID in an HTTP form post. The token and ID trigger the Gateway server to retrieve your data and display it for customer approval.

NOTE: You cannot modify the data sent with a secure token, with one exception. You can configure PayPal Manager to allow you to modify billing and shipping information.

Integrating the Secure Token With the Hosted Checkout Pages

To create a secure token, pass all parameters that you need to process the transaction except for payment details parameters such as the credit card number, expiration date, and check number. For details on transaction parameters, see "Submitting Credit Card Transactions" on page 55. In addition, pass the following Payflow parameters to create the secure token.

NOTE: The secure token is valid for 30 minutes, and you can only use it one time. If you attempt to use the token after the time limit has expired, your transaction will fail with Result value 7, "Secure Token Expired." If you attempt to reuse the token, you receive an error.

1. Set SECURETOKENID to a unique alphanumeric value up to 36 characters in length.

```
SECURETOKENID=9a9ea8208de1413abc3d60c86cb1f4c5
```

2. Set CREATESECURETOKEN to the value Y to request that Payflow gateway return a token.

```
CREATESECURETOKEN=Y
```

Secure Token Example

The following is an example of a request parameter string that creates a secure token.

```
TRXTYPE=A&BILLTOSTREET=123 Main St.&BILLTOZIP=95131&AMT=23.45&CURRENCY=USD&
INVNUM=INV12345&PONUM=PO9876&CREATESECURETOKEN=Y&SECURETOKENID=9a9ea8208de1
413abc3d60c86cb1f4c5
```

The Gateway server returns SECURETOKEN and SECURETOKENID in the response. A tag follows the SECURETOKEN to indicate the length of the token value returned.

```
RESULT=0&RESPMSG=Approved&SECURETOKEN[25]=Fj+1AFUWft0+I0CUFOKh5WA==&SECURET
OKENID=9a9ea8208de1413abc3d60c86cb1f4c5
```

Integrating the Secure Token Without the Hosted Checkout Pages: Transparent Redirect

To use your own checkout pages while complying with PCI guidelines (sending the customer's sensitive data directly to the Gateway server), pass all parameters that you need to process the transaction except for sensitive payment details such as the credit card number, expiration date, and check number. For details on sending transactions, see "Submitting Credit Card Transactions" on page 55.

In addition, pass the following 3 Payflow parameters in your request. The first 2 parameters obtain a secure token. The third parameter implements Transparent Redirect, which suppresses hosted pages.

NOTE: The secure token is valid for 30 minutes, and you can only use it one time. If you attempt to use the token after the time limit has expired, your transaction will fail with Result value 7, "Secure Token Expired." If you attempt to reuse the token, you receive an error.

1. Set SECURETOKENID to a unique alphanumeric value up to 36 characters in length.

```
SECURETOKENID=9a9ea8208de1413abc3d60c86cb1f4c5
```

2. Set `CREATESECURETOKEN` to the value `Y` to request that the Gateway server return a token.

`CREATESECURETOKEN=Y`

3. Set `SILENTTRAN` to the value `TRUE` to suppress the display of hosted pages.

`SILENTTRAN=TRUE`

Transparent Redirect Example

The following is an example of an authorization parameter string that suppresses hosted pages.

```
TRXTYPE=A&BILLTOSTREET=123 Main St.&BILLTOZIP=95131&AMT=24.35&INVNUM=INV123
45&PONUM=PO12345&CURRENCY=USD&CREATESECURETOKEN=Y&SECURETOKENID=9a9ea8208de
1413abc3d60c86cb1f4c5&SILENTTRAN=TRUE
```

The Gateway server returns a `SECURETOKEN` and `SECURETOKENID` in the response. A tag follows the `SECURETOKEN` to indicate the length of the token value returned.

```
RESULT=0&RESPMSG=Approved&SECURETOKEN[25]=Fj+1AFUWft0+I0CUFOKh5WA==&SECURET
OKENID=9a9ea8208de1413abc3d60c86cb1f4c5
```

When the customer enters their sensitive data into the credit card fields on your website and clicks **Submit**, the browser posts the data to the Gateway server rather than to your website.

NOTE: It is highly recommended that you add scripting to ensure the the browser posts the sensitive data directly to the PayPal Gateway server rather than to your website.

If you are using the PARMLIST parameter with the Transparent Redirect, see "Using the PARMLIST Parameter" on page 44 for more information.

Secure Token Errors

A successful Payflow transaction will return `RESULT=0` in the response. If your Secure Token transaction is unsuccessful, you can pass the token 2 more times to Payflow before the token expires.

A Payflow Secure Token will expire:

- If the same Secure Token is passed to Payflow a total of 3 times.
- 20 minutes after the Secure Token was generated.
- When the token is used in a successful transaction.

If you receive one of the following error codes in the `RESULT` response parameter, then your Secure Token has expired.

160	**Secure Token already been used.** Indicates that the secure token has expired due to either a successful transaction or the token has been used three times while trying to successfully process a transaction. You must generate a new secure token.
161	**Transaction using secure token is already in progress.** This could occur if a customer hits the submit button two or more times before the transaction completed.
162	**Secure Token Expired.** The time limit of 20 minutes has expired and the token can no longer be used.

If you see a different error code in the RESULT parameter, refer to the RESULT Values and RESPMSG Text section for more information.

Posting To the Hosted Checkout Page

To display the transaction information to the Gateway hosted checkout page, you perform an HTTP form post.

1. Direct the HTTP post to the Gateway applications server at the following URL.

```
https://payflowlink.paypal.com
```

2. Send the following parameter data:

– SECURETOKEN returned in the transaction response
– SECURETOKENID

HTTP Form Post Examples

The following is an example request string that displays the transaction information to the hosted checkout page.

```
<html>
    <head>
        <title>PageTitle</title>
    </head>
        <body>
            <form method="post" action="https://payflowlink.paypal.com">
            <input type=hidden value="Fj+1AFUWft0+I0CUFOKh5WA=="
                name=SECURETOKEN/>
            <input type=hidden value="9a9ea8208de1413abc3d60c86cb1f4c5"
                name=SECURETOKENID/>
            </form>
        </body>
</html>
```

For more information on the Payflow parameters that are used to pass information to the Gateway hosted checkout pages, see "Using a Secure Token to Pass Hosted Pages Customization Parameters" on page 41

The following example uses Payflow name-value pairs to pass values in a form post to the hosted checkout pages. For details on the name-value pair strings used in this example, see "Sending a Simple Transaction to the Server" on page 51.

```html
<html>
    <head>
        <title>PageTitle</title>
    </head>
        <body>
            <form method="post" action="https://payflowlink.paypal.com">
            <input type="text" name = "SECURETOKEN" value =
                "FvwEnHTYRNUSVsZRlhFpudA=="/>
            <input type="text" name = "SECURETOKENID" value =
                "9a9ea8208de1413abc3d60c86cb1f4c5"/>
            <input type="hidden" name="PARMLIST"
            value="INVNUM[8]=INV12345&AMT[5]=25.50&CURRENCY[3]=
                USD&PONUM[7]=PO12345"/>
            <input type="submit"/>
            </form>
            </center>
        </body></html>
```

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3

Configuring Hosted Checkout Pages

This chapter describes the following:

Configuring Hosted Checkout Pages

PayPal enables you to customize the hosted checkout pages so that they reflect the look and feel of your website. In doing so, the buyer seamlessly transitions from your website to the PayPal hosted checkout pages to make the payment and complete the transaction. Since the pages are hosted on PayPal servers, you do not have to capture or store credit card information on your website, thereby helping towards achieving PCI compliance. PayPal's hosted checkout pages are optimized for supported desktop and mobile browsers.

NOTE: The Payflow Gateway implementation helps to achieve PCI compliance but does not necessarily guarantee it.

There are two ways to configure hosted checkout pages:

- Logging in to PayPal Manager and making selections
- Using a secure token and passing configuration parameters in a form post

Configuring Hosted Pages Using PayPal Manager

You can specify the content of your hosted checkout pages and configure their appearance to reflect the look and feel of your website. To do so, log into PayPal Manager and click on the *Service Settings* tab. In the *Hosted Checkout Pages* section, you have the following options:

- Setup
- Customize
- Integrate

Setup

The *Setup* page in PayPal Manager enables you to select the information you want to collect from buyers and what you want displayed on your hosted checkout pages. This includes selecting the billing and the shipping information information fields, the payment confirmation page settings, the confirmation email details, security options and other settings.

You can perform tasks such as:

- Configure your PayPal Express Checkout display and specify email addresses for live and test transactions.

- Determine the cancel URL and the text of the link the buyer clicks on to cancel the payment on your website. The cancel URL is the page to which PayPal redirects your buyer's browser if the buyer does not approve the payment.

NOTE: Payflow will ignore the cancel URL field that you entered in PayPal Manager if you select layout template C. To force Payflow to use the cancel URL field with layout template C, in PayPal Manager, add `DISPLAY_URL |` before your cancel URL. *Example:* `DISPLAY_URL | http://www.yoursite.com/home.php`

- Select the billing and shipping information fields the buyer will be required to complete during checkout.

- Choose to display a PayPal hosted payment confirmation page or host your own confirmation page on your website. You can also specify the paypal hosted confirmation page header and footer text and the URL and text for the return link. Additionally, you can choose to enable the silent post feature.

- Opt to send email receipts to the buyer for each successful transaction.

For complete details on these settings, click the *Help* button on the *Setup* page. To quickly get get started with your hosted pages, go to the Hosted Pages Getting Started Guide on the PayPal

developer portal. For more information on the Silent Post feature, go to "Silent Posts" on page 47

Customize

The *Customize* page allows you to customize the layout and appearance of your hosted checkout page. You can customize the header, background, payment method section and the order summary column of your payment page. PayPal offers three design layouts for you to choose from. Layout A is the default layout but you can choose any of the three layouts offered (Layouts A, B and C).
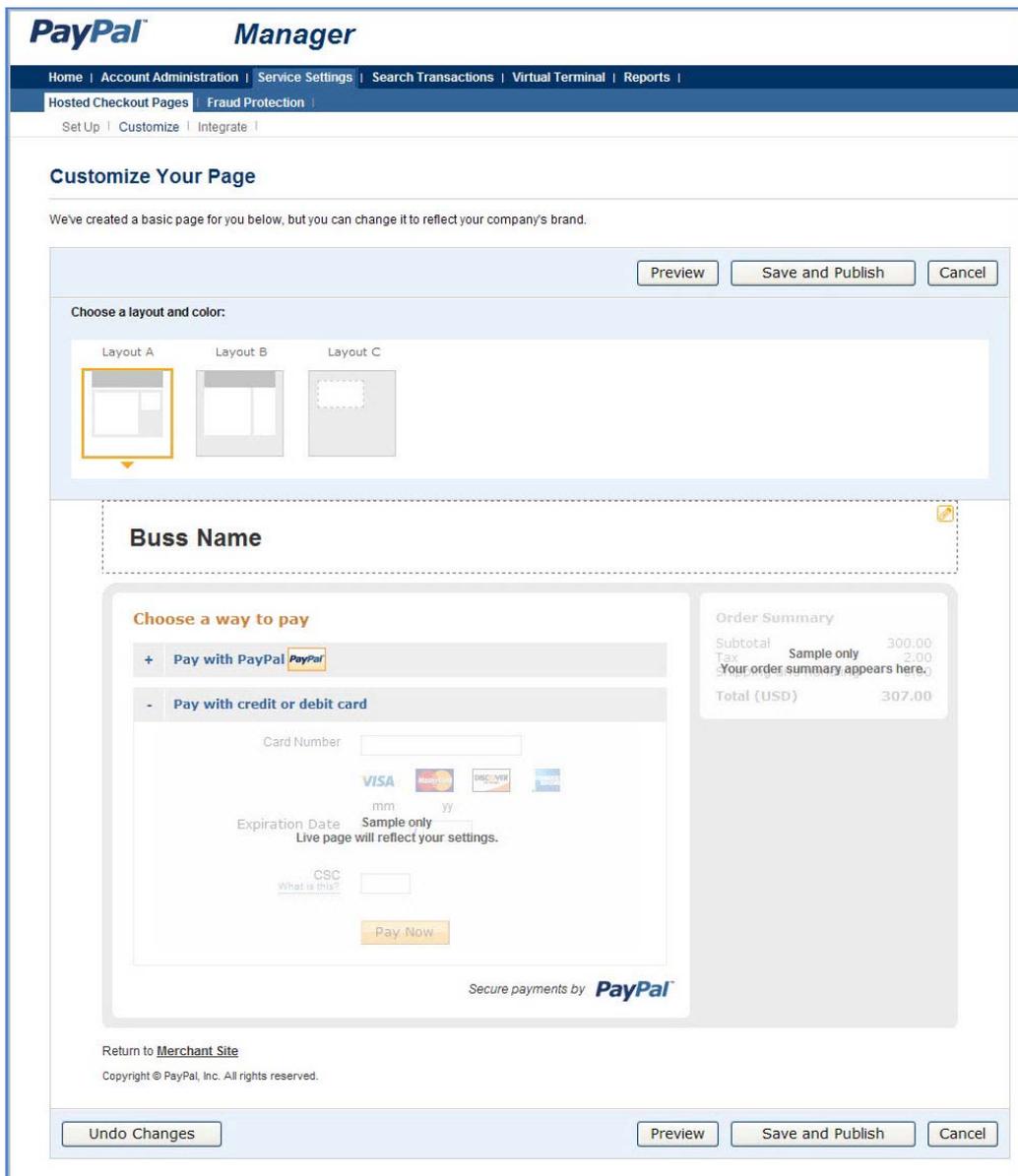
On the *Customize* page, you can either change the design of your existing layout, or select and customize a different layout. To make changes, double-click on the section of the template you are trying to modify or the corresponding *Click to Edit* button for that section. In the pop-up that appears, click the color selector to change the color, or enter the appropriate URL. The customization options vary for the different Layouts. These options are described in greater detail in the next section: *Customizing Your Layout*.

After making the changes, click one of the following buttons:

- *Preview* - Preview the changes you have made to your layout before saving and publishing it

- *Save and Publish* - Save all the changes you have made and publish the updated layout. Your buyers will see the updated payment page.

- *Cancel* - Discard all the changes you have made in this session.

- *Undo Changes* - Discard all changes you have made since the last time you saved the layout. Your buyers will see the last saved layout.

NOTE: You must make all modifications (including changing layouts) within the same session, otherwise all changes will be lost and you will have to redo your changes. If the session times out, the design of the layout will remain at the version that was last published.

NOTE: Payflow will ignore the cancel URL field that you entered in PayPal Manager if you select layout template C. To force Payflow to use the cancel URL field with layout template C, in PayPal Manager, add `DISPLAY_URL |` before your cancel URL. *Example:* `DISPLAY_URL | http://www.yoursite.com/home.php`

Customizing Your Layout

You can customize the appearance of the Layout template that you selected on the customize page. These customizations apply mostly to Layouts A and B. Layout C is embedded on a page you host in an iFrame. So for Layout C, you already control the appearance of the page.

NOTE: These customizations are not applied to the mobile version of the hosted checkout pages.

- Header (Applicable to Layouts A and B) - You can change the following:
  - Header height (Applicable to Layouts A and B)
  - Header background color (Applicable to Layout B only)
  - Header font type, size (Applicable to Layouts A and B)
  - Header font color (Applicable to Layout B only)
  - Swap between displaying the business name or the business logo image
  - Edit business name in the header (Applicable to Layouts A and B)
  - Position of the business name or the logo within the header (left, centered, right) (Applicable to Layouts A and B)

- Page Background (Applicable to Layout B only) - You can change the following:
  - Background color
  - Footer text color
  - Upload a background image - .jpg, .jpeg, .gif, or .png. The maximum allowable image size is 100kb.
  - Repeat image option

- Payment Method Section (Applicable to Layouts B and C) - You can change the following:
  - Text color of the section title (Applicable to Layout B only)
  - Subheader text color (Applicable to Layouts B and C)
  - Color of other text in this section (Applicable to Layout B only)
  - Section border color (Applicable to Layouts B and C)
  - Button color and button text color (Applicable to Layouts B and C)

- Order Summary Column (Applicable to Layout Bonly) - You can change the following:
  - Column background color
  - Upload a background image
  - Repeat image option

For step-by-step instructions on customizing the appearance of your checkout pages, go to Nate's blog post on PayPal's developer portal: https://www.x.com/node/2750.

Integrate

This section contains links to PayPal developer resources. PayPal's developer portal includes:

- Developer integration guides which are comprehensive product guides like this guide.
- Getting Started Guides that can help get you up and running quickly with a basic integration.
- How-to guides that walk you through a specific integration use case.
- Other useful resources such as blog posts, forums, screencasts, code samples and more.

Using a Secure Token to Pass Hosted Pages Customization Parameters

Another way to configure your hosted checkout pages is to submit hosted checkout page configuration parameters to the Payflow Gateway in a form post. These parameters will override your hosted checkout page settings in PayPal Manager.

First, you will need to create a secure token. You then pass the secure token with the hosted pages configuration parameters. To learn how to create a secure token, see the Secure Token chapter.

The table below describes the form post parameters that you can use to dynamically configure the hosted checkout pages.

Setup Params

Variable	Description
CANCELURL	The URL that customers would go to if pressing a Cancel link from the hosted page (Layouts A and B only) and from the Express Checkout flow if the buyer chooses Express Checkout as their payment method. Maximum length: 512 characters.
CSCREQUIRED	Determines if the card security code is required. Values: TRUE or FALSE
CSCEDIT	Determines if the card security code is editable. Values: TRUE or FALSE
DISABLERECEIPT	Determines if the payment confirmation / order receipt page is a PayPal hosted page or a page on the merchant site. For carts we recommend the carts host the order confirmation page. Values: TRUE or FALSE
EMAILCUSTOMER	Send the buyer an email confirmation or not. Default value is FALSE.
ERRORURL	The URL that customers are directed to if an error occurs. Maximum length: 512 characters.
RETURNURL	The URL that customers are directed to after a transaction completes successfully. Maximum length: 512 characters.
SILENTPOSTURL	The URL to which the Gateway will send Silent Post. Maximum length: 512 characters.
TEMPLATE	Determines whether to use one of the two redirect templates (Layout A or B) or the embedded template (Layout C). For Layouts A or B pass: TEMPLATEA or TEMPLATEB. Layouts A & B auto-redirect to mobile-optimized pages if a supported mobile browser is detected. No action is required from the merchant for Layouts A & B. For Layout C, pass MOBILE for the mobile-optimized page or MINLAYOUT for the default Layout C embedded template.
URLMETHOD	The technical method used to deliver the CANCELURL. The default is GET and cannot be changed without affecting the installed base, but this value will likely be changed to Post by most carts. Values: POST or GET

Customize Params

Variable	Description
`PAGECOLLAPSEBGCOLOR`	Sets the color of the border around the embedded template C. Example: `PAGECOLLAPSEBGCOLOR=993300`
`PAGECOLLAPSETEXTCOLOR`	Sets the color of the words "Pay with PayPal" and "Pay with credit or debit card". Example: `PAGECOLLAPSETEXTCOLOR=990000`
`PAGEBUTTONBGCOLOR`	Sets the color of the Pay Now / Submit button. Example: `PAGEBUTTONBGCOLOR=AA66FF`
`PAGEBUTTONTEXTCOLOR`	Sets the color of the text on the Pay Now / Submit button. Example: `PAGEBUTTONTEXTCOLOR=33FFFF`
`LABELTEXTCOLOR`	Sets the color of the text for "card number", "expiration date", ..etc. Example: `LABELTEXTCOLOR=330000`

Other HTML Post Params

Variable	Description
`MODE`	*(Optional)* Used in conjunction with secure token. It lets Payflow know that the secure token passed in is a live or test token. Values: `LIVE`/`TEST`. Default is `LIVE`.
	NOTE: This parameter will be deprecated in the future. Instead of using this parameter to specify if you are passing a live or test secure token, post your form parameters to either the live URL or to the new testing URL. See the *Host URL Addresses* section for more information.
`PARMLIST`	A HTTP Post parameter used with a secure token. `PARMLIST` takes a string of name-value pairs as its value. Payflow parses out these name-value pairs and uses them to run the transaction. `PARMLIST` is especially useful for merchants that already use this parameter with the Payflow SDK and want to use an existing name-value pair string. For more information see the *Using the* `PARMLIST` *Parameter* section of this guide.
`SECURETOKEN/SECURETOKENID`	Used with the secure token.
`SHOWAMOUNT`	If you pass in $0 amount and `TRXTYPE=A`, then if `SHOWAMOUNT=FALSE`, Payflow will not display the amount in the order summary table. Values: `TRUE`/`FALSE`

Variable	Description
SUBTOTAL	Amount you pass to Payflow. It is displayed in the order summary section. This amount is only for display purposes and is not passed to the transaction servers.
VERBOSITY	Additional values returned from the transaction response to the merchant in the Silent Post. By default, there is no verbosity set which means the standard set of values that Silent Post currently uses is returned. Passing in a verbosity will return the extra values that we get back in the transaction response.Value: HIGH
VERIFY	Runs a $0 authorization transaction using the credit card information the buyer enters. If the $0 authorization is verified, then Payflow will immediately run the transaction for the amount and transaction type you pass to Payflow.Values: TRUE/FALSE

Using the PARMLIST Parameter

PARMLIST is a HTTP Post parameter used with a secure token to pass information to the Gateway hosted checkout pages. PARMLIST takes a string of name-value pairs as its value. Payflow parses out these name-value pairs and uses them to run the transaction. PARMLIST is especially useful for merchants that already use this parameter with the Payflow SDK and want to use an existing name-value pair string.

PARMLIST Example

```
<html>
     <head>
        <title>PageTitle</title>
     </head>
     <body>
        <form method="post" action="https://payflowlink.paypal.com">
           <input type="hidden" name="SECURETOKEN"
            value="Fj+1AFUWft0+IOCUFOKh5WA==" />
           <input type="hidden" name="SECURETOKENID"
            value="9a9ea8208de1413abc3d60c86cb1f4c5" />
           <input type="hidden" name="MODE" value="LIVE" />
           <input type="hidden" name="PARMLIST"
            value="INVNUM=INV1234&AMT=25.50&CURRENCY=USD
            &PONUM=PO12345" />
        </form>
     </body>
</html>
```

If you choose to use PARMLIST, then you can only pass the following 3 HTTP Post parameters to Payflow with PARMLIST: SECURETOKEN, SECURETOKENID and MODE (optional). If you try to pass in any other parameter (such as VERIFY=TRUE), then you will receive an error message.

NOTE: The MODE parameter will be deprecated in the future. If you are using a test secure token, instead of passing MODE=TEST, change the *Form Action* attribute value to the testing URL: https://pilot-payflowlink.paypal.com.

If you are using Transparent Redirect with PARMLIST, you must pass the credit card information (ACCT, EXPDATE and CSC) in the PARMLIST. For more information on Transparent Redirect, see "Integrating the Secure Token Without the Hosted Checkout Pages: Transparent Redirect" on page 32.

Hosted Pages and Mobile Browsers

In PayPal Manager you can select one of 3 hosted pages Layout templates: Layouts A and B (the redirect templates) or Layout C (the embedded template). Layout A is the default Layout.
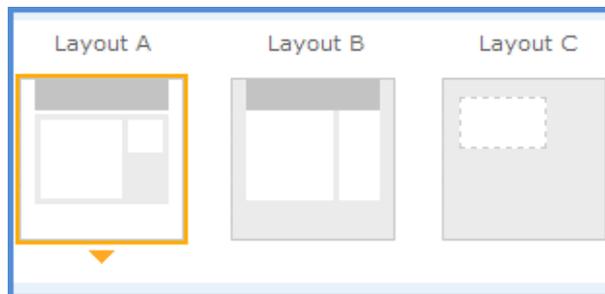
You can also dynamically select your hosted pages Layout template using the form post TEMPLATE parameter. This will override your default Layout template set in PayPal Manager. Please see Using a Secure Token to Pass Hosted Pages Customization Parameters for more information on passing form post parameters to customize the checkout experience.

Mobile Optimized Checkout Pages

PayPal's hosted checkout pages are mobile optimized for iPhone, iPod and Android devices. This mobile optimized experience is available for all 3 Layout templates A, B and C. In the case of Layouts A and B, PayPal will auto-detect if the checkout page is being viewed from a supported mobile browser and will redirect to the mobile optimized checkout page. For Layout C, PayPal does not automatically redirect mobile users to a mobile optimized flow. The reason is that if PayPal automatically showed a mobile optimized embedded template, within a merchant web page that may not be mobile optimized, this can create unexpected and undesirable results. To display the mobile checkout page for Layout C, you must detect the

supported mobile browser and then explicitly pass the form post parameter:
TEMPLATE=MOBILE.

The TEMPLATE form post parameter

Layout	TEMPLATE parameter value	Behavior on a Mobile Device
Layout A	TEMPLATE=TEMPLATEA	Auto-redirects to mobile optimized page
Layout B	TEMPLATE=TEMPLATEB	Auto-redirects to mobile optimized page
Layout C	TEMPLATE=MINLAYOUT (default) TEMPLATE=MOBILE	Use TEMPLATE=MINLAYOUT for your general online checkout. If you have a mobile optimized experience, explicitly pass TEMPLATE=MOBILE instead to show the mobile optimized page.

The mobile checkout pages are identical for all Layout templates: Layouts A, B and the mobile version of Layout C. Additionally, appearance customizations that you set in PayPal Manager or submit as form post parameters are not applied to the mobile pages. The figures below show the mobile optimized page flow for a PayPal payment and for a credit card payment:

Mobile page flow for a PayPal payment
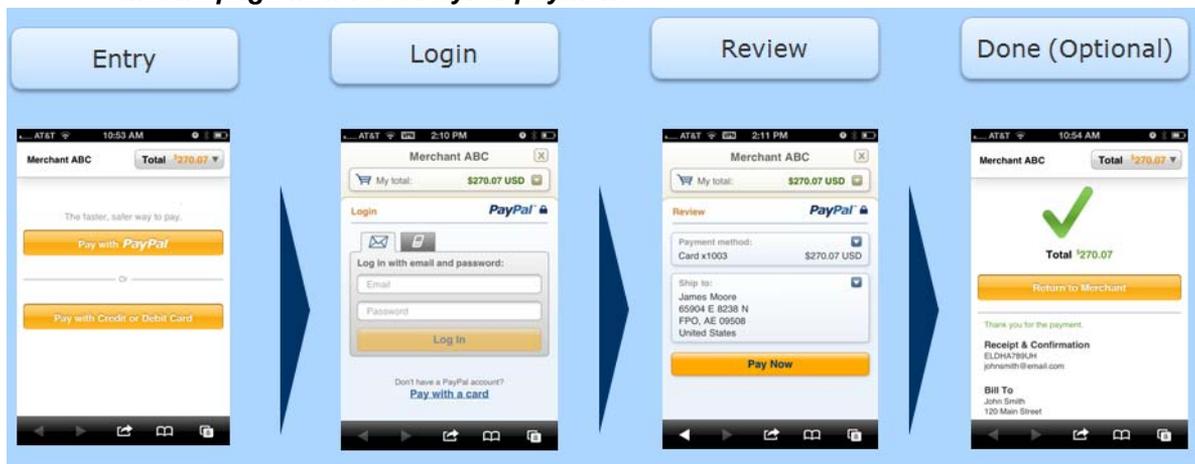
Mobile page flow for a credit card payment
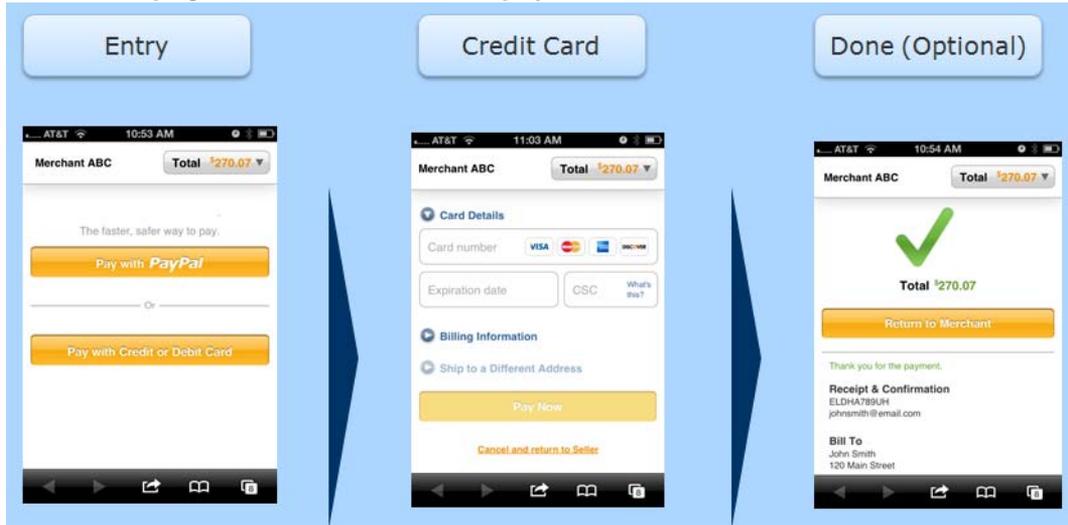
Silent Posts

Silent Post ensures that the transaction data is passed back to your website when a transaction is completed. The Silent Post feature uses the HTML Post method to return data to your server for both approved and declined trasactions. This occurs even if a customer closes the browser before returning to your site, or if the PayPal-hosted payment confirmation page is disabled. Silent Post data is sent to your server at the same time as when a payment confirmation page is displayed or as soon as a transaction is declined.

This feature is configured through https://manager.paypal.com:

- Go to *Service Settings,* then from the *Hosted Checkout Pages* section select *Setup*

- On the *Setup* page, set *Use Silent Post* to *Yes*. Then enter the Silent Post URL on your server.

NOTE: To ensure that transactions proceed only if your script actually receives the data returned by the Silent Post, you must Force Silent Post Confirmation by checking *Void transaction when my server fails to receive data sent by the silent post*.

Force Silent Post Confirmation

The Force Silent Post Confirmation feature ensures that no transactions proceed unless your Web site receives the Silent Post data. If you enable this feature, Payflow Gateway sends the Silent Post data and waits for a 200 OK from your server (indicating the server's receipt of the data). If Payflow Gateway does not receive the success response, then the transaction is voided and the customer sees a communication error message. In this case, PayPal Manager displays both a transaction that succeeded and a transaction that was voided. To select this feature, be

sure to check *Void transaction when my server fails to receive data sent by the silent post* when setting up Silent Posts in PayPal Manager.

Data Returned by the Silent Post Features

The Silent Post feature returns either a short list of data or all of the data that was submitted for the transaction. You can control what is returned to you via the optional ECHODATA parameter:

- To return a short list of values generated by PayPal and the issuing bank which provide status information on the submitted transaction, set the optional ECHODATA parameter to False. This will return the same values that you receive in a typical transaction response. (See Transaction Responses for more info).

- To return both the short list of generated values plus all of the transaction data that was submitted for the transaction, set the optional ECHODATA parameter to True. This is the default setting. This will return the name and address parameters that were provided in the request in addition to the values that you receive in a typical transaction response. (See Transaction Responses for more info).

Passing Other Data to Your Server Using Post or Silent Post

The USER1 through USER10 Payflow parameters are ten optional string type parameters intended to store your temporary data, such as variables, session IDs, order numbers, and so on. These parameters enable you to pass internal information to your server using the Post or Silent Post feature.

NOTE: USER1 through USER10 are not displayed to the customer and are not stored in the PayPal transaction database.

4 Payflow SDK

The Payflow Software Development Kit (SDK) is a set of APIs to allow you to integrate the Gateway with your application or website. This section includes:

- "Preparing the Payflow Gateway Client Application" on page 49.
- "Activating Your Payflow Gateway Account" on page 50.
- "Host URL Addresses" on page 50

NOTE: Each SDK includes full API documentation.

IMPORTANT: The Payflow SDK is available as a .NET or Java library. Using these SDKs is recommended to simplify integration. Alternately you can build your own API by posting transactions directly to the Gateway servers using HTTPS. See "Posting Transactions Directly Without the Payflow SDK" on page 208 for more information.

Any reference to Payflow SDK or the API in this documentation is referred to simply as the Payflow SDK.

Preparing the Payflow Gateway Client Application

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

1. Download the Payflow SDK.

   From the SDKs and Downloads page on x.com, 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 Gateway request, 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 client application in your development environment.

Activating Your Payflow Gateway Account

When you are ready to activate your Gateway 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 Gateway server host addresses.

Host URL Addresses

Use the following host addresses for sending test and live transactions:

- For live transactions, use `https://payflowpro.paypal.com`

- For testing purposes, use `https://pilot-payflowpro.paypal.com`

   NOTE: If you are using an older version of the SDK, you will notice that the live and testing URLs have changed. Be sure to use the URLs mentioned above and remove the "/transaction" from the end of the URL.

Testing Your PayPal Payments Advanced and PayPal Payments Pro Integration

If you have a PayPal Payments Advanced or a PayPal Payments Pro account and you would like to use the testing URL to test your integration, you will first need a PayPal Sandbox test account. If you do not have a Sandbox account, go to http://developer.paypal.com and follow the instructions to create this account.

You will need to enter your Sandbox account information on the *Setup* page of PayPal Manager http://manager.paypal.com (*Service Settings -> Hosted Checkout Pages -> Setup*). Fill-in the *PayPal Sandbox Email Address* field and click *Save*. You can now test your Payflow Gateway integration against the testing URL: `https://pilot-payflowpro.paypal.com`.

Passing Information to and Receiving Information from the Hosted Pages

If you would like to pass information to or receive information from the PayPal Hosted Checkout Pages, use one of the following URLs:

- For live transactions, use `https://payflowlink.paypal.com`

- For testing purposes, use `https://pilot-payflowlink.paypal.com`

   NOTE: You no longer need to use the `MODE` parameter when passing a test secure token. Instead, post your form parameters to the testing Payflow Link URL. The `MODE` parameter will be deprecated in the future.

5 Sending a Simple Transaction to the Server

When using the Payflow SDK, you send transactions to the Gateway server in name-value pair format. Typically, a simple transaction includes connection parameters, user parameters, and transaction data parameters.

About Name-Value Pairs

Name-value pair (NVP) is the format you use to specify the parameter information you send in a transaction request to the Payflow server. A name-value pair consists of the parameter name and its value. The equal sign (=) is a special character that associates the name and its value:

`PARAMNAME=value`

Typically, you send several name-value pairs as a parameter string to the server. The ampersand (&) is a special character that separates each name-value pair in the parameter string:

`PARAM1NAME=value&PARAM2NAME=value&PARAM3NAME=value`

Follow the special character and syntax guidelines when creating name-value pairs.

Using Special Characters In Values

Because the ampersand (&) and equal sign (=) characters have special meanings, they are invalid in a name-value pair value.

The following are invalid:

`COMPANYNAME=Ruff & Johnson`

`COMMENT1=Level=5`

To include special characters in the value portion 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 are valid.

```
COMPANYNAME[14]=Ruff & Johnson

COMMENT1[7]=Level=5
```

NOTE: Do not use quotation marks (`""`) even if you use a length tag.

Name-Value Parameter Syntax Guidelines

Follow these guidelines when creating name-value pair (NVP) parameter strings:

- Do not use spaces in values.
- Enclose the NVP parameter string in quotation marks (" ").
- Do not place quotation marks within the body of the NVP parameter string.
- Separate all NVPs using an ampersand (`&`).
- Set the VERBOSITY transaction parameter to HIGH to have the response return detailed information. Act upon the returned values that you need for the transaction.
- If you duplicate a parameter in your NVP string, the last item will always be the one used and the others will be discarded.

Do Not URL Encode Name-Value Parameter Data

Do not URL encode your NVP data because it can cause problems with authentication and reporting.

This example is **in**correct:

```
TRXTYPE%3DS%26TENDER%3DC%26USER%3DMerchantUserID%26PWD%3DPwd4Gateway%26PART
NER%3DPayPal%26ACCT%3D5105105105105100%26EXPDATE%3D1215%26AMT%3D23.45%26COM
MENT1%3DAirport+Shuttle%26BILLTOFIRSTNAME%3DJamie%26BILLTOLASTNAME%3DMiller
%26BILLTOSTREET%3D123+Main+St.%26BILLTOCITY%3DSan+Jose%26BILLTOSTATE%3DCA%2
6BILLTOZIP%3D951311234%26BILLTOCOUNTRY%3DUS%26CVV2%3D123%26CUSTIP%3D0.0.0.0
```

This example is **correct**:

```
TRXTYPE=S&TENDER=C&USER=MerchantUserID&PWD=Pwd4Gateway&PARTNER=PayPal&ACCT=
5105105105105100&EXPDATE=1215&AMT=23.45&COMMENT1=Airport Shuttle&BILLTOFIRS
TNAME=Jamie&BILLTOLASTNAME=Miller&BILLTOSTREET=123 Main St.&BILLTOCITY=San
Jose&BILLTOSTATE=CA&BILLTOZIP=951311234&BILLTOCOUNTRY=US&CVV2=123&CUSTIP=0.
0.0.0
```

Payflow Connection Parameters

The Payflow SDK passes connection parameters to define the connection to the Payflow server.

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

Parameter	Description
HOSTADDRESS	(Required) Gateway server name.
HOSTPORT	*(Required)* Use port 443.
TIMEOUT	*(Required)* Time-out period for the transaction. PayPal recommends a minimum time-out value of 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.

In addition to the connection parameters in the table, you must pass the NVP parameters that specify the payment information for the transaction.

User Parameter Data

All Gateway transactions require the user parameters described as follows.

User paramters

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: 64 alphanumeric, case-sensitive characters
VENDOR	(*Required*) Your merchant login ID that you created when you registered for the account. Limitations: 64 alphanumeric, case-sensitive characters
PARTNER	(*Required*) The ID provided to you by the authorized PayPal Reseller who registered you for the Gateway gateway. If you purchased your account directly from PayPal, use PayPal. Limitations: 64 alphanumeric, case-sensitive characters
PWD	(*Required*) The password that you defined while registering for the account. Limitations: 6 to 32 alphanumeric, case-sensitive characters

Sale Transaction Example

In addition to the required connection and user parameters, each transaction type may require other parameters and can include a number of optional parameters.

To perform a sale transaction involving a credit card, for example, 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 with two decimal places
- `EXPDATE` - The expiration date of the credit card

Typical Sale Transaction

The following is a typical name-value pair string for a sale transaction.

```
TRXTYPE=S&TENDER=C&USER=MerchantUserID&PWD=Pwd4Gateway&PARTNER=PayPal&ACCT=
5105105105105100&EXPDATE=1215&AMT=23.45&COMMENT1=Airport Shuttle&BILLTOFIRS
TNAME=Jamie&BILLTOLASTNAME=Miller&BILLTOSTREET=123 Main St.&BILLTOCITY=San
Jose&BILLTOSTATE=CA&BILLTOZIP=951311234&BILLTOCOUNTRY=US&CVV2=123&CUSTIP=0.
0.0.0&VERBOSITY=HIGH
```

Besides the required sale transaction parameters, the string includes other Payflow parameters typically included in a sale transaction.

When the transaction completes, the Gateway server returns a response string made up of NVP response parameters. If the transaction is successful, the Gateway server returns `RESULT` value 0. The value of `PNREF` identifies the transaction in future requests, and `RESPMSG` is a string indicating whether the transaction was approved.

The following is an example response:

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

Formatting Payflow Gateway Transactions

For details on how to format a Payflow transaction, see the examples and the supporting documentation provided with your SDK or see Submitting Credit Card Transactions.

6 Submitting Credit Card Transactions

When using the Payflow SDK, plan how to implement credit card processing based on your business needs. Payflow SDK offers a core set of transaction parameters that all credit card processors use. This section describes how to submit a transaction for each transaction type supported.

NOTE: Some of the transaction types and features described in this chapter are not supported by all processors. Be sure to check with your processor for information on the specific functionality that is supported.

- "Obtaining an Internet Merchant Account" on page 56
- "About Credit Card Processing" on page 56
- "Credit Card Features" on page 57
- "Planning Your Gateway Integration" on page 57
- "Core Credit Card Parameters" on page 59
- "Submitting Account Verifications" on page 62
- "Submitting Authorization/Delayed Capture Transactions" on page 63
- "Submitting Balance Inquiry Transactions" on page 64
- "Submitting Card Present (SWIPE) Transactions" on page 65
- "Submitting Credit Transactions" on page 67
- "Submitting Inquiry Transactions" on page 69
- "Submitting Partial Authorizations" on page 72
- "Submitting Purchasing Card Transactions" on page 73
- "Submitting Reference Transactions (Tokenization)" on page 74
- "Submitting Sale Transactions" on page 77
- "Submitting Soft Merchant Information" on page 78
- "Submitting Voice Authorization Transactions" on page 80
- "Submitting Void Transactions" on page 80
- "Using Address Verification Service" on page 82
- "Using Card Security Code" on page 83

Obtaining an Internet Merchant Account

To accept credit cards over the internet, you need a special account called an Internet Merchant Account. If PayPal is your merchant bank, you do not need the Internet Merchant Account.

Your account provider or merchant (acquiring) bank works with a PayPal-supported credit card processor. Examples are First Data, TSYS Acquiring Solutions (formerly Vital Processing Services), and Paymentech. To accept live credit cards, provide details about your account to PayPal during the "Go Live" part of enrollment.

NOTE: An Internet Merchant Account is different type of merchant account. It has additional risks associated with card-not-present (e-commerce) transactions. It is different from a merchant account used for face-to-face/card-present (in-person) retail transactions . 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.

About Credit Card Processing

Credit card processing occurs in 2 steps — a real-time authorization and a capture (settlement) of the funds that the cardholder's issuing bank authorizes. You perform these 2 steps either as a single transaction or as 2 transactions, depending on your business model.

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

You receive the response a few seconds after you submit the transaction to the server. If the bank approves an authorization, it 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 3-7 days.

Capturing a transaction actually transfers the funds to your bank. At least once a day, PayPal gathers all transactions flagged for settlement 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 available in your account, depending on your bank.

NOTE: For card-not-present transactions; such as online transactions, merchants are required to provide a service or ship goods before or on the same day the transaction is captured.

Credit Card Features

The Payflow SDK supports the following transaction types for credit card processing:

Transaction Type	Billable
Authorization	Yes
Account Verification	No
Balance Inquiry	No
Credit	Yes
Delayed Capture	No
Inquiry	No
Sale	Yes
Voice Authorization	Yes
Void	Yes

The Payflow SDK also supports the following credit card features:

- Address verification service and card security code validation
- Card-present (SWIPE) transactions
- Partial authorizations for pre-paid cards
- Purchasing card transactions
- Reference transactions (also called tokenization)
- Submitting Soft Merchant information

Planning Your Gateway Integration

When designing your Gateway integration, evaluate:

- 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.)

   According to card association rules, most physical goods merchants should use a two-step process, since settlement should occur when the merchant ships the goods. A two-step

process is also useful for evaluating 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 the address verification service, if the initial transaction submits the data, the issuer checks the street address and the zip code against the billing address on file for the consumer.

  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 proceeding 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.

  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.

- Whether to 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: Consider whether and how to use 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 want to integrate your systems directly 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.

- Whether to discuss with your internet Merchant Acquirer practices that help you to obtain the most advantageous rates.

Complying With E-commerce Indicator

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

If you use Buyer Authentication, the ECI values reflect the authentication status.

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 you do not accept, the SDK responds with RESULT value 25, "Invalid host mapping," or the processor returns a message that the customer is not signed up for the card type. 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, contact your acquiring bank (holding 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, add the card to your Payflow account through PayPal Manager. See PayPal Manager online help for details.

NOTE: American Express cards require explicit acceptance when PayPal is the processor. To accept American Express cards, go to the Profile Page in PayPal Manager and click **American Express card acceptance**.

Core Credit Card Parameters

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

Parameter	Description
TENDER	*(Required)* The method of payment. Values are: • `A` = Automated clearinghouse (ACH) • `C` = Credit card • `D` = Pinless debit • `K` = Telecheck • `P` = PayPal See the *Payflow ACH Payment Service Guide* for details on the ACH tender type.
TRXTYPE	*(Required)* Indicates the type of transaction to perform. Values are: • `A` = Authorization • `B` = Balance Inquiry • `C` = Credit • `D` = Delayed Capture • `F` = Voice Authorization • `I` = Inquiry • `L` = Data Upload • `N` = Duplicate Transaction **NOTE:** 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 never settles. • `S` = Sale • `V` = Void
ACCT	*(Required for credit cards)* Credit card or purchase card number. For example, `ACCT=5555555555554444`. 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

Parameter	Description
EXPDATE	*(Required)* Expiration date of the credit card. For example, 1215 represents December 2015. Limitations: `mmyy` format
AMT	*(Required)* Amount (Default: U.S. based currency). Limitations: Specify the exact amount to the cent using a decimal point. For example, use 34.00 not 34. Do not include comma separators. For example, use 1199.95 not 1,199.95. Your processor or Internet Merchant Account provider may stipulate a maximum amount. 10 numeric characters plus decimal
COMMENT1	*(Optional)* Merchant-defined value for reporting and auditing purposes. Limitations: 128 alphanumeric characters
COMMENT2	*(Optional)* Merchant-defined value for reporting and auditing purposes. Limitations: 128 alphanumeric characters
CVV2	*(Optional)* A code 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
RECURRING	*(Optional)* Identifies the transaction as recurring. It is one of the following values: • `Y` – Identifies the transaction as recurring. • `N` – Does not identify the transaction as recurring (default). This value does not activate the Payflow Recurring Billing Service API. If the RECURRING parameter value is `Y` in the original transaction, this value is ignored when forming credit, void, and force transactions. If you subscribe to the Payflow 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, follow the normal process to review the filter results. **NOTE:** If your transaction is declined and the PAYMENTADVICECODE response parameter is supported by your processor, a PAYMENTADVICECODE value is returned representing the reason that the transaction was declined. Obtain the meaning of PAYMENTADVICECODE values from your acquiring bank. Character length and limitations: 1 alpha character

Parameter	Description
SWIPE	*(Required for card-present transactions only)* 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.
	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 51.
	NOTE: SWIPE (card-present transactions) are not supported by the PayPal processor.
	Limitations: Alphanumeric and special characters
ORDERID	(Optional) Checks for a duplicate order. If you pass ORDERID in a request and pass it again in the future, the response returns DUPLICATE=2 along with the ORDERID.
	NOTE: Do not use ORDERID to catch duplicate orders processed within seconds of each other. Use ORDERID with Request ID to prevent duplicates as a result of processing or communication errors.
	Character length and limitations: alphanumeric characters
BILLTOFIRSTNAME	*(Optional)* Account holder's first name. Limitations: 30 alphanumeric characters
BILLTOLASTNAME	*(Optional but recommended)* Account holder's last name. Limitations: 30 alphanumeric characters
BILLTOSTREET	*(Optional)* The cardholder's street address (number and street name). The address verification service verifies the STREET address. Limitations: 150 alphanumeric characters
BILLTOCITY	(*Optional*) Bill-to city. Limitations: 45-character string.
BILLTOSTATE	(*Optional*) Bill-to state. Limitations: 2-character string (Varies depending on processor: 2 to 45 characters).
BILLTOZIP	*(Optional)* Account holder's 5- to 9-digit zip (postal) code. Limitations: 9 characters maximum. Do not use spaces, dashes, or non-numeric characters
BILLTOCOUNTRY	(*Optional*) Bill-to country. Limitations: 3-character country code.
SHIPTOFIRSTNAME	(*Optional*) Ship-to first name. Limitations: 30-character string.
SHIPTOLASTNAME	(*Optional*) Ship-to last name. Limitations: 30-character string.

Parameter	Description
SHIPTOSTREET	(*Optional*) Ship-to street address. Limitations: 150-character string.
SHIPTOCITY	(*Optional*) Ship-to city. Limitations: 45-character string.
SHIPTOSTATE	(*Optional*) Ship-to state. Limitations: 2-character string (Varies depending on processor: 2 to 45 characters).
SHIPTOZIP	(*Optional*) Ship-to postal code. Limitations: 10-character string.
SHIPTOCOUNTRY	(*Optional*) Ship-to country. Limitations: 3-character country code.

Submitting Account Verifications

Account verification, also known as zero dollar authorization (TRXTYPE=A), verifies credit card information. While you pass TRXTYPE=A for account verification and normal authorization, account verification differs from authorization in the following ways:

● Always pass the AMT value 0. If you pass any other amount, the transaction becomes 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 returned is Verified rather than Approved.

NOTE: Payflow returns RESULT value 4, Invalid Amount, if the processor does not support account verifications.

When To Use Account Verifications

Use 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 "Submitting Reference Transactions (Tokenization)" on page 74.

Required Account Verification Parameters

To perform account verification, pass the following parameters:

Parameter	Description
TRXTYPE	(*Required*) Set to A. Limitations: 1 alphanumeric character.

Parameter	Description
AMT	*(Required)* Set to 0.
VERBOSITY	*(Required)* Set to HIGH to obtain information about a partial authorization in the response.

Example Account Verification String

The following is an example of account verification:

TRXTYPE=A&TENDER=C&PARTNER=PayPal&USER=SuperUser&PWD=SuperUserPassword&**AMT=0.00**&ACCT=378282246310005&EXPDATE=1215&INVNUM=PONUM1&**VERBOSITY=HIGH**&BILLTOZIP=95031

This is the response:

RESULT=0&PNREF=VFHA0FF8F27D&**RESPMSG=Verified**&AUTHCODE=667PNI&AVSADDR=X&AVSZIP=X&HOSTCODE=A&PROCAVS=U&AMEXID=123456789012345&AMEXPOSDATA=123456789012&TRANSTIME=2011-01-11 18:42:01&AMT=0.00&ACCT=0005&EXPDATE=1215&CARDTYPE=3&IAVS=X

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.

Perform a delayed capture (TRXTYPE=D) transaction after an authorization to capture the original authorization amount. PayPal schedules the delayed capture for settlement during the next settlement period.

Because Visa and MasterCard regulations prohibit capturing credit card payments until the buyer receives the product or service, most processing networks implement an authorization followed by a delayed capture.

NOTE: PayPal Payments Advanced and Payflow Link users cannot submit authorization transactions unless they obtain the Payflow SDK.

When to Use Authorization/Delayed Capture Transactions

If your business does not provide immediate fulfillment of products or services, PayPal recommends that you use delayed capture processing. It enables you to capture credit card payments when you are ready to collect them.

NOTE: If you signed up for the PayPal processor with Fraud Protection Services, 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 77. To recharge a credit card when you are not storing credit card information in your local database, perform a new reference transaction based on a sale. For details, see "Submitting Reference Transactions (Tokenization)" on page 74.

NOTE: You are allowed to perform one delayed capture transaction per authorization transaction.

Required Authorization Transaction Parameters

To perform a delayed capture transaction, pass the following parameter:

Parameter	Description
ORIGID	*(Required by some transaction types)* ID of the original transaction referenced. The PNREF parameter returns this ID, and it appears as the Transaction ID in PayPal Manager reports. Limitations: 12 case-sensitive alphanumeric characters.

Typical Authorization Transaction Parameter String

A typical NVP 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&PA
RTNER=PayPal&ACCT=5105105105105100&EXPDATE=1215&CVV2=123&AMT=99.00&BILLTOFI
RSTNAME=John&BILLTOLASTNAME=Smith&BILLTOSTREET=123 Main St.&BILLTOCITY=San
Jose&BILLTOSTATE=CA&BILLTOZIP=12345&COMMENT1=Reservation&INVNUM=1234567890&
PONUM=C12345&VERBOSITY=HIGH
```

Submitting Balance Inquiry Transactions

Balance Inquiry (TRXTYPE=B) transactions are used to obtain the balance of a pre-paid card. This transaction type is different from a balance inquiry performed during an authorization transaction. However, both of these transaction types will return the balance in the BALAMT response parameter.

NOTE: Payflow returns RESULT value 3, *Invalid Transaction Type*, if the processor does not support balance inquiry.

Processing Platforms Supporting Balance Inquiry Transactions

The following processing platforms currently support pre-paid card balance inquiry transactions. This feature will be added for more processors in the near future. As more processors are added, this list will be updated accordingly.

WorldPay

Required Balance Inquiry Parameters

To perform a balance inquiry on a pre-paid card, pass the following parameters:

Parameter	Description
TRXTYPE	*(Required)* Set to B. Limitations: 1 alphanumeric character.
EXPDATE	*(Required)* Expiration date of the pre-paid card in the format MMYY. For example, 1215 represents December 2015.
VERBOSITY	*(Required)* Set to HIGH to obtain information about a balance inquriy in the response.

Example Balance Inquiry Transaction String

The following is an example of a balance inquiry transaction:

```
TRXTYPE=B&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperUser&PWD=S
uperUserPassword&ACCT=5555555555554444&EXPDATE=1215&VERBOSITY=HIGH
```

This is the response:

```
RESULT=0&PNREF=ERRV0A005933&RESPMSG=Approved&AUTHCODE=467PNI&HOSTCODE=000&T
RANSTIME=2012-02-
16 18:41:25&AMT=0.00&BALAMT=10.00&ACCT=4444&EXPDATE=1215&CARDTYPE=0
```

Submitting Card Present (SWIPE) Transactions

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

NOTE: The PayPal processor does not support SWIPE (card-present) transactions.

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

● Contact your merchant account provider to make sure that they support card-present transactions.

● Contact PayPal Customer Service to request them to set up your account properly for accepting and passing swipe data.

● If you plan to process card-present as well as card-not-present transactions, set up 2 separate Gateway 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.

Processing Platforms Supporting Card-Present Transactions

The following processing platforms support card-present transactions.

American Express
American Express APAC
Elavon
First Data Merchant Services (FDMS) Nashville
First Data Merchant Services (FDMS) North
First Data Merchant Services (FDMS) South
Global Payments Central
Global Payments East
Heartland Payment Systems
Litle
Merchant e-Solutions
Moneris Solutions
Paymentech Salem
Paymentech Tampa
PayPal
SecureNet
TeleCheck
TSYS Acquiring Solutions
Vantiv
WorldPay

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 (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 counts the characters in the track data and passes that number as the length tag. For details on length tags, see "Using Special Characters In Values" on page 51. The length tag in the following example is [40].

NOTE: Do not include the ACCT or EXPDATE parameters in card-present transactions. The SWIPE value includes this data.

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

Submitting Credit Transactions

The credit transaction (TRXTYPE=C) refunds the specified amount back to the cardholder. A credit transaction can contain a reference to the original transaction (referenced) or not (non-referenced) depending on how your account is setup. To issue a credit, the original transaction can only be one of the following: a Sale (TRXTYPE=S), Delayed Capture (TRXTYPE=D) or Voice Authorization (TRXTYPE=F). It is recommended that the merchant issue a credit only if the original transaction has already settled. Even though it is possible to issue a credit to a transaction that has not settled, it is recommended that you void such transactions.

Both the credit transaction and the original transaction will appear on the customer's statement.

Required Credit Transaction Parameters

The required parameter data for a credit transaction depends on the **Allow non-referenced credits** security setting for your Payflow account. A non-referenced credit is a credit transaction that does not use the credit card information from an existing transaction. You provide the credit card information. As an example, Sally Smith calls you on the phone 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 non-referenced credits are allowed.

Non-Referenced Credits Not Allowed

When non-referenced credits are not allowed (the setting recommended by PayPal), 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, pass the following parameter:

Parameter	Description
ORIGID	*(Required by some transaction types)* ID of the original transaction referenced. The PNREF parameter returns this ID, and it 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. (PayPal Manager reports display the PNREF as the Transaction ID.) If you do not specify an amount, the amount of the original transaction is credited to the cardholder.

Non-Referenced Credits Allowed

When non-referenced credits are allowed, 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

NOTE: The default security setting for Gateway accounts is Allow non-referenced credits = No. Sending the ORIGID is the preferred method for performing credit transactions. Using the ACCT, EXPDATE, or AMT parameters for such accounts leads to the return of RESULT value 117 (failed the security check). To help reduce fraud, PayPal recommends that you not activate non-referenced credits unless you have a business reason. For information on setting the security settings, see PayPal Manager online help.

Parameter	Description
ORIGID	*(Required by some transaction types)* ID of the original transaction that is being referenced. The PNREF parameter returns this ID, and it 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. (PayPal Manager reports display the PNREF as the Transaction ID.) If you do not specify an amount, then the amount of the original transaction is credited to the cardholder.

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, 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 you set the RECURRING parameter to Y in the original transaction, this setting is ignored when forming the credit transaction.

ACCT	AMT	BILLTOCITY	BILLTOCOUNTRY
BILLTOEMAIL	BILLTOMIDDLENAME	BILLTOLASTNAME	BILLTOPHONENUM
BILLTOSTATE	BILLTOSTREET	BILLTOZIP	COMMENT1
COMMENT2	COMPANYNAME	CUSTCODE	CUSTIP
EXPDATE	INVNUM	PONUM	SHIPTOCITY
SHIPTOCOUNTRY	SHIPTOFIRSTNAME	SHIPTOMIDDLENAME	SHIPTOLASTNAME
SHIPTOSTATE	SHIPTOSTREET	SHIPTOZIP	SWIPE

Example Credit Transaction Parameter Strings

The following is an example of a credit transaction string (non-referenced credits not allowed):

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

The following 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=1215&AMT=123.00&VERBOSITY=HIGH
```

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. You can also perform an inquiry using the secure token.

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 closely as possible.

Required Parameters When Using the PNREF

To perform an inquiry, pass the following parameter:

Parameter	Description
ORIGID	*(Required by some transaction types)* ID of the original transaction referenced. The PNREF parameter returns this ID, and it 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 in 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&P
WD=x1y2z3&ORIGID=VPNE12564395&VERBOSITY=HIGH
```

Required Parameters When Using the CUSTREF

To perform an inquiry transaction when using the CUSTREF, pass the CUSTREF parameter.

Parameter	Description
CUSTREF	*(Required)* Merchant-defined identifier for reporting and auditing purposes. For example, you can set CUSTREF to the invoice number. You can use CUSTREF when performing inquiry transactions. To make sure that you can always access the correct transaction when performing an inquiry, provide a unique CUSTREF when submitting any transaction, including retries. Limitations: 12 alphanumeric characters

Parameter	Description
STARTTIME	*(Optional)* For inquiry transactions when using CUSTREF to specify the transaction. STARTTIME specifies the beginning of the time period during which the transaction specified by the CUSTREF occurred. ENDTIME must be less than 30 days after STARTTIME. You cannot perform an inquiry across a date range greater than 30 days. If you set ENDTIME, and not STARTTIME, STARTTIME defaults to 30 days before ENDTIME. If you do not specify a STARTTIME or ENDTIME, the system searches the last 30 days. Limitations: 14 numeric characters in the format yyyymmddhhmmss
ENDTIME	*(Optional)* For inquiry transactions when using CUSTREF to specify the transaction. ENDTIME specifies the end of the time period during which the transaction specified by the CUSTREF occurred. Limitations: 14 numeric characters

NOTE: If there are multiple transactions with a particular CUSTREF value, inquiry returns the last transaction only with the specified CUSTREF. To make sure that you can always access the correct transaction, use a unique CUSTREF when submitting any transaction, including retries.

Inquiry Transaction Parameter String Using the CUSTREF

This is an example inquiry parameter string using the CUSTREF.

```
TRXTYPE=I&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant
&PWD=x1y2z3&CUSTREF=Inv00012345
```

Required Parameters When Using the Secure Token

To perform an inquiry transaction when using the secure token, pass the following parameter:

Parameter	Description
SECURETOKEN	*(Required)* A value the Payflow server created upon your request for storing transaction data. Limitations: 32 alphanumeric characters

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

Inquiry Parameter String Using the Secure Token

The following is an example inquiry request string with the SECURETOKEN parameter.

```
TRXTYPE=I&TENDER=C&PARTNER=PayPal&PWD=SuperUserPassword&USER=SuperMerchant&
VERBOSITY=HIGH&VENDOR=SuperMerchant&SECURETOKEN=FmyM1y7wy8kiS6aumnMPhTQN&VE
RBOSITY=HIGH
```

The following is the response string.

```
RESULT=0&PNREF=VFHE1A0CB0A9&TRANSSTATE=6&ORIGRESULT=0&ORIGPNREF=VFHE1A0CB0A
8&RESPMSG=Approved&AUTHCODE=010101&AVSADDR=Y&AVSZIP=Y&HOSTCODE=00&PROCAVS=Y
&DATE_TO_SETTLE=2011-02-04 16:16:50&TRANSTIME=2011-02-
04 16:16:50&BILLTOFIRSTNAME=James&BILLTOLASTNAME=Smith&AMT=555.00&ACCT=0002
&EXPDATE=0120&CARDTYPE=0&IAVS=N
```

Submitting Partial Authorizations

A partial authorization is a partial approval of an authorization (TRXTYPE=A) transaction. A partial authorization approves a transaction when the balance available is less than the amount of the transaction. The transaction response returns the amount of the original transaction and the amount approved.

When To Use Partial Authorizations

Use partial authorizations to reduce the number of declines resulting from buyers spending more than their balance on prepaid cards.

Say, for example, that you sell sportswear on your website. Joe purchases a pair of running shoes in the amount of $100.00. At checkout, Joe uses a giftcard with a balance of $80.00 to pay. You request partial authorization of $100.00. The transaction response returns the original amount of $100.00 and the approved amount of $80.00.

You can take either of the following actions:

● Accept the $80.00 and ask the buyer to provide an alternate payment for the additional $20.00.

● Reject the partial authorization and submit to the card issuer an authorization reversal (Void) for $80.00.

Required Partial Authorization Parameters

To perform a partial authorization, pass the same parameters that you would for an authorization (TRXTYPE=A, ACCT, AMT, and EXPDATE). In addition, pass the following parameters.

Parameter	Description
PARTIALAUTH	*(Required)* Set to Y to submit a partial authorization. Limitations: 1 alphanumeric character.
VERBOSITY	*(Required)* Set to HIGH to obtain information about a partial authorization in the response.

Example Partial Authorization

The following is an example partial authorization.

1. You submit the initial authorization as a partial authorization.

```
TRXTYPE=A&TENDER=C&AMT=100.00&ACCT=41111111111111111&EXPDATE=0119
&PARTIALAUTH=Y&VERBOSITY=HIGH
```

2. The card issuer notes that the card has a remaining balance of $80.00.

3. The card issuer sends a partial authorization for $80.00.

```
RESULT=0&PNREF=VRNS1A3B33C9&RESPMSG=Partial
Approval&AUTHCODE=11111&HOSTCODE=E&PROCAVS=U&TRANSTIME=2010-04-21
11:30:45&AMT=80.00&ORIGAMT=100.00&BALAMT=0&ACCT=1111&EXPDATE=0119&IAVS=X
```

RESPMSG is Partial Approval, AMT is now the actual amount approved, ORIGAMT is the original requested amount, and BALAMT is the balance on the card.

Since the amount charged is greater than the amount available on the card, the response sets the balance amount (BALAMT) to zero. If BALAMT is zero, check if there is a balance due by comparing the original amount to the amount charged (ORIGAMT-AMT).

4. You can choose to perform one of the following tasks:

  – Accept the $80.00 and request an alternate payment from the buyer for the additional $20.00.
  – Reject the partial authorization by sending the card issuer an authorization reversal (void) for $80.

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 an employer requests to be issued. A purchasing card 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, pass specific additional transaction information. Purchasing card support and parameters vary from processor to processor. See "Submitting Purchasing Card Level 2 and 3 Transactions" on page 151.

NOTE: The PayPal processor does not support purchasing card transactions.

Submitting Reference Transactions (Tokenization)

To recharge a credit card when 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. (Securely storing data for future reference is also known as tokenization.)

The `PNREF` returned in the original transaction is valid for use in reference transactions for 12 months. You can also use the `PNREF` account verification returns in a reference transaction.

When To Use a Reference Transaction

Say that Joe Smith purchases a holiday gift from your website store and requests that you send it by UPS ground service. That evening, Joe becomes concerned that the item might not arrive in time for the holiday. So Joe calls you to upgrade shipping to second-day air. You obtain Joe's 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 credit card information.

NOTE: 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 that does not allow reference transactions, Payflow returns `RESULT` value `117`. See PayPal Manager online help for instructions on setting reference transactions and other security features.

Sale and authorization transactions can use a reference transaction as a source of transaction data. Payflow looks up the reference transaction and copies its transaction data into the new sale or authorization. Fraud Protection Service filters do not screen reference transactions.

NOTE: When the Gateway looks up the reference transaction, it does not alter in any way the transaction referenced or any other transaction in the database. A reference transaction is a read-only operation. Payflow populates with data and acts upon the new transaction only. It does not maintain any linkage 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 (Payflow does not copy the voice authorization code 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.

ACCTTYPE	BILLTOSTREET
ACCT	BILLTOCITY
EXPDATE	BILLTOSTATE
BILLTOFIRSTNAME	BILLTOZIP
BILLTOMIDDLENAME	BILLTOCOUNTRY
BILLTOLASTNAME	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. 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=Supe
rMerchant&ACCT=5555555555554444&EXPDATE=1215&AMT=100.00&INVNUM=123456789&BI
LLTOSTREET=5199 MAPLE&BILLTOZIP=94588
```

Note the value of the PNREF in the response:

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

> **NOTE:** The PNREF returned in the original transaction is valid in reference transactions for 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.

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

The following is the response:

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

3. Submit a new sale transaction or an authorization and delayed capture transaction of $34 for the rest of the shipment.

When you ship 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 Payflow allows only one delayed capture transaction per authorization.)

The following is a sale transaction request:

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

The following is the response:

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

Data Upload - Storing Credit Card Data on the Gateway Server

To facilitate creating reference transactions while assisting you with PCI compliance, PayPal allows you to upload credit card data by submitting an upload transaction (TRXTYPE=L). At minimum, you must pass values for the following parameters:

- TRXTYPE
- TENDER
- ACCT

- EXPDATE

This is an example upload transaction request:

```
TRXTYPE=L&TENDER=C&ACCT=5105105105105100&EXPDATE=1215&BILLTOFIRSTNAME=Ted&B
ILLTOLASTNAME=Smith&BILLTOSTREET=123&BILLTOCITY=SanJose&BILLTOSTATE=CA&BILL
TOZIP=12345&BILLTOPHONENUM=123-123-1234
```

This is the response:

```
RESULT=0&PNREF=v19A2E710FCF&RESPMSG=Approved&TRANSTIME=2011-11-02 16:53:58
```

You can send shipping and billing information to be stored, but you must not include the `AMT` field. If you pass a value for `AMT`, you will receive an error with `RESULT=4` and `RESPMSG=Invalid Amount`.

NOTE: PayPal does not verify the credit card data, as it is not sent to the banks for processing. To validate a transaction, you must submit an account verification, also known as a zero dollar authorization (`TRXTYPE=A`). For details, see "Submitting Account Verifications" on page 62.

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.

NOTE: PayPal Payments Advanced and Payflow Link users cannot submit sale transactions unless they obtain the Payflow SDK.

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, 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 63. To recharge a credit card when 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, 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, 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 NVP string passed in a sale transaction.

```
TRXTYPE=S&TENDER=C&USER=SuperUser&PWD=SuperUserPassword&VENDOR=SuperUser&PA
RTNER=PayPal&ACCT=5105105105105100&EXPDATE=1215&CVV2=123&AMT=99.00&BILLTOFI
RSTNAME=John&BILLTOLASTNAME=Smith&BILLTOSTREET=123 Main St.&BILLTOCITY=San
Jose&BILLTOSTATE=CA&BILLTOZIP=12345&COMMENT1=Reservation&INVNUM=1234567890&
PONUM=C12345&VERBOSITY=HIGH
```

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. Pass the customer's street address (BILLTOSTREET) and zip code (BILLTOZIP) to use address verification service. To validate card security codes, pass the CVV2 parameter. For details on address verification service and card security code, see the following:

- "Submitting Card Present (SWIPE) Transactions" on page 65
- "Using Card Security Code" on page 83

Submitting Soft Merchant Information

Soft merchant information is detailed data about a merchant such as the merchant's name, business address, business location identifier, and contact information.

About Soft Merchant Information

Merchants aggregators, who perform transactions on behalf of other merchants under a single merchant account, provide the processor with soft merchant information. Soft merchant information identifies the merchant making the sale and includes information about that merchant on the buyer's card statement.

Say, for example, Outdoor Apparel has a chain of 12 stores located in the Western United States with the corporate office in Oakland, California. John Lui purchases a pair of hiking boots online from Hiker's Duds in San Jose, California, and charges them to his credit card. The transaction goes to the aggregator at Outdoor Apparel in Oakland. The aggregator sends soft merchant information about the Hiker's Duds store with the transaction to the credit card processor. When John receives his credit card statement, he recognizes the charge for the hiking boots he purchased at Hiker's Duds in San Jose.

Ways to Send Soft Merchant Information

There are 2 ways you can send soft merchant information:

- Soft merchant information (SM Record)

- Merchant descriptor (M Record)

The Paymentech processor requires that you follow their guidelines to send soft descriptor information using either of these methods.

Soft Merchant Information (SM Record)

Soft merchant information is for American Express credit cards only. Typically aggregators (and petroleum merchants) pass soft merchant information to the processor in Gateway parameter fields such as the following:

- `MERCHANTNAME`

- `MERCHANTSTREET`

- `MERCHANTCITY`

- `MERCHANTSTATE`

- `MERCHANTNAME`

- `MERCHANTZIP`

- `MERCHANTCOUNTRYCODE`

- `MERCHANTLOCATIONID`

- `MERCHANTID`

- `MERCHANTCONTACTINFO`

NOTE: Paymentech Salem processor only: To take advantage of this level of soft descriptor, you must be approved by the Paymentech Risk/Credit department. Upon approval, Paymentech sets a flag at the transaction division to enable you to send the preceding parameters. If the flag is not set and you send the parameters, your transaction is rejected with Error 258.

Merchant Descriptor (M Record)

A merchant descriptor defines the merchant name and product that appears on the account holder's statement. The descriptior information is passed to the processor in parameter fields such as the following:

- `MERCHDESCR` – Defines the merchant name and product

- `MERCHSVC` – Includes the merchant contact information such as the merchant's telephone number, e-mail address, or website URL

To use merchant descriptors, you are not required to have the processor set the division level flag. However, you are required to obtain prior risk or credit department approval before sending the parameters.

Submitting Voice Authorization Transactions

A voice authorization (TRXTYPE=F) is a transaction that the processing network authorizes over the phone.

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 *referral transactions* generate RESULT value 13.

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

On approval, a voice authorization transaction is treated like a sale transaction and is settled with no further action on your part.

Like sale transactions, you can void approved voice authorizations before settlement occurs.

Required Voice Authorization Transaction Parameters

To perform a voice authorization transaction, pass the AUTHCODE provided by your merchant bank.

Parameter	Description
AUTHCODE	*(Required for voice authorizations)* Returned only for approved voice authorization transactions. AUTHCODE is the approval code received over the phone from the processing network. Limitations: 6 alphanumeric characters

The following is an example Voice Authorization request parameter string:4

```
TRXTYPE=F&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&P
WD=x1y2z3&AUTHCODE=AB3456&ACCT=5555555555554444&EXPDATE=1215&AMT=123.00&VER
BOSITY=HIGH
```

Submitting Void Transactions

The void transaction (TRXTYPE=V) prevents authorizations from being captured, and delayed captures, sales and voice authorizations from being settled.

You cannot void another void transaction or any inquiry type transactions. The void transaction and the original transaction will not appear on the customer's statement.

PayPal will issue an authorization reversal as part of the void transaction for debit and credit cards if the processor supports it. Because the bank or issuer ultimately decides whether to honor authorization reversals, there is no accurate way to determine if an authorization reversal was completed and the hold on funds has been removed.

When To Use a Void Transaction

Use the following guidelines when using void transactions:

- 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, submit a credit transaction.

Required Void Transaction Parameters

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

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

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, 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 you set the RECURRING parameter to Y in the original transaction, the setting is ignored when forming the void transaction.

ACCT	AMT	BILLTOCITY	COMMENT1
COMMENT2	COMPANYNAME	BILLTOCOUNTRY	CUSTCODE
CUSTIP	DUTYAMT	BILLTOEMAIL	EXPDATE
BILLTOFIRSTNAME	BILLTOMIDDLENAME	BILLTOLASTNAME	FREIGHTAMT
INVNUM	PONUM	SHIPTOCITY	SHIPTOCOUNTRY

SHIPTOFIRSTNAME	SHIPTOMIDDLENAME	SHIPTOLASTNAME	SHIPTOSTATE
SHIPTOSTREET	SHIPTOZIP	BILLTOSTATE	BILLTOSTREET
SWIPE	TAXAMT	BILLTOPHONENUM	TAXEXEMPT
BILLTOZIP			

Example Void Transaction Parameter String

The following is an example void transaction string:

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

Using Address Verification Service

To qualify for the lowest bank rate, pass address verification service information, including the 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 decides to approve or decline a transaction. Most US banks and some international banks support the address verification service.

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 the address verification service response is international (`Y`), USA (`N`), or cannot be determined (`X`).

NOTE: When you set `VERBOSITY` to `HIGH`, the Gateway returns the processor's raw response in the `PROCAVS` field. To obtain details about the meaning of the response, contact your merchant bank.

Example Address Verification Service Parameter String

This example request includes the address verification service parameters `BILLTOSTREET` and `BILLTOZIP`:

```
TRXTYPE=A&TENDER=C&PWD=SuperUserPassword&PARTNER=PayPal&VENDOR=Vendor&USER=
SuperMerchant&&ACCT=5555555555554444&EXPDATE=1215&AMT=123.00&BILLTOSTREET=5
199 Maple&BILLTOZIP=98765
```

In this example response, 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&AVSZ
IP=N&IAVS=X
```

Using Card Security Code

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 code provides some assurance that the physical card is in the buyer's possession.

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

On most cards (Diners Club, Discover, Mastercard and Visa) the card security code is a 3-digit number 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). American Express prints a 4-digit number (1122 in the example) on the front of the card, above and to the right of the embossed account number. Make sure that you explain this to your customers.

To validate the card security code in a transaction, pass the card security code value in the `CVV2` parameter in your request. The response parameter `CVV2MATCH` returns the result of the card security code check.

NOTE: To comply with credit card association regulations, do not store the card security code value that you pass in the `CVV2` parameter.

Card security code

The following is an example request parameter string.

```
TRXTYPE=S&TENDER=C&USER=SuperUser&PWD=SuperUserPassword&VENDOR=SuperUser&PA
RTNER=PayPal&ACCT=5105105105105100&EXPDATE=1215&CVV2=123&AMT=99.00&BILLTOFI
RSTNAME=John&BILLTOLASTNAME=Smith&BILLTOSTREET=123 Main St.&BILLTOCITY=San
Jose&BILLTOSTATE=CA&BILLTOZIP=12345
```

NOTE: Payflow returns the raw response from the processor in the `PROCCVV2` parameter. For details on the meaning of the response, contact your merchant bank.

7 Testing Transactions

Before you activate your website or application for use by buyers, test your integration. A simulated payment network handles transactions, enabling you to verify the configuration and operation of your website or application. No money changes hands.

Setting Up The Payflow Gateway Testing Environment

Before testing transactions be sure you are linked to the test servers.

Direct all transactions to the host URL for testing. See . PayPal's simulated network processes transactions directed to the URL.

Testing Guidelines

Follow these guidelines for testing.

- While testing, use only the credit card numbers for testing. Other numbers produce an error.
- Expiration date must be a valid date in the future. Use the format mmyy.
- To view the credit card processor that you have selected for testing, see PayPal Manager.

Processors Other Than PayPal

For processors other than the PayPal processor, use the guidelines below.

Credit Card Numbers for Testing

For processors other than PayPal, use the following credit card numbers for testing. Any other card number produces a general failure.

American Express	378282246310005
American Express	371449635398431
American Express Corporate	378734493671000

Diners Club	38520000023237
Discover	6011111111111117
Discover	6011000990139424
JCB	3530111333300000
JCB	3566002020360505
MasterCard	5555555555554444
MasterCard	5105105105105100
Visa	4111111111111111
Visa	4012888888881881
Visa	4222222222222
	NOTE: Even though this number has a different character count than the other test numbers, it is the correct and functional number.

Result Values Based On Amount Submitted

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

Amount	Result
$0 – $1000	RESULT value 0 (Approved)
$1001 – $2000	Certain amounts in this range return specific PayPal results. You can generate the results 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 result supported by this testing mechanism, Payflow returns RESULT value 12 (Declined).
$2001+	RESULT value 12 (Declined)

Result Values Based On Amount Submitted and Processor

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

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

Processing Platform	RESULT Values Available for Testing
First Data Merchant Services North	0, 4, 5, 12, 13, 23, 24,114, 1000
First Data Merchant Services Nashville	0, 12, 13, 104
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	0, 4, 12, 13, 23, 104, 114, 1000
Vantiv (formerly Fifth Third Processing Solutions)	0, 4, 5, 12, 13, 23, 24,114, 1000

Result Values Based On Alternate Generation Methods

The following table shows another method for obtaining RESULT values. Servers do not return non-zero RESULT values from processors. Therefore, you cannot simulate non-zero RESULT values using the amount. In some cases, you may obtain certain results using the RESULT value plus 1000 even though this table suggests an alternate means of obtaining the RESULT value.

RESULT value	Definition	How to test using Payflow Gateway
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

RESULT value	Definition	How to test using Payflow Gateway
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, `000000000000000`
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 Global Payments 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

RESULT value	Definition	How to test using Payflow Gateway
114	CVV2 Mismatch	Use the AMOUNT 1114. Only applies to TSYS Acquiring Solutions, Merchant e-Solutions, and Global Payments East and Global Payments Central processors
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 3 characters of the submitted value for BILLTOSTREET.

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

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

The following table tests AVSADDR.

Submitted Value for BILLTOSTREET	Example BILLTOSTREET 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

The following table tests AVSZIP.

Submitted Value for BILLTOZIP	Example BILLTOZIP 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)	BILLTOSTREET=79232 Maple, BILLTOZIP=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".

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.

Testing CVV2MATCH

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

PayPal Processor

For the PayPal processor, use the following guidelines.

Credit Card Numbers for Testing

For the PayPal processor, use the following credit card numbers for testing. Any other card number produces a general failure.

American Express	378282246310005
American Express	371449635398431
Amex Corporate	378734493671000
Australian BankCard	5610591081018250
Diners Club	30569309025904
Diners Club	38520000023237
Discover	6011111111111117
Discover	6011000990139424

JCB	3530111333300000
JCB	3566002020360505
MasterCard	5555555555554444
MasterCard	5105105105105100
Visa	4111111111111111
Visa	4012888888881881
Visa	4222222222222
	NOTE: Even though this number has a different character count than the other test numbers, it is the correct and functional number.

Result Values Based On Amount

The following table shows another method for obtaining RESULT values. The servers do not return non-zero RESULT values from processors.Therefore you cannot simulate non-zero RESULT values using the amount. In some cases, you may obtain certain results using the RESULT value plus 1000 even though this table suggests another means of obtaining the RESULT value.

Result	Definition	How to test
0	Approved	Use an AMOUNT of 10000 or less
3	Invalid transaction type	Use the AMOUNT 10402
4	Invalid amount	Use any of these as AMOUNT: ● 10400 ● 10401 ● 10403 ● 10404
5	Invalid merchant information	Use any of these as AMOUNT: ● 10548 ● 10549

Result	Definition	How to test
7	Field format error	Use any of these as AMOUNT: • 10405 • 10406 • 10407 • 10408 • 10409 • 10410 • 10412 • 10413 • 10416 • 10419 • 10420 • 10421 • 10509 • 10512 • 10513 • 10514 • 10515 • 10516 • 10517 • 10518 • 10540 • 10542
12	Declined	Use any of these as AMOUNT: • 10417 • 15002 • 15005 • 15006 • 15028 • 15039 • 10544 • 10545 • 10546
13	Referral	Use the AMOUNT 10422
23	Invalid account number	Use any of these as AMOUNT: • 10519 • 10521 • 10522 • 10527 • 10535 • 10541 • 10543

Result	Definition	How to test
24	Invalid expiration date	Use any of these as `AMOUNT`: ● 10502 ● 10508
30	Duplicate Transaction	Use the `AMOUNT` 10536
105	Credit error	Attempt to credit an authorization
112	Failed AVS check	Use the `AMOUNT` 10505
114	CVV2 Mismatch	Use the `AMOUNT` 10504
1000	Generic Host (Processor) Error	Use an `AMOUNT` other than those listed in this column

8 Transaction Responses

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

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

Credit Card Transaction Responses

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

Field	Description
PNREF	Gateway 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	The outcome of the attempted transaction. RESULT=0 means the transaction was approved. **NOTE:** For account verification transactions, RESULT=0 with RESPMSG=Verified means a zero dollar authorization has been successfully performed. **NOTE:** The PayPal processor may also return a warning message in the RESPMSG string when RESULT=0. For more information on corrective actions, see the PayPal developer documentation on the PayPal developer website. Any other value for RESULT indicates a decline or error. Character length and limitations: variable length, numeric
CVV2MATCH	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. Character length and limitations: 1 alpha character (Y, N, X, or no response)

Field	Description
RESPMSG	The response message returned with the transaction result. Exact wording varies. Sometimes a colon appears after the initial RESPMSG followed by more detailed information.
	NOTE: For account verification transactions, RESULT=0 with RESPMSG=Verified means a zero dollar authorization has been successfully performed.
	NOTE: The PayPal processor may also return a warning message in the RESPMSG string when RESULT=0. For more information on corrective actions, see the PayPal developer documentation on the PayPal developer website.
	NOTE: For partial authorizations, RESPMSG=Partial Approval when RESULT=0.
	Character length and limitations: variable, alphanumeric characters
AUTHCODE	Returned for sale, authorization, and voice authorization credit card transactions. AUTHCODE is the approval code obtained over the telephone from the processing network.
	AUTHCODE is required when submitting a force (F) transaction.
	Character length and limitations: 6 alphanumeric characters
AVSADDR	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.
	Character length and limitations: 1 alpha character (Y, N, X, or no response)
AVSZIP	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.
	Character length and limitations: 1 alpha character (Y, N, X, or no response)
IAVS	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.
	Character length and limitations: 1 alpha character (Y, N, X, or no response)
PROCAVS	The raw address verification service response returned by the processor. This field is not normalized and is returned when VERBOSITY is set to HIGH.
	Character length and limitations: 1 character
PROCCVV2	The raw CVV2 response returned by the processor. This field is not normalized and is returned when VERBOSITY is set to HIGH.
	Character length and limitations: 1 character

Field	Description
HOSTCODE	The raw response code returned by the processor. This field is not normalized and is returned when VERBOSITY is set to HIGH. Use RESPTEXT to obtain the response message from the processor. For additional PayPal processor response code information, refer to the [PayPal API error codes](). For all other processors, please contact your merchant bank or processor directly. Character length and limitations: 6 characters
RESPTEXT	The raw text returned by the processor which corresponds to the returned HOSTCODE. This field is not normalized and is returned when VERBOSITY is set to HIGH. Character length and limitations: 32 characters
PROCCARDSECURE	The raw Buyer Authentication response returned by the processor. This field is not normalized and is returned when VERBOSITY is set to HIGH. Character length and limitations: 1 character
ADDLMSGS	Additional error message that indicates the use of a features that has been disabled. Character length and limitations: Up to 1048 characters. Typically 50 characters.
PAYMENTTYPE	(PayPal only.) Returns `instant` if the payment is instant or `echeck` if the payment is delayed (DP) on the PayPal processor. Character length and limitations: 7-character string
CORRELATIONID	(PayPal only.) Value used for tracking this Direct Payment transaction. Character length and limitations: 13 alphanumeric characters
AMEXID	Unique transaction ID returned when VERBOSITY=HIGH for tracking American Express CAPN transactions on non-PayPal processors. **NOTE:** Used by merchants who authorize transactions through the Gateway but settle through a third-party solution. Character length and limitations: 15 numeric characters
AMEXPOSDATA	Value returned for American Express CAPN transactions when VERBOSITY=HIGH on non-PayPal processors. **NOTE:** Used only by merchants who authorize through the Gateway but settle through a third-party solution. Character length and limitations: 12 alphanumeric characters
AMT	This field returns the transaction amount or if performing a partial authorization it will return the amount approved for the partial authorization.
ORIGAMT	Partial authorizations: Original amount submitted for authorization.

Field	Description
CARDTYPE	The credit card type. Is returned in an inquiry response when you send a VERBOSITY request parameter value of HIGH. Is one of the following values for currently used cards: ● 0 = Visa ● 1 = MasterCard ● 2 = Discover ● 3 = American Express ● 4 = Diner's Club ● 5 = JCB
EMAILMATCH	Verifies whether the BILLTOEMAIL value sent is what is on file with the processor. (American Express processor only) Character length and limitations: 1 alpha character (Y, N, X, or no response)
PHONEMATCH	Verifies whether the BILLTOPHONENUM value sent is what is on file with the processor. (American Express processor only) Character length and limitations: 1 alpha character (Y, N, X, or no response)
EXTRSPMSG	Additional processor-related messages.
TRANSTIME	Time of the transaction. The following is an example response in the format returned: TRANSTIME=2010-08-11 22:53:18 Character length and limitations: See example
DUPLICATE	Is returned with one of the following values: ● DUPLICATE=2 — ORDERID has already been submitted in a previous request with the same ORDERID. ● DUPLICATE=1 — The request ID has already been submitted for a previous request. ● DUPLICATE=-1 — The Gateway database is not available. PayPal cannot determine whether this is a duplicate order or request.
DATE_TO_SETTLE	The date a transaction will settle. This parameter is returned in the response for inquiry transactions only (TRXTYPE=I).

Address Verification Service Responses From PayPal

The following table compares the detailed response the PayPal processor returns for address verification to the normalized response value (Y, N, or X) that AVSADDR and AVSZIP return. To obtain the PayPal processor value, set the VERBOSITY parameter to HIGH. The processor value is returned in the PROCAVS response parameter.

PayPal processor AVS code	Meaning	AVSADDR	AVSZIP
A	Address	Y	N
B	International "A"	Y	N
C	International "N"	N	N
D	International "X"	Y	Y
E	Not allowed for MOTO (Internet/Phone) transactions	X	X
F	UK-specific "X"	Y	Y
G	Global Unavailable	X	X
I	International Unavailable	X	X
N	No	N	N
P	Postal (International "Z")	N	Y
R	Retry	X	X
S	Service not Supported	X	X
U	Unavailable	X	X
W	Whole Zip	N	Y
X	Exact Match	Y	Y
Y	Yes	Y	Y
Z	Zip	N	Y
All other		X	X

The following is an example Authorization request string that sets `VERBOSITY` to `HIGH`. Payflow returns the `PROCAVS` value in the response.

```
TRXTYPE=A&BILLTOSTREET=123 Main St&BILLTOZIP=00382&TENDER=C&PARTNER=PayPal&
USER=SuperMerchant&PWD=SuperUserPassword&AMT=1.00&ACCT=4111111111111111&EXP
DATE=1215&INVNUM=PONUM1&VERBOSITY=HIGH
```

The `PROCAVS` value is returned in the response.

```
RESULT=0&PNREF=VFHA0FF94691&RESPMSG=Approved&AUTHCODE=245PNI&AVSADDR=Y&AVSZ
IP=Y&HOSTCODE=A&PROCAVS=Y&VISACARDLEVEL=12&TRANSTIME=2011-01-12
13:54:35&AMT=1.00&ACCT=1111&EXPDATE=1215&CARDTYPE=0&IAVS=N
```

Card Security Code Results

Normalized Card Security Code Results

The CVV2MATCH parameter returns Y, N, or X or a processor-specific response.

The CVV2MATCH parameter returns Y, N, or X.

The following table shows the detailed results that the PayPal processor returns for card security codes. To obtain the PayPal processor value, set the VERBOSITY parameter to HIGH. The processor value is returned in the PROCCVV2 response parameter.

PayPal Processor CVV2 Code	PayPal Processor Code Description	PROCVV2MATCH
M	Match	Y
N	No Match	N
P	Not Processed	X
S	Service Not Supported	X
U	Unavailable	X
X	No Response	X
All other		X

PayPal Card Security Code Results

The following table shows the detailed results the PayPal processor returnes for card security codes. To obtain the PayPal processor value, set the VERBOSITY parameter to HIGH. The processor value is returned in the PROCCVV2 response parameter.

PayPal Processor CVV2 Code	PayPal Processor Code Description	PROCVV2MATCH
M	Match	Y
N	No Match	N
P	Not Processed	X
S	Service Not Supported	X
U	Unavailable	X
X	No Response	X

PayPal Processor CVV2 Code	PayPal Processor Code Description	PROCVV2MATCH
All other		X

BALAMT Response and Stored Value Cards

Transactions meeting American Express reporting and statement requirements may return `BALAMT` when the transaction involves a stored value card. Stored value cards typically are offered as gift cards, allowing the customer to spend any amount up to the balance remaining on the card. A card must be active and not compromised for `BALAMT` to return the card balance. If the card is used to purchase merchandise exceeding the card balance, American Express declines the transaction and returns the card balance in `BALAMT`.

NOTE: Not all processors support `BALAMT` when a transaction involves a stored value card.

American Express Stored Value Card Example

The following authorization request is for a purchase of 123.00.

```
TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=Supe
rMerchant&ACCT=5555555555554444&EXPDATE=1215&AMT=123.00&BILLTOSTREET=5199 M
APLE&BILLTOZIP=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&AVSZI
P=N
```

PNREF

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`).

The `PNREF` value 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` value typically contains letters and numbers only.

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

RESULT Values and RESPMSG Text

The `RESULT` parameter is the first response parameter 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 that a zero dollar authorization is successful.

- 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 (except in the case of `RESULT 104`. See the following table).

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

To obtain the raw response code and message returned by the processor set `VERBOSITY` to `HIGH` in your request and capture the response values of the `HOSTCODE` and `RESPTEXT` parameters.

For PayPal Processor Only:

When interpreting `RESULT` values for the PayPal processor, note the following:

- When `RESULT=0`, warning information may be returned that is useful to the request application. See the PayPal API documentation on x.com for detailed information on corrective actions.

- When `RESULT=104`, log in to the PayPal website to determine whether the transaction actually went through. If the transaction does not appear in the History section, retry it.

RESULT	RESPMSG and Explanation
0	**Approved**
	NOTE: PayPal processor: Warning information may be returned that may be useful to the request applicaton. See the PayPal API documentation on x.com for information on corrective actions.

RESULT	RESPMSG and Explanation
1	**User authentication failed.** Error is caused by one or more of the following: • 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. • Invalid Processor information entered. Contact merchant bank to verify. • "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 update the allowed IP addresses. • 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
2	**Invalid tender type.** Your merchant bank account does not support the following credit card type that was submitted.
3	**Invalid transaction type.** Transaction type is not appropriate for this transaction. For example, you cannot credit an authorization-only transaction
4	**Invalid amount format. Use the format: "#####.##" Do not include currency symbols or commas.**
5	**Invalid merchant information.** Processor does not recognize your merchant account information. Contact your bank account acquirer to resolve this problem.
6	**Invalid or unsupported currency code**
7	**Field format error.** Invalid information entered. See RESPMSG.
8	**Not a transaction server**
9	**Too many parameters or invalid stream**
10	**Too many line items**
11	**Client time-out waiting for response**
12	**Declined.** 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	**Referral.** 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	**Original transaction ID not found.** The transaction ID you entered for this transaction is not valid. See RESPMSG.
20	**Cannot find the customer reference number**
22	**Invalid ABA number**
23	**Invalid account number.** Check credit card number and bank account number and re-submit.
24	**Invalid expiration date.** Check card expiration date and re-submit.

RESULT	RESPMSG and Explanation
25	**Invalid Host Mapping.** Error is caused by one or more of the following: • 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. • 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.
26	**Invalid vendor account.** 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.
27	**Insufficient partner permissions**
28	**Insufficient user permissions**
29	**Invalid XML document.** This could be caused by an unrecognized XML tag or a bad XML format that cannot be parsed by the system.
30	**Duplicate transaction**
31	**Error in adding the recurring profile**
32	**Error in modifying the recurring profile**
33	**Error in canceling the recurring profile**
34	**Error in forcing the recurring profile**
35	**Error in reactivating the recurring profile**
36	**OLTP Transaction failed**
37	**Invalid recurring profile ID**
50	**Insufficient funds available in account**
51	**Exceeds per transaction limit**
52	**Permission issue.** Attempting to perform a transaction type, such as Sale or Authorization, that is not allowed for this account.
99	**General error.** See RESPMSG.
100	**Transaction type not supported by host**
101	**Time-out value too small** PayPal Australia: Invalid transaction returned from host (can be treated as an invalid transaction or a decline)
102	**Processor not available** The financial host was unable to communicate with the external processor. These transactions do not make it out of the Payflow network and will not settle or appear on processor reports.

RESULT	RESPMSG and Explanation
103	**Error reading response from host** The financial host could not interpret the response from the processor. This error can result in an uncaptured authorization if the transaction is an authorization or a sale, except on the following processors: • PayPal Australia: Time-out reversal logic should reverse the transaction. According to PayPal Australia, this is a best effort and is not guaranteed. • Global Payments Central, Citi Bank Singapore: Time-out reversal logic should reverse the transaction. • PayPal: The transaction might settle. There is no time-out reversal process on PayPal.
104	**Timeout waiting for processor response.** Try your transaction again. The Payflow gateway sent the transaction to the processor, but the processor did not respond in the allotted time. This error can result in an uncaptured authorization if the transaction is an authorization or a sale, except on the following processors: • PayPal Australia: Time-out reversal logic should reverse the transaction. According to PayPal Australia, this is a best effort and is not guaranteed. • Global Payments Central, Citi Bank Singapore: Time-out reversal logic should reverse the transaction. • PayPal: The transaction might settle. There is no time-out reversal process on PayPal.
105	**Credit error.** 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	**Host not available** The Payflow transaction server was unable to communicate with the financial host. This error is an internal failure, and the transaction will not make it to the processor.
107	**Duplicate suppression time-out**
108	**Void error.** `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	**Time-out waiting for host response** The Payflow transaction server times out waiting for a financial host to respond. This error can result in uncaptured authorizations on all platforms, or settled sales on PayPal Australia, Global Payments Central, and PayPal.
110	**Referenced auth (against order) Error**
111	**Capture error.** 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.

RESULT	RESPMSG and Explanation
112	**Failed AVS check.** Address and zip code do not match. An authorization may still exist on the cardholder's account.
113	**Merchant sale total will exceed the sales cap with current transaction.** ACH transactions only.
114	**Card Security Code (CSC) Mismatch.** An authorization may still exist on the cardholder's account.
115	**System busy, try again later**
116	**Failed to lock terminal number. Please try again later.** For Moneris Solutions, another transaction or settlement is in process. Rerun the transaction later.
117	**Failed merchant rule check.** One or more of the following three failures occurred:An attempt was made to submit a transaction that failed to meet the security settings specified on the PayPal Manager Security Settings page. If the transaction exceeded the Maximum Amount security setting, then no values are returned for AVS or CSC. AVS validation failed. The AVS return value should appear in the RESPMSG. CSC validation failed. The CSC return value should appear in the RESPMSG.
118	**Invalid keywords found in string fields**
120	**Attempt to reference a failed transaction**
121	**Not enabled for feature**
122	**Merchant sale total will exceed the credit cap with current transaction.** ACH transactions only.
125	**Fraud Protection Services Filter — Declined by filters**
126	**Fraud Protection Services Filter — Flagged for review by filters** **NOTE:** 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. 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. To eliminate RESULT 126, turn the filters off. For more information, see the fraud documentation for your payments solution.
127	**Fraud Protection Services Filter — Not processed by filters**
128	**Fraud Protection Services Filter — Declined by merchant after being flagged for review by filters**
132	**Card has not been submitted for update**
133	**Data mismatch in HTTP retry request**

RESULT	RESPMSG and Explanation
150	**Issuing bank timed out** PayPal Australia reported a timeout between their system and the bank. This error will be reversed by time-out reversal. According to PayPal Australia, this is a best effort and is not guaranteed.
151	**Issuing bank unavailable**
160	**Secure Token already been used.** Indicates that the secure token has expired due to either a successful transaction or the token has been used three times while trying to successfully process a transaction. You must generate a new secure token.
161	**Transaction using secure token is already in progress.** This could occur if a customer hits the submit button two or more times before the transaction completed.
162	**Secure Token Expired.** The time limit of 20 minutes has expired and the token can no longer be used.
200	**Reauth error**
201	**Order error**
600	**Cybercash Batch Error**
601	**Cybercash Query Error**
1000	**Generic host error.** This is a generic message returned by your credit card processor. The RESPMSG will contain more information describing the error.
1001	**Buyer Authentication Service unavailable**
1002	**Buyer Authentication Service — Transaction timeout**
1003	**Buyer Authentication Service — Invalid client version**
1004	**Buyer Authentication Service — Invalid timeout value**
1011	**Buyer Authentication Service unavailable**
1012	**Buyer Authentication Service unavailable**
1013	**Buyer Authentication Service unavailable**
1014	**Buyer Authentication Service — Merchant is not enrolled for Buyer Authentication Service (3-D Secure)**
1016	**Buyer Authentication Service — 3-D Secure error response received.** Instead of receiving a PARes response to a Validate Authentication transaction, an error response was received.
1017	**Buyer Authentication Service — 3-D Secure error response is invalid.** An error response is received and the response is not well formed for a Validate Authentication transaction.
1021	**Buyer Authentication Service — Invalid card type**
1022	**Buyer Authentication Service — Invalid or missing currency code**

RESULT	RESPMSG and Explanation
1023	**Buyer Authentication Service — merchant status for 3D secure is invalid**
1041	**Buyer Authentication Service — Validate Authentication failed: missing or invalid PARES**
1042	**Buyer Authentication Service — Validate Authentication failed: PARES format is invalid**
1043	**Buyer Authentication Service — Validate Authentication failed: Cannot find successful Verify Enrollment**
1044	**Buyer Authentication Service — Validate Authentication failed: Signature validation failed for PARES**
1045	**Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid amount in PARES**
1046	**Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid acquirer in PARES**
1047	**Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid Merchant ID in PARES**
1048	**Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid card number in PARES**
1049	**Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid currency code in PARES**
1050	**Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid XID in PARES**
1051	**Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid order date in PARES**
1052	**Buyer Authentication Service — Validate Authentication failed: This PARES was already validated for a previous Validate Authentication transaction**

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. For information on firewall configuration, see "Preparing the Payflow Gateway Client Application" on page 49. A value of -1 or -2 can also be possible if the Gateway servers are unavailable, or you specified an incorrect server or socket pair. A value of -1 can also result when there are internet connectivity errors. Contact Customer Service regarding any other errors.

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

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

RESULT	Description
-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

Additional parameters are those required by individual processors beyond the core parameters. Parameters are organized alphabetically by processor.

American Express Additional Credit Card Parameters

In addition to the core credit card parameters, American Express accepts the parameters described below to meet AMEX reporting and statement requirements.

PayPal recommends that you include these parameters if you would like to impact what appears on AMEX statements and reports.

NOTE: The PayPal processor does not support SWIPE (card-present) transactions.

Retail Transaction Advice Addendum (for SWIPE transactions)

Field	Description
L_DESC*n*	(*Optional*) Description of this line-item (*n* is a line item number from 1 to 6). Character length and limitations: 19 alphanumeric characters

Field	Description
L_AMT*n*	(*Optional*) Amount of this line-item (*n* is a line item number from 1 to 6). Character length and limitations: 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. 12 numeric characters
L_QTY*n*	(*Optional*) Quantity of this line-item (*n* is a line item number from 1 to 6). Character length and limitations: 3 numeric characters

Internet Transaction Data

Field	Description
BILLTOEMAIL	(*Optional*) Account holder's email address. Character length and limitations: 60 alphanumeric characters
BILLTOPHONENUM	(*Optional*) Account holder's telephone number. Character length and limitations: 10 characters
PHONETYPE	(*Optional*) Telephone company provided ANI information identifier digits indicating the telephone call type. Examples: cellular (61-63), payphone (27) Character length and limitations: 2 characters
CUSTHOSTNAME	(*Optional*) Name of the server that the account holder is connected to. Example: PHX.QW.AOL.COM. Character length and limitations: 60 alphanumeric and special characters
CUSTBROWSER	(*Optional*) Name of the server that the account holder is connected to. Example: MOZILLA/4.0~(COMPATIBLE;~MSIE~5.0;~WINDOWS~95) Character length and limitations: 60 alphanumeric and special characters
CUSTIP	(*Optional*) Account holder's IP address. Character length and limitations: 15 alphanumeric and special characters
SHIPTOCOUNTRY	(*Optional*) Numeric country code of ship-to country. Example: USA: 840. Character length and limitations: 3 characters
SHIPMETHOD	(*Optional*) 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
SKU	(*Optional*) Merchant product SKU. Character length and limitations: 15 alphanumeric characters

Address Verification Service Parameters

Field	Description
BILLTOSTREET	(*Optional*) Account holder's street address (number and street name). Character length and limitations: 20 characters
BILLTOZIP	(*Optional*) Account holder's 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters. Example: `951121737` Character length and limitations: 9 characters
BILLTOPHONENUM	(*Optional*) Account holder's telephone number. The formats are: ● xxx-xxx-xxxx (US numbers) ● +xxxxxxxxxx (international numbers) Character length and limitations: 10 characters
SHIPTOFIRSTNAME	(*Optional*) First name in the shipping address. Character length and limitations: 30 characters
SHIPTOLASTNAME	(*Optional*) Last name in the shipping address. Character length and limitations: 30 characters
SHIPTOSTREET	(*Optional*) Shipping street address. Character length and limitations: 30 characters
SHIPTOCOUNTRY	(*Optional*) Numeric country code of ship-to country. Example: USA: `840`. Character length and limitations: 3 alphanumeric characters
SHIPTOZIP	(*Optional*) Shipping 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters. Example: `951121737` Character length and limitations: 9 alphanumeric characters
SHIPTOPHONENUM	(*Optional*) Shipping telephone number. Character length and limitations: 10 alphanumeric characters

Location Transaction Advice Addendum Parameters

Field	Description
MERCHANTNAME	(*Optional*) Name of merchant. Character length and limitations: 38 alphanumeric characters
MERCHANTSTREET	(*Optional*) Merchant's street address (number and street name). Character length and limitations: 38 alphanumeric characters. If more than 38 characters, use proper and meaningful abbreviation. Do not truncate.

Field	Description
MERCHANTCITY	*(Optional)* The name of the city were the transaction took place. • If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the name of the city in which the seller is located. • If you are a mail order, phone order, or internet industry, you may substitute the name of the city in which the merchant's order processing facility is located. Character length and limitations: 21 alphanumeric characters. If more than 21 characters, use proper and meaningful abbreviation. Do not truncate.
MERCHANTSTATE	*(Optional)* The region code that corresponds to the state, province, or country subdivision of the merchant location where the transaction took place. Region code examples: • CA = California, USA • NS = Nova Scotia, Canada • COS = Colima Mexico If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the region code that corresponds to the state, province, or country subdivision in which the seller is located. Character length and limitations: 3 alphanumeric characters
MERCHANTZIP	*(Optional)* The 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters where the transaction took place. If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the postal code that corresponds to the seller's location. Character length and limitations: 15 alphanumeric characters
MERCHANTCOUNTRYCODE	*(Optional)* Country code of the location where the transaction took place. Character length and limitations: 3 alphanumeric characters
MERCHANTLOCATIONID	*(Optional)* Merchant-assigned store or location number (or name) that uniquely identifies where the transaction took place. Character length and limitations: 15 alphanumeric characters
MERCHANTID	*(Required)* American Express-assigned service establishment number used to identify and facilitate payments to merchants. Character length and limitations: 15 alphanumeric characters.
MERCHANTCONTACTINFO	*(Optional)* Merchant's telephone number or web address. (URLs and e-mail addresses may be lowercase, as appropriate.) This entry may appear on the descriptive bill on the card-member's statement, or may be used to resolve billing inquiries and disputes. **NOTE:** American Express strongly recommends that aggregators (third-parties who bill for goods or services rendered by another entity) always fill in this field with the URL, e-mail address, or telephone number of the contact responsible for resolving disputes or inquiries. Character length and limitations: 40 alphanumeric characters

Transaction Advice Detail Parameters

Field	Description
ADDLAMT*n*	*(Optional)* Detail of a charge where *n* is a value from 1 - 5. Use for additional breakdown of the amount. Character length and limitations: 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. 12 numeric characters
ADDLAMTTYPE*n*	*(Optional)* A 3-digit code indicating the type of the corresponding charge detail, where *n* is a value from 1 - 5. Character length and limitations: 3 numeric characters

Airline Passenger Data Parameters

Field	Description
AIR-DEPARTUREDATE	*(Optional)* Departure date in the format YYYYMMDD. Character length and limitations: 8 alphanumeric characters
AIR-PASSENGERNAME	*(Optional)* Name of the passenger in the following format with fields separated by a space: surname firstname middleinitial title Character length and limitations: 60 alphanumeric characters
AIR-ORIGIN	*(Optional)* Airport code of the originating airport. For a list of airport codes, see http://www.world-airport-codes.com/alphabetical/airport-code/a.html. **NOTE:** Present day airport codes are three characters in length. The five character length is designed to allow for future expansion Character length and limitations: 5 alphanumeric characters
AIR-DESTINATION	*(Optional)* 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 http://www.world-airport-codes.com/alphabetical/airport-code/a.html. **NOTE:** Present day airport codes are three characters in length. The five character length is designed to allow for future expansion Character length and limitations: 5 alphanumeric characters
AIR-NUMBEROFCITIES	*(Optional)* 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.

Field	Description
AIR-ROUTINGCITY*n*	*(Optional)* Airport codes of each city in this flight including cities of origin and destination, where n is a value from 1 to 10. Character length and limitations: 5 alphanumeric characters
AIR-CARRIER*n*	*(Optional)* 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 http://en.wikipedia.org/wiki/Airline_codes-All Character length and limitations: 24 alphanumeric characters
AIR-FAREBASIS	*(Optional)* List discounts associated with the travel. Character length and limitations: 24 alphanumeric characters
AIR-NUMBEROFPASSENGERS	*(Optional)* Number of passengers on this trip. Character length and limitations: numeric
AIR-ISETICKET	*(Optional)* If this is an electronic ticket. The values are: • Y = yes • N = no Character length and limitations: 1 alphanumeric character
AIR-RESERVATIONCODE	*(Optional)* Code assigned to the travel reservation before the ticket was purchased. Character length and limitations: 15 alphanumeric characters

American Express Other Parameters

Field	Description
BILLTOFIRSTNAME	*(Optional)* 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). Character length and limitations: 13 alphanumeric characters
BILLTOLASTNAME	*(Optional)* Account holder's last name. Character length and limitations: 13 alphanumeric characters

Field	Description
INVNUM	*(Optional)* 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. Character length and limitations: 9 alphanumeric characters
ORDERDATE	*(Optional)* Specifies an order date. Character length and limitations: 6 numeric characters Format: mmddyy (with no slashes or dashes). For example, July 28, 2003 is 072803.
ORDERDATETIME	*(Optional)* Specifies an order time and date. Character length and limitations: 19 alphanumeric characters 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.

Elavon Additional Credit Card Parameters

In addition to the core credit card parameters, Elavon (formerly Nova) accepts the parameter described below.

Field	Description
RECURRING	*(Optional)* Identifies the transaction as recurring. This value does not activate the Payflow 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 Payflow 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. Character length and limitations: 1 alphanumeric character (Y or N)

First Data Merchant Services Nashville, Additional Credit Card Parameters

In addition to the core credit card parameters, First Data Merchant Services (FDMS) Nashville accepts the parameters described below.

Field	Description
INVNUM	(*Optional*) 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. Character length and limitations: 9 alphanumeric characters

First Data Merchant Services North, Additional Credit Card Parameters

In addition to the core credit card parameters, First Data Merchant Services (FDMS) North accepts the parameters described

Field	Description
DESC	(*Optional*) Use the DESC* parameters to pass in your DBA name and other data describing the transaction. This information will be displayed in the account holder's statement. **NOTE:** Note: FDMS North passes the descriptive data to the card associations with the following character lengths: Visa: 25 MasterCard: 22 AMEX: 20 DISC: 22 Some card associations truncate the value to 19 characters. If you have questions, consult the card association. Character length and limitations: 25 alphanumeric characters
MERCHDESCR	(*Optional*) Use this parameter to pass in your DBA name and other data describing the transaction. This information is usually displayed in the account holder's statement. Character length and limitations: 25 alphanumeric characters

Field	Description
MERCHSVC	*(Optional)* Defaults to the city where the merchant outlet is located for retail and to the merchant's phone number for non-retail. For example, `800 111-1111`. This information is usually displayed in the account holder's statement.
	Character length and limitations: 13 alphanumeric characters

Heartland, Additional Credit Card Parameters

In addition to the core credit card parameters, Heartland accepts the parameters described below.

Field	Description
INVNUM	*(Optional)* 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.
	NOTE: Not supported by Payflow Link.
	Character length and limitations: 17 alphanumeric characters
MERCHDESCR	*(Optional)* Use this parameter to pass in your DBA name and other data describing the transaction (default: merchant name). This information is usually displayed in the account holder's statement.
	Character length and limitations: 25 alphanumeric characters
MERCHSVC	*(Optional)* Defaults to the city where the merchant outlet is located for retail and to the merchant's phone number for non-retail. For example, `800 111-1111`. This information is usually displayed in the account holder's statement.
	Character length and limitations: 13 alphanumeric characters

Litle Additional Credit Card Parameters

Field	Description
AUTHDATE	Required for Force transactions. Authorization date.
	Character length and limitations: 11alphanumeric characters
CUSTOMERID	*(Optional)* Customer identification.
	Character length and limitations: 18 alphanumeric characters

Field	Description
INVNUM	*(Optional)* Merchant invoice number. The merchant invoice number is used for authorizations. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted. Character length and limitations: 20 alphanumeric characters
MERCHANTCITY	*(Optional)* The name of the city were the transaction took place. ● If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the name of the city in which the seller is located. ● If you are a mail order, phone order, or internet industry, you may substitute the name of the city in which the merchant's order processing facility is located. Character length and limitations: 21 alphanumeric characters
MERCHANTURL	*(Optional)* Merchant's website. This information is usually displayed in the account holder's statement. Character length and limitations: 40 alphanumeric characters
MERCHDESCR	*(Optional)* Use this parameter to pass in your DBA name and other data describing the transaction. This information is usually displayed in the account holder's statement. Character length and limitations: 25 alphanumeric characters
MERCHSVC	*(Optional)* Defaults to the city where the merchant outlet is located for retail and to the merchant's phone number for non-retail. For example, 800 111-1111. This information is usually displayed in the account holder's statement. Character length and limitations: 13 alphanumeric characters
PONUM	*(Optional)* Purchase order number. Character length and limitations: 25 alphanumeric characters
REPORTGROUP	*(Optional)* Category that the transaction is in, for example, coffee mugs. This field is for your own use. Character length and limitations: 25 alphanumeric characters
BILLTOSTREET2	*(Optional)* Second street address. Character length and limitations: 35 alphanumeric characters
BILLTOSTREET3	*(Optional)* Third street address. Character length and limitations: 35 alphanumeric characters
TAXAMT	*(Optional)* Total tax amount. Character length and limitations: 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. 12 numeric characters
TAXEXEMPT	*(Optional)* Indicates whether the customer is tax exempt. It is one of the following values: ● Y – The customer is tax exempt. ● N – The customer is not tax exempt (default). Character length and limitations: 1 alpha character

Merchant e-Solutions, Additional Credit Card Parameters

In addition to the core credit card parameters, Merchant e-Solutions accepts the parameters described below.

Field	Description
INVNUM	*(Optional)* 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. **NOTE:** Not supported by Payflow Link. Character length and limitations: 17 alphanumeric characters
MERCHDESCR	*(Optional)* Use this parameter to pass in your DBA name and other data describing the transaction (default: merchant name). This information is usually displayed in the account holder's statement. Character length and limitations: 25 alphanumeric characters
MERCHSVC	*(Optional)* Defaults to the city where the merchant outlet is located for retail and to the merchant's phone number for non-retail. For example, 800 111-1111. This information is usually displayed in the account holder's statement. Character length and limitations: 13 alphanumeric characters

Paymentech Salem (New Hampshire) Additional Credit Card Parameters for American Express

In addition to the core credit card parameters, Paymentech Salem accepts the parameters to meet American Express statement and reporting requirements described below.

Internet Transaction Data Parameters

Field	Description
BILLTOEMAIL	*(Optional)* Account holder's email address. Character length and limitations: 60 alphanumeric characters
BILLTOPHONENUM	*(Optional)* Account holder's telephone number. Character length and limitations: 20 characters
PHONETYPE	*(Optional)* Telephone company provided ANI information identifier digits indicating the telephone call type. Examples: cellular (61-63), payphone (27) Character length and limitations: 2 characters

Field	Description
CUSTHOSTNAME	(*Optional*) Name of the server that the account holder is connected to. Example: PHX.QW.AOL.COM. Character length and limitations: 60 alphanumeric and special characters
CUSTBROWSER	(*Optional*) Name of the server that the account holder is connected to. Example: MOZILLA/4.0~(COMPATIBLE;~MSIE~5.0;~WINDOWS~95) Character length and limitations: 60 alphanumeric and special characters
CUSTIP	(*Optional*) Account holder's IP address. Character length and limitations: 15 alphanumeric and special characters
SHIPTOCOUNTRY	(*Optional*) Numeric country code of ship-to country. Example: USA: 840. Character length and limitations: 3 alphanumeric characters
SHIPMETHOD	(*Optional*) 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
SKU	(*Optional*) Merchant product SKU. Character length and limitations: 15 alphanumeric and special characters

AVS Parameters

Field	Description
BILLTOSTREET	(*Optional*) Account holder's street address (number and street name). Character length and limitations: 20 characters
BILLTOZIP	(*Optional*) Account holder's 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters. Example: 951121737 Character length and limitations: 9 characters
BILLTOPHONENUM	(*Optional*) Account holder's telephone number. The formats are: • xxx-xxx-xxxx (US numbers) • +xxxxxxxxxx (international numbers) Character length and limitations: 10 characters
SHIPTOFIRSTNAME	(*Optional*) First name in the shipping address. Character length and limitations: 30 characters
SHIPTOLASTNAME	(*Optional*) Last name in the shipping address. Character length and limitations: 30 characters

Field	Description
SHIPTOSTREET	(*Optional*) Shipping street address. Character length and limitations: 30 characters
SHIPTOCOUNTRY	(*Optional*) Numeric country code of ship-to country. Example: USA: 840. Character length and limitations: 3 alphanumeric characters
SHIPTOZIP	(*Optional*) Shipping 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters. Example: 951121737 Character length and limitations: 9 alphanumeric characters
SHIPTOPHONENUM	(*Optional*) Shipping telephone number. Character length and limitations: 10 alphanumeric characters

Additional Credit Card Parameters for M Record

Field	Description
MERCHDESCR	(*Optional*) Use this parameter to pass in your DBA name and other data describing the transaction. This information is usually displayed in the account holder's statement. Character length and limitations: 25 alphanumeric characters
MERCHSVC	(*Optional*) Defaults to the city where the merchant outlet is located for retail and to the merchant's phone number for non-retail. For example, 800 111-1111. This information is usually displayed in the account holder's statement. Character length and limitations: 13 alphanumeric characters

PayPal Credit Card Transaction Request Parameters

In addition to the core credit card parameters, PayPal accepts the parameters described below.

Parameter	Description
ACCTTYPE	(*Optional*) Credit card type. The following card types are supported: • 0 = Visa • 1 = MasterCard • 2 = Discover • 3 = AMEX • 4 = DinersClub • 5 = JCB • 8 = Other

Parameter	Description
AMT	*(Required)* Amount (US Dollars) U.S. based currency. `AMT=ITEMAMT + TAXAMT + FREIGHTAMT + HANDLINGAMT + INSURANCEAMT - DISCOUNT` **NOTE:** You must set `CURRENCY` to one of the three-character currency codes for any of the supported PayPal currencies. See `CURRENCY` in this table for details. Limitations: Must not exceed $10,000 USD in any currency. Nine numeric characers plus decimal (.) character. No currency symbol. 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. Nine numeric characters plus decimal.
CURRENCY	*(Required)* The currency code. **NOTE:** `CURRENCY` is applicable only to processors that support transaction-level currency. Limitations: Three characters.
BUTTONSOURCE	*(Optional)* Identification code for use by third-party applications to identify transactions. Limitations: 32 alphanumeric characters.
CUSTIP	*(Optional)* IP address of payer's browser as recorded in its HTTP request to your website. This value is optional but recommended. **NOTE:** PayPal records this IP address as a means to detect possible fraud. Limitations: 15-character string in dotted quad format: xxx.xxx.xxx.xxx
CAPTURECOMPLETE	*(Optional)* Indicates if this Delayed Capture transaction is the last capture you intend to make. The values are: • `Y` (default) • `N` **NOTE:** If `CAPTURECOMPLETE` is `Y`, any remaining amount of the original reauthorized transaction is automatically voided. Limitations: 12-character alphanumeric string.
CUSTOM	*(Optional)* A free-form field for your own use. Limitations: 256-character alphanumeric string.
EMAIL	*(Optional)* Email address of payer. Limitations: 127 alphanumeric characters.
INVNUM	*(Optional)* Your own unique invoice or tracking number. Limitations: 127 alphanumeric characters.

Parameter	Description
ITEMAMT	(*Required* if `L_COST`*n* is specified) Sum of cost of all items in this order. `ITEMAMT = L_QTY0*LCOST0 + L_QTY1*LCOST1...L_QTY`*n*`*L_COST`*n* Limitations: Nine numeric characers plus decimal (.) character. No currency symbol. 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. Limitations: Nine numeric characters plus decimal.
TAXAMT	(*Required* if `L_TAXAMT`*n* is specified) Sum of tax for all items in this order. `TAXAMT=L_QTY0*L_TAXAMT0 + L_QTY1*L_TAXAMT1 +...L_QTY`*n* `*L_TAXAMT`*n* **NOTE:** You must set `CURRENCY` to one of the three-character currency codes for any of the supported PayPal currencies. See `CURRENCY` in this table for details. Limitations: Nine numeric characers plus decimal (.) character. No currency symbol. 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. Nine numeric characters plus decimal.
FREIGHTAMT	(*Optional*) Total shipping costs for this order. **NOTE:** You must set `CURRENCY` to one of the three-character currency codes for any of the supported PayPal currencies. See `CURRENCY` in this table for details. Limitations: Nine numeric characers plus decimal (.) character. No currency symbol. 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. Nine numeric characters plus decimal.
HANDLINGAMT	(*Optional*) Total handling costs for this order. **NOTE:** You must set `CURRENCY` to one of the three-character currency codes for any of the supported PayPal currencies. See `CURRENCY` in this table for details. Limitations: Nine numeric characers plus decimal (.) character. No currency symbol. 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. Nine numeric characters plus decimal.
DISCOUNT	(*Optional*) Shipping discount for this order. Specify the discount as a positive amount. Limitations: Nine numeric characers plus decimal (.) character. No currency symbol. 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.
INSURANCEAMT	(*Optional*) Total shipping insurance cost for this order. Limitations: Nine numeric characers plus decimal (.) character. No currency symbol. 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.

Parameter	Description
L_NAME*n*	(*Optional*) Line-item name. **NOTE:** To enable line-item support, you must contact Merchant Technical Support at http://www.paypal.com/mts Character length and limitations: 36 alphanumeric characters.
L_DESC*n*	(*Optional*) Line-item description of the item purchased such as `hiking boots` or `cooking utensils`. **NOTE:** To enable line-item support, you must contact Merchant Technical Support at http://www.paypal.com/mts Limitations: 127 alphanumeric characters.
L_COST*n*	(*Required* if L_QTY*n* is supplied) Cost of the line item. The line-item unit price can be a positive or a negative value but not 0. **NOTE:** To enable line-item support, you must contact Merchant Technical Support at http://www.paypal.com/mts **NOTE:** You must set CURRENCY to one of the three-character currency codes for any of the supported PayPal currencies. See CURRENCY in this table for details. Limitations: Nine numeric characers plus decimal (.) character. No currency symbol. 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. Nine numeric characters plus decimal.
L_QTY*n*	(Required if L_COST*n* is supplied) Line-item quantity. **NOTE:** To enable line-item support, you must contact Merchant Technical Support at http://www.paypal.com/mts Limitations: 10-character integer.
L_SKU*n*	(*Optional*) Product number. **NOTE:** To enable line-item support, you must contact Merchant Technical Support at http://www.paypal.com/mts Limitations: 18-characters.
L_TAXAMT*n*	(*Optional*) Line-item tax amount. **NOTE:** To enable line-item support, you must contact Merchant Technical Support at http://www.paypal.com/mts Limitations: Nine numeric characers plus decimal (.) character. No currency symbol. 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.
MERCHANTSESSIONID	(*Optional*) Your customer Direct Payment session identification token. PayPal records this session token as an additional means to detect possible fraud. Limitations: 64 characters.

Parameter	Description
NOTIFYURL	*(Optional)* Your URL for receiving Instant Payment Notification (IPN) about this transaction. If you do not specify NOTIFYURL in the request, the notification URL from your Merchant Profile is used, if one exists. Limitations: 2048 alphanumeric characters.
ORDERDESC	*(Optional)* Description of items the customer is purchasing. Limitations: 127 alphanumeric characters.
RECURRINGTYPE	*(Optional)* Type of transaction occurrence. The values are: • F = First occurrence • S = Subsequent occurrence (default) Limitations: One alpha character.
BILLTOCITY	*(Conditional)* Bill-to city address. Limitations: 40 alphanumeric characters. **NOTE:** Some merchants maybe required to pass this billing information. Please test your integration first to determine if the billing information fields are required.
BILLTOSTATE	*(Conditional)* Bill-to state or province address. Limitations: 40 alphanumeric characters. **NOTE:** Some merchants maybe required to pass this billing information. Please test your integration first to determine if the billing information fields are required.
BILLTOCOUNTRY	*(Conditional)* Bill-to country address. Limitations: 2 alphanumeric characters. **NOTE:** Some merchants maybe required to pass this billing information. Please test your integration first to determine if the billing information fields are required.
SHIPTOSTREET	*(Optional)* Ship-to street address. **NOTE:** If you pass in any of the ship-to address parameters such as SHIPTOCITY or SHIPTOSTATE, you must pass in the complete set (that is, SHIPTOSTREET, SHIPTOCITY, SHIPTOSTATE, SHIPTOCOUNTRY, and SHIPTOZIP). Limitations: 30-character string.
SHIPTOCITY	*(Optional)* Ship-to city address. **NOTE:** If you pass in any of the ship-to address parameters such as SHIPTOCITY or SHIPTOSTATE, you must pass in the complete set (that is, SHIPTOSTREET, SHIPTOCITY, SHIPTOSTATE, SHIPTOCOUNTRY, and SHIPTOZIP). Limitations: 40-character string.

Parameter	Description
SHIPTOSTATE	*(Optional)* Ship-to state or province address.
	NOTE: If you pass in any of the ship-to address parameters such as SHIPTOCITY or SHIPTOSTATE, you must pass in the complete set (that is, SHIPTOSTREET, SHIPTOCITY, SHIPTOSTATE, SHIPTOCOUNTRY, and SHIPTOZIP).
	Limitations: 10-character string.
SHIPTOCOUNTRY	*(Optional)* Ship-to country code.
	NOTE: If you pass in any of the ship-to address parameters such as SHIPTOCITY or SHIPTOSTATE, you must pass in the complete set (that is, SHIPTOSTREET, SHIPTOCITY, SHIPTOSTATE, SHIPTOCOUNTRY, and SHIPTOZIP).
	Limitations: Two alpha characters.
SHIPTOZIP	*(Optional)* U.S. ship-to zip code or other country-specific postal code.
	NOTE: If you pass in any of the ship-to address parameters such as SHIPTOCITY or SHIPTOSTATE, you must pass in the complete set (that is, SHIPTOSTREET, SHIPTOCITY, SHIPTOSTATE, SHIPTOCOUNTRY, and SHIPTOZIP).
	Limitations: 20-character string.

SecureNet Additional Credit Card Parameters for American Express

In addition to the core credit card parameters, SecureNet accepts the parameters described below to meet American Express reporting and statement requirements.

Retail Transaction Advice Addendum (for SWIPE transactions)

Field	Description
L_DESC*n*	*(Optional)* Description of this line-item (*n* is a line item number from 1 to 6). Character length and limitations: 19 alphanumeric characters
L_AMT*n*	*(Optional)* Amount of this line-item (*n* is a line item number from 1 to 6). Character length and limitations: 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. 12 numeric characters
L_QTY*n*	*(Optional)* Quantity of this line-item (*n* is a line item number from 1 to 6). Character length and limitations: 3 numeric characters

Internet Transaction Data

Field	Description
BILLTOEMAIL	*(Optional)* Account holder's email address. Character length and limitations: 60 alphanumeric characters
BILLTOPHONENUM	*(Optional)* Account holder's telephone number. Character length and limitations: 10 characters
PHONETYPE	*(Optional)* Telephone company provided ANI information identifier digits indicating the telephone call type. Examples: cellular (61-63), payphone (27). Character length and limitations: 2 alphanumeric characters
CUSTHOSTNAME	*(Optional)* Name of the server that the account holder is connected to. Example: PHX.QW.AOL.COM. Character length and limitations: 60 alphanumeric and special characters
CUSTBROWSER	*(Optional)* Name of the server that the account holder is connected to. Example: MOZILLA/4.0~(COMPATIBLE;~MSIE~5.0;~WINDOWS~95) Character length and limitations: 60 alphanumeric and special characters
CUSTIP	*(Optional)* Account holder's IP address. Character length and limitations: 15 alphanumeric and special characters
SHIPTOCOUNTRY	*(Optional)* Numeric country code of ship-to country. Example: USA: 840. Character length and limitations: 3 alphanumeric characters
SHIPMETHOD	*(Optional)* 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

AVS Parameters

Field	Description
BILLTOSTREET	*(Optional)* Account holder's street address (number and street name). Character length and limitations: 20 characters
BILLTOZIP	*(Optional)* Account holder's 5- to 9-digit ZIP (postal) code excluding spaces, dashes, and non-numeric characters. Example: 951121737 Character length and limitations: 9 characters

Field	Description
BILLTOPHONENUM	(*Optional*) Account holder's telephone number. The formats are: • xxx-xxx-xxxx (US numbers) • +xxxxxxxxxx (international numbers) Character length and limitations: 10 characters
SHIPTOFIRSTNAME	(*Optional*) First name in the shipping address. Character length and limitations: 30 characters
SHIPTOLASTNAME	(*Optional*) Last name in the shipping address. Character length and limitations: 30 characters
SHIPTOSTREET	(*Optional*) Shipping street address. Character length and limitations: 30 characters
SHIPTOCOUNTRY	(*Optional*) Numeric country code of ship-to country. Example: USA: 840. Character length and limitations: 3 alphanumeric characters
SHIPTOZIP	(*Optional*) Shipping 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters. Example: 951121737 Character length and limitations: 9 alphanumeric characters
SHIPTOPHONENUM	(*Optional*) Shipping telephone number. Character length and limitations: 10 alphanumeric characters

Location Transaction Advice Addendum Parameters

Parameter	Description
MERCHANTNAME	(*Optional*) Name of merchant. Character length and limitations: 38 alphanumeric characters
MERCHANTSTREET	(*Optional*) Merchant's street address (number and street name). Character length and limitations: 38 alphanumeric characters. If more than 38 characters, use proper and meaningful abbreviation. Do not truncate.
MERCHANTCITY	(*Optional*) The name of the city were the transaction took place. • If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the name of the city in which the seller is located. • If you are a mail order, phone order, or internet industry, you may substitute the name of the city in which the merchant's order processing facility is located. Character length and limitations: 21 alphanumeric characters. If more than 21 characters, use proper and meaningful abbreviation. Do not truncate.

Parameter	Description
MERCHANTSTATE	*(Optional)* The region code that corresponds to the state, province, or country subdivision of the merchant location where the transaction took place. Region code examples: • CA = California, USA • NS = Nova Scotia, Canada • COS = Colima Mexico If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the region code that corresponds to the state, province, or country subdivision in which the seller is located. Character length and limitations: 3 alphanumeric characters
MERCHANTCOUNTRYCODE	*(Optional)* Country code of the location where the transaction took place. Character length and limitations: 3 alphanumeric characters
MERCHANTZIP	*(Optional)* The 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters where the transaction took place. If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the postal code that corresponds to the seller's location. Character length and limitations; 15 alphanumeric characters

Transaction Advice Detail Parameters

Field	Description
ADDLAMT*n*	*(Optional)* Detail of a charge where *n* is a value from 1 - 5. Use for additional breakdown of the amount. Character length and limitations: 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. 12 numeric characters
ADDLAMTTYPE*n*	*(Optional)* A 3-digit code indicating the type of the corresponding charge detail, where *n* is a value from 1 - 5. Character length and limitations: 3 numeric characters

Airline Passenger Data Parameters

Field	Description
AIR-DEPARTUREDATE	*(Optional)* Departure date in the format: YYYYMMDD. Character length and limitations: 8 alphanumeric characters
AIR-PASSENGERNAME	*(Optional)* Name of the passenger in the following format with fields separated by a space: surname firstname middleinitial title Character length and limitations: 40 alphanumeric characters

Field	Description
AIR-ORIGIN	*(Optional)* Airport code of the originating airport. For a list of airport codes, see http://www.world-airport-codes.com/alphabetical/airport-code/a.html. **NOTE:** Present day airport codes are three characters in length. The five character length is designed to allow for future expansion. Character length and limitations: 5 alphanumeric characters
AIR-DESTINATION	*(Optional)* 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 http://www.world-airport-codes.com/alphabetical/airport-code/a.html. **NOTE:** Present day airport codes are three characters in length. The five character length is designed to allow for future expansion. Character length and limitations: 5 alphanumeric characters
AIR-NUMBEROFCITIES	*(Optional)* 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-ROUTINGCITYn parameters. Character length and limitations: numeric, maximum value is 10
AIR-ROUTINGCITYn	*(Optional)* 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 http://www.world-airport-codes.com/alphabetical/airport-code/a.html. **NOTE:** Present day airport codes are three characters in length. The five character length is designed to allow for future expansion. Character length and limitations: 5 alphanumeric characters
AIR-CARRIERn	*(Optional)* 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-CARRIERn 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 http://en.wikipedia.org/wiki/Airline_codes-All. Character length and limitations: 5 alphanumeric characters
AIR-FAREBASIS	*(Optional)* List discounts associated with the travel. Character length and limitations: 24 alphanumeric characters

Field	Description
AIR-NUMBEROFPASSENGERS	*(Optional)* Number of passengers on this trip. Character length and limitations: numeric
AIR-ISETICKET	*(Optional)* If this is an electronic ticket. Character length and limitations: 1 alphanumeric character (Y or N)
AIR-RESERVATIONCODE	*(Optional)* Code assigned to the travel reservation before the ticket was purchased. Character length and limitations: 15 alphanumeric characters

Other Parameters

Field	Description
BILLTOFIRSTNAME	*(Optional)* 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). Character length and limitations: 13 alphanumeric characters
BILLTOLASTNAME	*(Optional)* Account holder's last name. Character length and limitations: 13 alphanumeric characters
INVNUM	*(Optional)* 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. Character length and limitations: 17 alphanumeric characters
ORDERDATE	*(Optional)* Specifies an order date. Character length and limitations: 6 numeric characters Format: mmddyy (with no slashes or dashes). For example, July 28, 2003 is 072803.

Vantiv Additional Credit Card Parameters

Additional Credit Card Parameters

Field	Description
MERCHDESCR	*(Optional)* Use this parameter to pass in your DBA name and other data describing the transaction. This information will be displayed in the account holder's statement. Character length and limitations: 25 alphanumeric characters

Soft Merchant Descriptor Parameters

Field	Description
MERCHANTNAME	*(Optional)* Name of merchant. Character length and limitations: 38 alphanumeric characters
MERCHANTSTREET	*(Optional)* Merchant's street address (number and street name). Character length and limitations: 38 alphanumeric characters. If more than 38 characters, use proper and meaningful abbreviation. Do not truncate.
MERCHANTCITY	*(Optional)* The name of the city were the transaction took place. • If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the name of the city in which the seller is located. • If you are a mail order, phone order, or internet industry, you may substitute the name of the city in which the merchant's order processing facility is located. Character length and limitations: 21 alphanumeric characters. If more than 21 characters, use proper and meaningful abbreviation. Do not truncate.
MERCHANTSTATE	*(Optional)* The region code that corresponds to the state, province, or country subdivision of the merchant location where the transaction took place. Region code examples: • CA = California, USA • NS = Nova Scotia, Canada • COS = Colima Mexico If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the region code that corresponds to the state, province, or country subdivision in which the seller is located. Character length and limitations: 3 alphanumeric characters
MERCHANTZIP	*(Optional)* The 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters where the transaction took place. If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the postal code that corresponds to the seller's location. Character length and limitations: 15 alphanumeric characters
MERCHANTCOUNTRYCODE	*(Optional)* Country code of the location where the transaction took place. Character length and limitations: 3 alphanumeric characters
MERCHANTLOCATIONID	*(Optional)* Merchant-assigned store or location number (or name) that uniquely identifies where the transaction took place. Character length and limitations: 15 alphanumeric characters
MERCHANTID	*(Required)* American Express-assigned service establishment number used to identify and facilitate payments to merchants. Character length and limitations: 15 alphanumeric characters.

Field	Description
MERCHANTCONTACTINFO	*(Optional)* Merchant's telephone number or web address. (URLs and e-mail addresses may be lowercase, as appropriate.) This entry may appear on the descriptive bill on the card-member's statement, or may be used to resolve billing inquiries and disputes.
	NOTE: American Express strongly recommends that aggregators (third-parties who bill for goods or services rendered by another entity) always fill in this field with the URL, e-mail address, or telephone number of the contact responsible for resolving disputes or inquiries.
	Character length and limitations: 40 alphanumeric characters

WorldPay Additional Credit Card Parameters

Field	Description
ADDLAMTn	*(Optional)* Detail of a charge, where n is a value from 1 - 5. Use for additional breakdown of the amount. Character length and limitations: 11 alphanumeric characters
ADDLAMTTYPEn	*(Optional)* A 3-digit code indicating the type of the corresponding charge detail, where n is a value from 1 - 5. Character length and limitations: 18 alphanumeric characters
CATTYPE	*(Optional)* Type of terminal. Character length and limitations: numeric characters
CONTACTLESS	*(Optional)* Describes the card input capability. It is the value RFD, which means the card contains a radio frequency identification (RFID) chip for communicating with a point-of-sale device with an RFID receiver. Character length and limitations: alpha characters

B TeleCheck Electronic Check Processing

This appendix describes the host-based capture version of the TeleCheck Non-Face-To-Face Check Acceptance (NFTF) services.

TeleCheck NFTF Overview of Services

NFTF offers merchants the convenience of electronic check deposits. When a NFTF transaction is approved by TeleCheck, the manually entered MICR data from the check is electronically converted to an ACH debit and is processed through the ACH Network. The merchant receives funds within two banking days.

NFTF includes TeleCheck Internet Check Acceptance (ICA), Checks By Phone (CBP), and Prearranged Deposit Services (NFTF PPD). Each of these products requires a separate Merchant ID also known as a Subscriber ID. See below for more details.

- ICA provides merchants with the capability to authorize and electronically settle checks presented by customers over the internet. ICA can be single entry or recurring. This is based on customer's authorization received over the internet.

- CBP authorizes and electronically settles checks presented over the phone through customer interaction with a merchant call center representative. CBP services are single entry only. Partial debits and recurring entries are not allowable per NACHA guidelines.

- NFTF prearranged payment and deposit entry (NFTF PPD) may be used for either recurring or non-recurring debits to a customer's account, when the merchant has provided the customer with a written authorization, which the customer has signed or similarly authenticated. Actual payments are facilitated via the internet or via IVR or over the phone. The application type value must be set to PPD. PPD accounts must establish an end date to clearly define terms between customer and merchant, but do not have time period caps.

TeleCheck NFTF Processing Overview

NFTF requirements, processing considerations, and guidelines for processing check payments are described below.

NFTF Requirements

The following requirements must be followed as standard operating procedures to electronically process a NFTF check payment:

- A TeleCheck Merchant ID is required on all transactions and is unique to each location.

- Dual ID is required for all transactions. For personal checks, it must be MICR data and personal check writer identification such as a driver's license. For company checks, it must be MICR data and Federal Tax ID. In the event that a company does not have a Federal Tax ID, the driver's license can also be used.

- For ICA and NFTF PPD, the merchant must retain the customer's authorization of the transaction for a period of 2 years and, for ICA, prompt the customer to print a copy of this confirmation for their records. The merchant must adhere to all authorization requirements, data elements, legal verbiage, and check return fee requirements.

- For CBP, the merchant must audio record the customer's verbal confirmation of the transaction or provide a written confirmation of the transaction to the customer prior to settlement. In either case, the confirmation must be live; IVR is not acceptable for confirmation. If a merchant chooses audio, the merchant must have the technical capability to retain these recordings for a period of 2 years; else the written confirmation may be substituted and retained for the same time period. The merchant must adhere to all authorization requirements; data elements, legal verbiage, and check return fee requirements.

- Only select US accounts drawn on U.S. banks participating in the ACH Network are eligible for processing via the ACH Network.

- TeleCheck Trace ID (TTID) is required for all supplemental messages, change, void, and adjustment transactions.

- Merchant Trace ID is required for all adjustment transactions. This field allows additional capabilities to be enabled such as Overflow Credits and MIA Duplicate Checking.

- Change and Void transactions are only allowed within the original Sale processing window. For NFTF, cutoff time is 4:00PM CST (recommend working with 3:30PM CST).

- Adjustment transactions are electronically allowed within 90 days after the Sale transaction. After the 90 day period, all adjustments must be manually processed.

- A prompt or process must be in place to identify a check as either personal or company.

- Duplicate Checking – TeleCheck has the ability to detect duplicate sale transactions at the point of sale if sent within a predetermined time limit. Duplicates are identified when a sale inquiry is received with the same amount, MICR number, and check number matching a sale inquiry received within the last 2 minutes. If a duplicate is detected it will return an ineligible response for ACH. The 2nd transaction will also receive an ineligible response for ACH with the same ACH Transaction Status and Response Code as the original sale transaction.

- The appropriate Application Type value must be sent to TeleCheck to indicate the type of NFTF transaction (ICA, CBP, or NFTF PPD).

- In the NFTF technical specification several data element fields and features are described as "optional." While these are technically optional, meaning that the product can be technically implemented with or without them, TeleCheck may require the merchant to code to one or more of these optional items based on the agreed upon contractual terms. The merchant may need to account for and enable additional data element fields and product features in their system(s) and in communications to TeleCheck's Authorization

System. Various optional data elements throughout each of the message packets could be affected by this requirement.

- First Data Gateway Partners, External Gateway vendors, First Data Platforms, and the Global Gateway Router (GGR) that route merchant transactions to TeleCheck via this specification must code for all fields, features, and functionality available in this specification. Nothing is optional for these partners. Additionally, these partners are required to maintain their NFTF specification as new revisions and addendums become available.

NFTF Processing Considerations

TeleCheck and the Merchant must determine any of the following additional optional features during contract negotiations.

- MIA Duplicate Checking – TeleCheck has the ability to detect duplicate adjustment transactions in back end processes. Adjustments can be submitted up to 90 days after the original Sale transaction. While multiple adjustment transactions are allowed for a given sale transaction, each adjustment transaction must have a unique merchant trace ID. Duplicates are detected when an adjustment transaction is submitted that has the same merchant trace ID as a previously submitted adjustment transaction. If a duplicate adjustment is detected, and the original adjustment was accepted by TeleCheck, the duplicate will also be accepted. The duplicate transaction will then be filtered out by TeleCheck's back end settlement processes.

NFTF Guidelines

The following guidelines should be followed when adhering to the above NFTF Requirements to electronically process a check payment:

- Fields marked as *Required* are required to process an electronic transaction.
- Not all fields are required by every merchant.
- Unused fields should be completely omitted from the message.
- Each field is variable in length (justification and fillers are not used).
- The order of tagged fields from the POS and from the TeleCheck host are not significant.
- Fields must not have any hard-coded data values.
- The transaction number increments on every attempt.

Message formats outline fields (tags) that are required, not required, or conditional to the Sale, Status, and Adjustment Inquiry packets.

Message Types:

- Merchant Authorization Message and the TeleCheck Authorization Response Message
- Merchant Delayed Capture Message and the TeleCheck Delayed Capture Response Message

Transaction flow Method

Messages sent from the Merchant to TeleCheck are authorization messages. Messages sent from TeleCheck to the Merchant are Response messages.

The sale transaction process is often referred to as a 2-part hand-off. The process begins with the merchant's Authorization message. TeleCheck responds with an Authorization response message indicating whether the transaction is approved and whether the check is eligible for conversion (whether check conversion will be offered). The Merchant then responds with a Delayed Capture message, acknowledging receipt of TeleCheck's sale response, and indicating whether electronic check conversion was accepted. TeleCheck completes the transaction with a Delayed Capture response message confirming receipt of the merchant's status inquiry message.
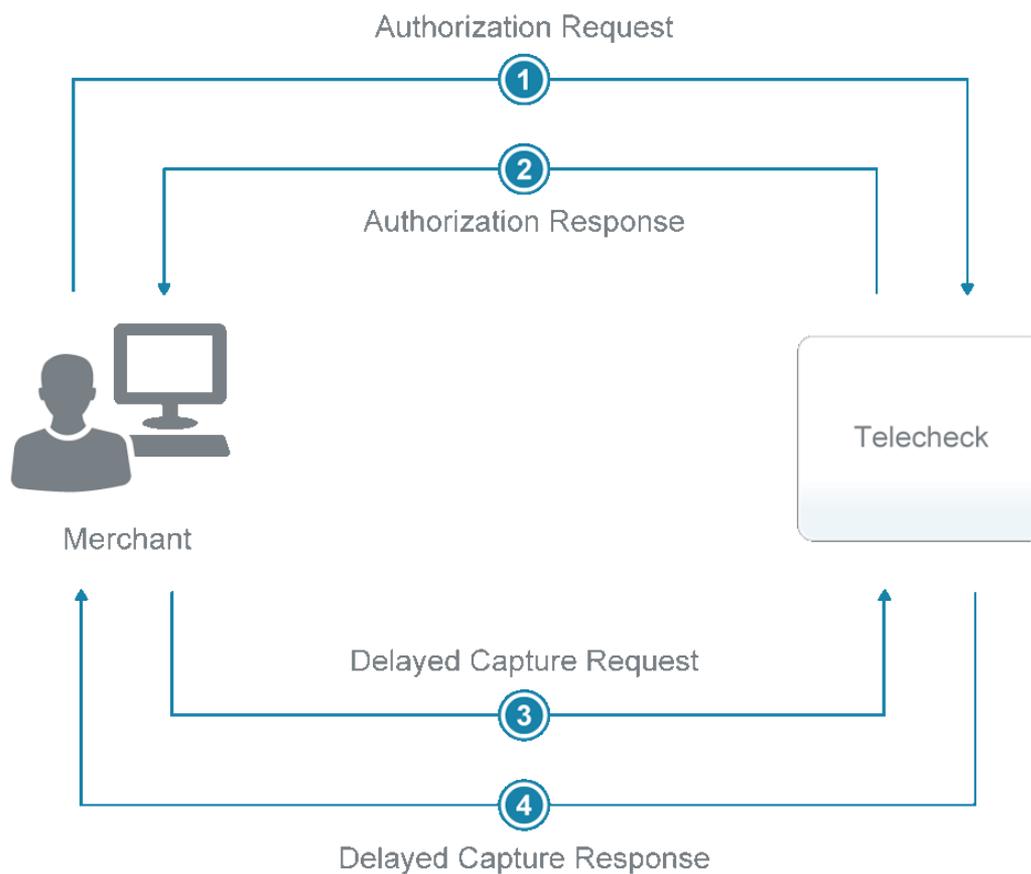
TeleCheck Parameters

Parameters used for processing electronic checks through TeleCheck are described in this section.

Required TeleCheck Parameters

Field	Description
USER	*(Required)* Case-sensitive login ID for the Gateway account that you created while registering for the account. In the future, each account will allow multiple users. This parameter will specify the user. Character length and limitations: 64 alphanumeric characters
VENDOR	*(Required)* Case-sensitive Vendor ID that you created while registering for the account. Character length and limitations: 64 alphanumeric characters
PARTNER	*(Required)* The authorized PayPal Reseller that registered you for the Gateway service provided you with a Partner ID. If you registered yourself, use PayPal. This parameter is case sensitive. Character length and limitations: 64 alphanumeric characters
PWD	*(Required)* Case-sensitive 6- to 32-character password that you created while registering for the account. Character length and limitations: 32 alphanumeric characters
AMT	*(Required)* 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. Character length and limitations: 7 numeric characters, U.S. dollars only
AUTHTYPE	It is one of the following values: • I – Internet Check Acceptance (ICA) provides the capability to authorize and electronically settle checks over the intenet. • P – Checks By Phone (CBP) provides the capability to authorize and electronically settle checks over the phone. • D – Prearranged Deposit Services (PPD) debits the customer's account provided the customer has previously accepted a written authorization.
BILLTOCITY	*(Required)* Account holder's city. Character length and limitations: 30 alphanumeric characters
BILLTOCOUNTRY	Account holder's country. You are required to pass this value when AUTHTYPE=I. Character length and limitations: 2 alphanumeric characters
BILLTOFIRSTNAME	Account holder's first name as it appears on the check. You are required to pass this value when CHKTYPE=C. Character length and limitations: 30 alphanumeric characters
BILLTOLASTNAME	*(Required)* Account holder's last name as it appears on the check. Character length and limitations: 30 alphanumeric characters

Field	Description
BILLTOPHONENUM	*(Required)* Account holder's telephone number. Character length and limitations: 10 numeric characters. This value may not contain spaces or non-numeric characters.
BILLTOSTATE	*(Required)* Account holder's state. Character length and limitations: 2 alphanumeric characters
BILLTOSTREET	*(Required)* Account holder's street address. Character length and limitations: 50 alphanumeric characters
BILLTOZIP	*(Required)* Account holder's postal code (called ZIP code in the USA). Do not use spaces, dashes, or non-numeric characters. Character length and limitations: 11 alphanumeric characters
CHKNUM	*(Required)* Account holder's next unused (available) check number. Character length and limitations: 7 numeric characters
CHKTYPE	*(Required)* Check type. It is one of the following values: • P – The check is a personal check (default). If CHKTYPE=P, you are required to pass a value for either DL or SS as an identifier. • C – The check is a company check. If CHKTYPE=C, you are required to pass the Federal Tax ID for SS. Character length and limitations:1 alphanumeric character
CUSTIP	Account holder's IP address. You are required to pass this value when AUTHTYPE=I. Character length and limitations: 15 alphanumeric characters
DL	*(Required)* Driver's license number. If CHKTYPE=P, you are required to pass a value for either DL or SS as an identifier. The format of the driver's license information is XXnnnnnnnn where: • XX = State code • nnnnnnnn = Driver's license number Character length and limitations: 33 alphanumeric characters
BILLTOEMAIL	*(Required)* Account holder's e-mail address. You are required to pass this value when AUTHTYPE=I. Character length and limitations: 100 alphanumeric characters
INVNUM	*(Optional)* Check invoice number. Character length and limitations: 9 alphanumeric characters
MICR	*(Required)* Magnetic ink check reader. The value is the entire line of numbers at the bottom of all checks. It includes the transit number, account number, and check number. Character length and limitations: 65 numeric characters

Field	Description
SS	Account holder's social security number. You are required to pass a value for SS when a value for CHKTYPE is passed: ● If CHKTYPE=P, you are required to pass a value for either DL or SS as an identifier. ● If CHKTYPE=C, you are required to pass the Federal Tax ID. Character length and limitations: 35 alphanumeric characters
TENDER	*(Required)* Method of payment. Use only the value K (electronic check). Character length and limitations: 1 alphabetic character
TRXTYPE	*(Required)* Type of transaction that should be processed. It is one of the following values: ● A – The transaction is an Authorization. ● D – The transaction is a Delayed Capture. ● V – The transaction is a Void. ● I – The transaction is an Inquiry. Character length and limitations: 1 alpha character

Testing TeleCheck Transactions

PayPal provides a test server to support testing and configuration. For information on the test server URL, see "Host URL Addresses" on page 50.

Example Test Transaction

This is the authorization request and response.

```
TRXTYPE=A&TENDER=K&PARTNER=partner&USER=user&VENDOR=vendor&PWD=pwd&AMT=35.0
0&BILLTOSTREET=1234 Main&BILLTOCITY=Buffalo&DL=CA123456&CHKNUM=1001&BILLTOE
MAIL=john@xyz.com&MICR=3333333333&AUTHTYPE=I&INVNUM=12345&BILLTOFIRSTNAME=S
ally&BILLTOLASTNAME=Smith&BILLTOSTATE=CA&BILLTOZIP=95050&BILLTOCOUNTRY=US&C
USTIP=10.15.5.23&BILLTOPHONENUM=9876542143&VERBOSITY=HIGH RESULT=0&PNREF=EQ
RB8A32CD69&RESPMSG=Approved&AUTHCODE=12&TRACEID=1234567890&ACHSTATUS=A&HOST
CODE=07&TRANSTIME=2012-02-
09 15:23:37&BILLTOFIRSTNAME=Sally&BILLTOLASTNAME=Smith&AMT=35.00&CARDTYPE=P
```

This is the delayed capture request and response.

```
TRXTYPE=D&TENDER=K&PARTNER=partner&USER=user&VENDOR=vendor&PWD=pwd&ORIGID=E
QRB8A32CD69&VERBOSITY=HIGH

RESULT=0&PNREF=EQRB8A32CD6A&RESPMSG=Approved&AUTHCODE=00&TRACEID=1234567890
&ACHSTATUS=A&HOSTCODE=07&TRANSTIME=2012-02-09 15:24:22
```

MICR values for testing

You may view a complete list of TeleCheck response codes at "Sale Response Code Values" on page 145

MICR	HOSTCODE	TeleCheck Result
3333333333	07	Approved
1111111111	08	Rejected (negative data)
2222222222	88	Rejected Code 3 (Risk)

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 iica_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 URL Addresses" on page 50.

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 the table below.

Transaction Responses Common to All Tender Types

Field	Description
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. Character length and limitations: numeric, variable number of characters
PNREF	PayPal Reference ID, a unique number that identifies the transaction. Character length and limitations: 12 alphanumeric characters

Field	Description
HOSTCODE	TeleCheck's response code representing the results of the transaction authorization attempt. Character length and limitations: 6 numeric characters
RESPMSG	A descriptive message associated with decline or error result values. Character length and limitations: alphanumeric, variable number of characters

Response Code Values

For your service, below is a complete list of possible Response Codes. Depending upon the merchants risk parameters and service type, some of these may not apply. Please confirm applicable codes with TeleCheck's Merchant Boarding and Certification group.

NOTE: Merchants should establish policies and procedures for each applicable response code. For example, if a clerk enters a transaction and receives Response Code 27, they should retry the transaction. If, after entering the item a second time they receive a Response Code 27 again, the merchant may choose to cancel or terminate the transaction and a) retry the transaction b) call TeleCheck Live Operator Authorization Center, or c) request another form of payment from the check writer.

Sale Response Code Values

Sale Approval Responses

Code	Description	Merchant Action
07	Approved	No action needed.

Sale Decline Responses

Code	Description	Merchant Action
08	Rejected (Negative Data)	Ask for other form of payment or decline sale to customer.
73	Lost or Stolen check	Ask for other form of payment or decline sale to customer.
88	Rejected Code 3 (Risk)	Ask for other form of payment or decline sale to customer.
25	Ineligible – ACH Not Offered **NOTE:** Do NOT use the verbiage "decline" this is not a true decline.	Ask for other form of payment.

Sale Referral Responses

Code	Description	Merchant Action
09	Risk Referral requested	Contact TeleCheck.
69	Call Center	Contact TeleCheck.

Sale Error Responses

Code	Description	Merchant Action
46	Merchant setup does not allow this type of transaction	
49	Processor Not Available	Re-send message later.
98	Invalid MICR Data	
27	Invalid Value for Field	
78	Invalid RT (Routing/Bank Number)	
97	Unable to Process (Time Out)	Re-send message later.

Adjustment Code Values

Adjustment (Refund/Change/Void) Responses

Code	Description	Merchant Action
26	Merchant allowed to send full/partial adjustments/refunds without transaction errors	No action needed
46	Merchant setup does not allow this type of transaction	Adjustment cannot be processed by TeleCheck
79	Original transaction was not approved	Adjustment cannot be processed by TeleCheck
80	Refund or partial amount is greater than the original sale amount	Adjustment cannot be processed by TeleCheck
81	Unable to locate original transaction (TCK Trace ID)	Adjustment cannot be processed by TeleCheck

Response Codes For Status Response Packets

Response Codes for Status Response Packets

Code	Description
OK	Inquiry (POS system) Packet was accepted and successfully processed by TeleCheck

Code	Description
ACK	Inquiry Packet was accepted by the TeleCheck Host
NAK	Inquiry Packet was not successfully processed by TeleCheck (general error)
49	Inquiry Packet was not successfully processed by TeleCheck (scheduled maintenance)
97	Inquiry Packet was not successfully processed by TeleCheck (timeout)
27	Inquiry Packet was not successfully processed by TeleCheck (invalid data)

TeleCheck Authorization Requirements

With the TeleCheck Non Face-To-Face (NFTF) Host Based Capture Service, the merchant is responsible for handling all front-end aspects of the point of sale, including displaying the appropriate disclosures to the customer. TeleCheck will provide form language for the merchant to use.

NOTE: It is the merchant's responsibility to ensure that they have the most current language from TeleCheck. TeleCheck will send out a Service Notice when updated language or system changes are required. Additionally, the Merchant should be familiar with NACHA, FCRA and Reg. E compliance requirements.

There are two different situations during which the merchant must display legal language:

- Authorization – Sales Consent

  The language varies slightly between the Internet Check Acceptance and Checks By Phone services.

- Authorization – Sales Decline

  The language is identical for Internet Check Acceptance and Checks By Phone services.

Authorization – Sales Consent

With the Non Face-To-Face Host Based Capture Service, the merchant is responsible for handling all front-end aspects of the point of sale, including displaying the appropriate disclosures to the customer. TeleCheck will provide form language for the merchant to use.

Internet Check Acceptance Authorizations

At the end of the check out process, the merchant must display consent language for the customer to accept prior to submitting the authorization request as follows:

Internet Check Acceptance Authorization Consent Required Language

FULL DEBIT

By entering my account number above and clicking Authorize, I authorize my payment to be processed as an electronic funds transfer or draft drawn from my account. If the payment is returned unpaid, I authorize you or your service provider to collect the payment and my state's

return item fee by electronic funds transfer(s) or draft(s) drawn from my account. **Click here to view your state's returned item fee.** If this payment is from a corporate account, I make these authorizations as an authorized corporate representative and agree that the entity will be bound by the NACHA Operating Rules.

PARTIAL SHIPMENTS & PARTIAL DEBITS

By entering my account number above and clicking Authorize, I authorize my payment to be processed as an electronic funds transfer or draft drawn from my account. If my full order is not available at the same time, I authorize partial debits to my account, not to exceed the total authorized amount. The partial debits will take place upon each shipment of partial goods. If any of my payments are returned unpaid, I authorize you or your service provider to collect the payment and my state's return item fee by electronic fund transfer(s) or draft(s) drawn from my account. **Click here to view your state's returned item fee.** If this payment is from a corporate account, I make these authorizations as an authorized corporate representative and agree that the entity will be bound by the NACHA Operating Rules.

Internet Check Acceptance Recurring Payments (WEB R)

By entering my account number above and clicking Authorize, I authorize my payments to be processed as electronic funds transfers or drafts drawn from my account. **{INSERT INFORMATION ON PAYMENT AMOUNT, TIMING, ETC.}** If any of my payments are returned unpaid, I authorize you or your service provider to collect the payment and my state's return item fee by electronic fund transfer(s) or draft(s) drawn from my account. **Click here to view your state's returned item fee.** If this payment is from a corporate account, I make these authorizations as an authorized corporate representative and agree that the entity will be bound by the NACHA Operating Rules. This authorization is to remain in full force and effect until **{NAME OF MERCHANT}** has received written notification from me of my termination in such time and manner as to afford **{NAME OF MERCHANT}** a reasonably opportunity to act on it.

This text, **Click here to view your state's returned item fee**, in the consent language above represents a link to the state fee table. TeleCheck has posted a table of current state returned check fees at http://www.firstdata.com/support/telecheck_returned_check/returned_check_fees.htm. The merchant should link directly to the TeleCheck-hosted URL provided above. State fees are updated on a regular basis and linking to a TeleCheck-hosted page will minimize the number of maintenance updates required. The merchant may choose how to display the state fees. Suggestions include a new pop-up window, a full browser window, or directly on the checkout page.

Checks By Phone Service Authorizations

At the end of the check out process, the customer service agent must read the consent language to the consumer and, either audio record the consumer's authorization or send a written notification of the authorization and the transaction to the consumer prior to settlement of the transaction. The consent language for the customer to accept prior to submitting the payment authorization request is as follows:

Checks By Phone Authorization Consent Required Language

FULL DEBIT

Today (insert today's date), I'd like to confirm that you, (insert first and last name), are authorizing a payment in the amount of (insert amount) to be processed as an electronic funds transfer or draft drawn from your account. *Do you agree?* If your payment is returned unpaid, you authorize us or our service provider to collect the payment and your state's return item fee of **(insert state returned item fee)** by electronic funds transfer(s) or draft(s) drawn from your account. *Do you agree and authorize the payment?*

The merchant should link directly to the TeleCheck-hosted URL provided above. State fees are updated on a regular basis and linking to a TeleCheck-hosted page will minimize the number of maintenance updates required. The merchant may choose how you want to display the state fees. Suggestions include a new pop-up window, a full browser window, or directly on the checkout page.

NOTE: For an additional fee, TeleCheck can send the written notification of the authorization and transaction to the consumer on the merchant's behalf.

Prearranged Payments and Deposits Authorizations (PPD)

Payments are facilitated, not authorized.

Authorization is via paper from consumer to merchant.

PPD Authorization Requirements:

- Must be face-to-face, in writing and signed.

- Must clearly and conspicuously state it terms, such as consumer name, payment amount, payment timing (if recurring) and bank routing/account information. Must also provide that authorization may be revoked in the manner specified in the authorization.

- Customer must be provided a copy.

Language Sample for PPD

By providing a check as payment, I authorize you to use information from my check to make a one-time electronic funds transfer (EFT) or draft from my account, or to process the payment as a check transaction. When you use information from my check to make an EFT, funds may be withdrawn from my account as soon as the same day my payment is received, and I will not receive my check back from my financial institution.   The account referenced above is a (check one):

Consumer account

Business account

If my payment is returned unpaid, I authorize you or your service provider to collect my payment and my state's return fee set forth below by EFT(s) or draft(s) from my account. I understand that I can revoke this authorization by sending written notice to _____ in such time and manner as to afford _____ a reasonable opportunity to act on it. If this payment is from a corporate owned account, I make these authorizations as an authorized corporate representative and agree that the entity will be bound by the NACHA Operating Rules.

Returned Check Fees:

TeleCheck has posted a table of current state returned check fees at http://www.firstdata.com/support/telecheck_returned_check/returned_check_fees.htm. The

merchant should link directly to the TeleCheck-hosted URL provided above. State fees are updated on a regular basis and linking to a TeleCheck-hosted page will minimize the number of maintenance updates required. The merchant may choose how to display the state fees. Suggestions include a new pop-up window, a full browser window, or directly on the checkout page.

AK	AL	AR	AZ	CA	CO	CT	DE	DC	FL	GA	GU
$30-	$30	$25	$25	$25	$20-	$20-	$40	$25	$25 _f_	$30^	$20
HI	IA	ID	IL	IN	KS	KY	LA	MA	MD	ME	MI
$30-	$30	$20-	$25-	$20-	$30	$50	$25^	$25	$35	$25	$25
MN	MO	MS	MT	NC	ND	NE	NH	NJ	NM	NV	NY
$30_œ	$25	$40	$30	$25	$30	$35	$25	$30	$30	$25	$20-
OH	OK	OR	PA	PR	RI	SC	SD	TN	TX	UT	VA
$30^^	$25	$25	$30	$10	$25	$30	$40	$30-	$30†~	$20-	$50
VI	VT	WA	WI	WV	WY						
$20	$25‡	$30_◊	$25-	$25	$30						

Authorization – Sales Decline/Error

Authorization requests can fail for a number of reasons, ranging from missing or invalid fields to business decisions based on risk assessment. These different scenarios need to be handled differently by the merchant, and require different legal language to be displayed to the customer.

Sale Decline Required Language

We are sorry that we cannot accept your check at this time. Our decision is based, in whole or in part, on information provided to us by TeleCheck. We encourage you to call TeleCheck at 1-800.366.2425 or write TeleCheck Customer Care at P.O. Box 4513, Houston, TX 77210-4513. Please provide TeleCheck your driver's license number and the state where it was issued, and the complete banking numbers printed on the bottom of your check. Under the Fair Credit Reporting Act, you have the right to a free copy of your information held in TeleCheck's files within 60 days from today. You may also dispute the accuracy or completeness of any information in TeleCheck's consumer report. TeleCheck did not make the adverse decision to not accept your payment item and is unable to explain why this decision was made.

Sale Error Responses

We are unable to process this transaction with the payment information provided. Please use a different form of payment at this time.

C Submitting Purchasing Card Level 2 and 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.

Please contact your merchant bank to determine which parameters are required to obtain the best rate for level 2 or level 3 type transactions. If in doubt, we recommend you send all the level 2 and level 3 fields specified below for your processor.

About Purchasing Cards

The procurement process uses purchasing cards for a number of reasons. Purchasing cards:

- Eliminate paper-based order systems and associated costs
- Improve control and accountability through itemized statements
- Foster better risk controls through spending limits and buying from approved vendors
- Reduce administrative overhead by empowering employees to make small purchases
- Enable enterprises to negotiate better contract pricing and discounts with suppliers by using vendor detail reports

To promote acceptance and usage of purchasing card programs, card issuers have established incentive rates for merchants. The incentive rates are available to merchants who comply at transaction processing Level 2 or Level 3. Transactions that comply at transaction processing Level 1 qualify as normal credit card transactions.

NOTE: Card issuing institutions perform strict data verification on the enhanced data that merchants submit with Level 2 or Level 3 transactions. Issuers may charge stiff penalties when 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.

The following table describes the recognized 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..
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 processor determines whether a card is a purchasing card, for example, TSYS Acquiring Solutions. In other cases, the Gateway makes the determination based on the BIN range (for example, FDMS South and American Express).

About American Express Purchasing Card Transactions

The information in this section applies to transactions processed by American Express 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.

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 Gateway decides whether a transaction meets Level 3 requirements during authorization.

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

Avoiding Downgrade

If a transaction uses the purchasing card BIN range (see "Accepted BIN Ranges" on page 154) and contains a line item but does not include all mandatory Level 3 parameters, 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 `HIGH`, the `ADDLMSGS` field returns a message like the following:

```
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 "VERBOSITY: Processor-Specific Transaction Results" on page 215

Submitting Successful Level 3 Transactions

If a transaction uses the purchasing card BIN range, contains all mandatory Level 3 fields, and has at least 1 line item (with all mandatory line item fields), the Gateway flags it as Level 3.

Edit Check

The Gateway 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_FREIGHTAMT`n for all line items
Total Handling Amount	`HANDLINGAMT`, or, if not present, the summation of `L_HANDLINGAMT`n for all line items
Total Line Item Amount	Summation of `L_QTY`n `* L_COST`n 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 (LQTY1*LCOST1) + (LQTY2*LCOST2)

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 Purchasing Card Transaction Processing

The American Express supports Level 2 transaction data.

NOTE: Most merchants in the United States follow American Express reporting and statement requirements.International merchants now follow these requirements as well, but there maybe a few exceptions. If you are not sure, contact your American Express Representative.

American Express Level 2 Parameters for American Express

The parameters to meet American Express reporting and statement requirements are described in the following tables.

CPC Level 2 Transaction Advice Addendum Parameters

Field	Description
PONUM	*(Required)* Purchase order number. Character length and limitations: 17 alphanumeric characters
SHIPTOZIP	*(Optional)* Ship-to postal code (called zip code in the USA). This field must contain one of the following values: • Zip code of the destination where the merchandise is to be shipped • (If the above is not available) Zip code of the location where the merchant executed the transaction Character length and limitations: 15 alphanumeric characters
TAXAMT	*(Optional)* Total tax amount. 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). Character length and limitations: 12 numeric characters
L_DESC1	*(Optional)* Description of this line item; if not provided, DESC1 (if present) is used. Character length and limitations: 140 alphanumeric characters

Field	Description
L_AMT1	*(Optional)* 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). Character length and limitations: 12 numeric characters
L_QTY1	*(Optional)* Quantity of this line item. Character length and limitations: 3 numeric characters
L_DESC2	*(Optional)* Description of this line item; if not provided, DESC2 (if present) is used. Character length and limitations: 40 alphanumeric characters
L_AMT2	*(Optional)* 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). Character length and limitations: 12 numeric characters
L_QTY2	*(Optional)* Quantity of this line item. Character length and limitations: 3 numeric characters
L_DESC3	*(Optional)* Description of this line item; if not provided, DESC3 (if present) is used. Character length and limitations: 40 alphanumeric characters
L_AMT3	*(Optional)* 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). Character length and limitations: 12 numeric characters
L_QTY3	*(Optional)* Quantity of this line item. Character length and limitations: 3 numeric characters
L_DESC4	*(Optional)* Description of this line item; if not provided, DESC4 (if present) is used. Character length and limitations: 30 alphanumeric characters
L_AMT4	*(Optional)* 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). Character length and limitations: 12 numeric characters
L_QTY4	*(Optional)* Quantity of this line item. Character length and limitations: 3 numeric characters

Location Transaction Advice Addendum Parameters

Field	Description
MERCHANTNAME	*(Optional)* Name of merchant. Character length and limitations: 38 alphanumeric characters
MERCHANTSTREET	*(Optional)* Merchant's street address (number and street name). Character length and limitations: 38 alphanumeric characters. If more than 38 characters, use proper and meaningful abbreviation. Do not truncate.

Field	Description
MERCHANTCITY	*(Optional)* The name of the city were the transaction took place. • If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the name of the city in which the seller is located. • If you are a mail order, phone order, or internet industry, you may substitute the name of the city in which the merchant's order processing facility is located. Character length and limitations: 21 alphanumeric characters. If more than 21 characters, use proper and meaningful abbreviation. Do not truncate.
MERCHANTSTATE	*(Optional)* The region code that corresponds to the state, province, or country subdivision of the merchant location where the transaction took place. Region code examples: • CA = California, USA • NS = Nova Scotia, Canada • COS = Colima Mexico If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the region code that corresponds to the state, province, or country subdivision in which the seller is located. Character length and limitations: 3 alphanumeric characters
MERCHANTZIP	*(Optional)* The 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters where the transaction took place. If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the postal code that corresponds to the seller's location. Character length and limitations: 15 alphanumeric characters
MERCHANTCOUNTRYCODE	*(Optional)* Country code of the location where the transaction took place. Character length and limitations: 3 alphanumeric characters
MERCHANTLOCATIONID	*(Optional)* Merchant-assigned store or location number (or name) that uniquely identifies where the transaction took place. Character length and limitations: 15 alphanumeric characters
MERCHANTID	*(Required)* American Express-assigned service establishment number used to identify and facilitate payments to merchants. Character length and limitations: 15 alphanumeric characters.
MERCHANTCONTACTINFO	*(Optional)* Merchant's telephone number or web address. (URLs and e-mail addresses may be lowercase, as appropriate.) This entry may appear on the descriptive bill on the card-member's statement, or may be used to resolve billing inquiries and disputes. **NOTE:** American Express strongly recommends that aggregators (third-parties who bill for goods or services rendered by another entity) always fill in this field with the URL, e-mail address, or telephone number of the contact responsible for resolving disputes or inquiries. Character length and limitations: 40 alphanumeric characters

Transaction Advice Detail Parameters

Field	Description
ADDLAMT*n*	*(Optional)* Detail of a charge where *n* is a value from 1 - 5. Use for additional breakdown of the amount. Character length and limitations: 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. 12 numeric characters
ADDLAMTTYPE*n*	*(Optional)* A 3-digit code indicating the type of the corresponding charge detail, where *n* is a value from 1 - 5. Character length and limitations: 3 numeric characters

Example American Express Level 2 Transaction Parameter String

```
TRXTYPE=S&ACCT=372449635311003&AMT=20.06&BILLTOCITY=Mountain View&DESC1=des
c1&DESC2=desc2&DESC3=desc3&DESC4=FRT10.00&EXPDATE=1215&BILLTOFIRSTNAME=Card
holder first name&BILLTOLASTNAME=Cardholder last name&PARTNER=PayPal&PONUM=
12345&PWD=pwd&SHIPTOZIP=94045&BILLTOSTATE=CA&BILLTOSTREET=123 Main St.&TEND
ER=C&USER=user&BILLTOZIP=123451234
```

American Express Level 3 Parameters

American Express supports Level 3 transaction data. PayPal provides the Merchant Registration data values: Supplier Name, Supplier City, Supplier State, Supplier Postal code, Merchant No, and Federal Tax ID. The merchant provides the values listed in the the following table.

American Express Level 3 Parameters

Field	Description
INVNUM	*(Optional)* Purchase order number. Character length and limitations: 1 to 9 alphanumeric characters
AUTHCODE	*(Required)* Authorization code. It is passed transparently for delayed capture. Use only with voice authorized force capture transactions.
REQNAME	*(Required)* Requester name. Character length and limitations: 1 to 40 alphanumeric characters
PONUM	*(Required)* Cardmember reference number. Character length and limitations: 1 to 17 alphanumeric characters

Field	Description
SHIPTOZIP	*(Required)* Ship-to postal code (called zip code in the USA). This field must contain one of the following values: • Zip code of the destination where the merchandise is to be shipped • (If the above is not available) Zip code of the location where the merchant executed the transaction Character length and limitations: 5 to 6 alphanumeric characters
INVOICEDATE	*(Optional)* Invoice date. Defaults to transaction date if not present. Character length and limitations: 8 alphanumeric characters, in the YYYYMMDD format
AMT	*(Required)* Total transaction 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). **NOTE:** American Express Level 3 processing requires that this parameter have a maximum field length of 8 for Level 3 processing. . Character length and limitations: 1 to 8 alphanumeric characters
TAXAMT	*(Required)* Total 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). Character length and limitations: 1 to 6 numeric characters
DESC	*(Optional)* Charge description. Defaults to "NO." Character length and limitations: 1 to 40 alphanumeric characters
FREIGHTAMT	*(Optional)* Total freight amount. Character length and limitations: 1 to 15 alphanumeric characters
HANDLINGAMT	*(Optional)* Total handling amount. Character length and limitations: 1 to 15 alphanumeric characters
L_QTYn	Payflow SDK: XMLPay: Item.Quantity *(Required)* Quantity invoiced. Character length and limitations: 1 to 10 numeric characters
L_UOMn	*(Required)* Unit of measure. Character length and limitations: 2 alphanumeric characters
L_COSTn	*(Required)* Unit price. Character length and limitations: 1 to 15 numeric characters
L_DESCn	*(Required)* Description of the item. Character length and limitations: 1 to 80 alphanumeric characters
L_CATALOGNUMn	*(Required)* Supplier's catalog number. Character length and limitations: 1 to 20 alphanumeric characters
L_COSTCENTERNUMn	*(Required)* Cost center number Character length and limitations: 1 to 30 alphanumeric characters

Field	Description
L_PRODCODE*n*	*(Optional)* The item's supplier stock keeping unit (SKU) number. Character length and limitations: 1 to 30 alphanumeric characters
L_UPC*n*	*(Optional)* The item's universal product code (UPC). Character length and limitations: 1 to 30 alphanumeric characters
L_TAXAMT*n*	*(Optional)* Item tax amount. Character length and limitations: 1 to 6 numeric characters
L_FREIGHTAMT*n*	*(Optional)* Freight amount. Character length and limitations: 1 to 15 numeric characters
L_HANDLINGAMT*n*	*(Optional)*Handling amount. Character length and limitations: 1 to 15 numeric characters
L_TRACKINGNUM*n*	*(Optional)* Tracking number. Character length and limitations: 1 to 30 alphanumeric characters
L_PICKUPSTREET*n*	*(Optional)* Drop-off address1. Character length and limitations: 1 to 40 alphanumeric characters
L_PICKUPCITY*n*	*(Optional)* Drop-off city. Character length and limitations: 2 to 30 alphanumeric characters
L_PICKUPSTATE*n*	*(Optional)* Drop-off state. Character length and limitations: 2 alphanumeric characters
L_PICKUPZIP*n*	*(Optional)* Drop-off postal or zip code. Character length and limitations: 3 to 15 alphanumeric characters
L_PICKUPCOUNTRY*n*	*(Optional)* Drop-off country. Character length and limitations: 2 to 3 alphanumeric characters
L_UNSPSCCODE*n*	*(Optional)* UNSPSC code. Character length and limitations: 1 to 30 alphanumeric characters

Example American Express Level 3 Transaction Parameter String

```
TRXTYPE=S&TENDER=C&partner=partner&PWD=test&USER=test&ACCT=378734493671000&
EXPDATE=1213&AMT=5.00&COMMENT1=PCARD Test&COMMENT2=Testing&BILLTOZIP=940151
234&BILLTOSTREET=123 Lincoln WAY&CVV2=0123&SHIPTOCOUNTRY=USA&CUSTCODE=12345
&FREIGHTAMT=1.00&ORDERDATE=021700&HANDLINGAMT=1.00&PONUM=123456789012345678
9012345&SHIPFROMZIP=940151234&SHIPTOZIP=940151234&TAXAMT=1.00&TAXEXEMPT=N&L
_UPC1=PN&L_QTY1=1&L_DESC1=Test123&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_C
OST2=1.00&L_PRODCODE2=1234&L_COSTCENTERNUM2=55&L_TAXAMT2=1.00&REQNAME=Rober
t&SHIPTOZIP=543210&INVNUM=123456789&VERBOSITY=HIGH
```

Elavon (Formerly Nova) Purchasing Card Transaction Processing

Elavon supports Level 2 for Visa and MasterCard sale, credit, and delayed capture transactions.

Elavon Level 2 Parameters

To get the discount rate, include both Level 2 parameters listed in the following table. Pass these parameters in authorization and sale transactions.

Level 2 Parameters	Description
CUSTCODE	*(Required) Customer code.* Character length and limitations: 1 to 16 alphanumeric characters
TAXAMT	*(Required)* Sales 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). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces. Character length and limitations: numeric

Elavon Additional Parameters

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

Field	Description
COMMCARD	*(Optional)* Type of purchasing card account number sent. Is one of the following values: ● P = Purchase Card ● C = Corporate Card ● B = Business Card ● U = Unknown (default) ● N = None Character length and limitations: 1 alphanumeric character, defaults to U
PONUM	*(Optional)* Purchase order number. Character length and limitations: 25 alphanumeric characters, when used provides best rate
TAXAMT	*(Optional)*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). Character length and limitations: 10 currency characters, when used provides best rate

Example Elavon Level 2 Transaction Parameter String

```
TRXTYPE=S&ACCT=5105105105105100&AMT=20.10&BILLTOCITY=Mountain View&COMMENT1
=L2 Testing&EXPDATE=1215&BILLTOFIRSTNAME=Cardholder First Name&BILLTOLASTNA
ME=Cardholder Last Name&PARTNER=PayPal&PWD=pwd&BILLTOSTATE=CA&BILLTOSTREET=
123 Main St.&TENDER=C&USER=user&BILLTOZIP=94043&CUSTCODE=123456&TAXAMT=1.34
```

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.

FDMS Nashville Commercial Card Parameters

Field	Description
COMMCARD	*(Optional)* Type of purchasing card account number sent. Is one of the following values: ● P = Purchase Card ● C = Corporate Card ● B = Business Card ● U = Unknown (default) ● N = None Character length and limitations: 1 alphanumeric character, defaults to U
DUTYAMT	*(Optional)* 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). Character length and limitations: 10 currency characters
FREIGHTAMT	*(Optional)* 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). Character length and limitations: 10 currency characters
PONUM	*(Optional)* Purchase order number. Character length and limitations: 25 alphanumeric characters, provides best rate when used
SHIPTOZIP	*(Optional)*Ship to postal code (called zip code in the USA). Character length and limitations: 9 numeric characters, provides best rate when used

Field	Description
TAXAMT	*(Optional)*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). Character length and limitations: 10 currency characters, provides best rate when used
TAXEXEMPT	*(Optional)* Is the customer tax exempt? Character length and limitations: 1 alphanumeric character, Y or N

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.

FDMS North Purchasing Parameters

Field	Description
SHIPTOCOUNTRY	*(Optional)* Destination country code. Visa and MasterCard are different. Character length and limitations: 3 alpha characters
DISCOUNT	*(Optional)* Discount amount on total sale Character length and limitations: 10 currency characters
DUTYAMT	*(Optional)* 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). Character length and limitations: 10 currency characters
FREIGHTAMT	Character length and limitations: 10 currency characters
PONUM	*(Optional)* Purchase order number / merchant-related data. Character length and limitations: 25 alphanumeric characters, provides best rate when used
SHIPFROMZIP	*(Optional)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 9 numeric characters, provides best rate when used
SHIPTOZIP	*(Optional)* Ship to postal code (called zip code in the USA). Character length and limitations: 9 numeric characters, provides best rate when used
TAXAMT	*(Optional)* 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). Character length and limitations: 10 currency characters

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.

FDMS North Line Item Parameters

Field	Description
L_QTY*n*	*(Required)* Quantity (whole units only). Character length and limitations: 10 numeric characters
L_COMMCODE*n*	*(Optional)* Item commodity code. Character length and limitations: 12alphanumeric characters
L_DESC*n*	*(Optional)* Item description. Character length and limitations: 35 alphanumeric characters
L_UOM*n*	*(Optional)* Item unit of measure. Character length and limitations: 3 alpha characters
L_COST*n*	*(Optional)* Cost per item, excluding tax. Character length and limitations: 10 currency characters
L_UPC*n*	*(Optional)* Supplier specific product code. Character length and limitations: 12 alphanumeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item. Character length and limitations: 10 currency characters
L_AMT*n*	*(Optional)* Total line item amount including tax and discount. + for debit, - for credits. Character length and limitations: 10 currency characters
L_TAXAMT*n*	*(Optional)* Line item tax amount. Character length and limitations: 10 currency characters

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.

FDMS South Level 2 and Level 3 Purchasing Card Parameters

Field	Description
BILLTOCITY	*(Optional)* Cardholder's city. Character length and limitations: 13 alpha characters
SHIPTOCOUNTRY	*(Optional)* Destination Country Code. Visa and MasterCard are different. Refer to Country Code tables. Character length and limitations: 3 alpha characters
CUSTCODE	*(Optional)* Customer code/customer reference ID. Character length and limitations: 17 alphanumeric characters
DISCOUNT	Discount amount on total sale. Character length and limitations: 10 currency characters
DUTYAMT	*(Optional)* 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). Character length and limitations: 10 currency characters
BILLTOFIRSTNAME	*(Optional)* Cardholder's first name. Character length and limitations: 15 alpha characters
FREIGHTAMT	*(Optional)* 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). Character length and limitations: 10 currency characters
INVNUM	*(Optional)* 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. Character length and limitations: 9 alphanumeric characters
BILLTOLASTNAME	*(Optional)* Cardholder's last name. Character length and limitations: 15 alpha characters
ORDERDATE	*(Optional)* Order date. Format is mmddyy with no slashes or dashes. For example, July 28, 2003 is 072803. Character length and limitations: 6 numeric characters

Field	Description
ORDERTIME	*(Optional)* 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.
	Character length and limitations: 19 alphanumeric characters
PONUM	*(Optional)* Purchase order number / merchant-related data.
	Character length and limitations: 25 alphanumeric characters, provides best rate when used
SHIPFROMZIP	*(Optional)* The postal code (called zip code in the USA) from which shipping occurs.
	Character length and limitations: 9 numeric characters, provides best rate when used
SHIPTOZIP	*(Optional)* Ship to postal code (called zip code in the USA).
	Character length and limitations: 9 numeric characters, provides best rate when used
BILLTOSTATE	*(Optional)* Cardholder's state.
	Character length and limitations: 2 alpha characters
TAXAMT	*(Optional)* 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`).
	Character length and limitations: 10 currency characters, provides best rate when used
TAXEXEMPT	*(Optional)* Is the customer tax exempt?
	Character length and limitations: 1 alphanumeric character, `Y` or `N`

FDMS South Line Item Parameters

Line item data (Level 3) describes the details of the item purchased and can be 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`.

FDMS South Purchasing Card Line Item Parameters

Field	Description
L_QTY*n*	*(Required)* Quantity (whole units only).
	Character length and limitations: 10 numeric characters
L_COMMCODE*n*	*(Optional)* Item commodity code.
	Character length and limitations: 12 alphanumeric characters

Field	Description
L_DESC*n*	*(Optional)* Item description. Character length and limitations: 35 alphanumeric characters
L_UOM*n*	*(Optional)* Item unit of measure. Character length and limitations: 3 alpha characters
L_COST*n*	*(Optional)* Cost per item, excluding tax. Character length and limitations: 10 currency characters
L_PRODCODE*n*	*(Optional)* Supplier-specific product code. Character length and limitations: 12 alphanumeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item. Character length and limitations: 10 currency characters
L_AMT*n*	*(Required)* Total line item amount including tax and discount. + for debit, - for credits. Character length and limitations: 10 currency characters
L_TAXAMT*n*	*(Optional)* Line item tax amount. Character length and limitations: 10 currency characters

Example FDMS South Purchasing Card Level 2 and 3 Parameter String

```
TRXTYPE=S&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&P
WD=x1y2z3&BILLTOSTATE=CA&BILLTOFIRSTNAME=John&BILLTOLASTNAME=Smith&BILLTOCI
TY=Redwood&SHIPTOCOUNTRY=USA&CUSTCODE=12345&DISCOUNT=.25&DUTYAMT=34.00&FREI
GHTAMT=12.00&INVNUM=123456789&ORDERDATE=021700&PONUM=1234567890123456789012
345&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&P
WD=x1y2z3&BILLTOSTATE=CA&BILLTOFIRSTNAME=John&BILLTOLASTNAME=Smith&BILLTOCI
TY=Redwood&SHIPTOCOUNTRY=USA&CUSTCODE=12345&DISCOUNT=.25&DUTYAMT=34.00&FREI
GHTAMT=12.00&INVNUM=123456789&ORDERDATE=021700&PONUM=1234567890123456789012
345&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_DISCOUNT
1=.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

Pass the following Level 2 parameters to get the discount rate.

Global Payments - Central Level 2 parameters

Level 2 Parameters	Description
CUSTCODE	*(Required) Customer code.* Character length and limitations: 1 to 16 alphanumeric characters
TAXAMT	*(Required)* Sales 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`). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces. Character length and limitations: numeric

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

```
TRXTYPE=S&ACCT=5105105105105100&AMT=20.10&BILLTOCITY=Mountain View&COMMENT1
=L2 Testing&EXPDATE=1209&BILLTOFIRSTNAME=Cardholder First Name&BILLTOLASTNA
ME=Cardholder Last Name&PARTNER=PayPal&PWD=pwd&BILLTOSTATE=CA&BILLTOSTREET=
123 Main St.&TENDER=C&USER=user&BILLTOZIP=94043&CUSTCODE=123456&TAXAMT=1.34
```

Global Payments - East Purchasing Card Transaction Processing

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

Global Payments - East Level 2 Parameters

Pass the following Level 2 parameters in authorization and sale transactions to get the discount rate.

Level 2 Parameters	Description
CUSTCODE	*(Required) Customer code.* Character length and limitations: 1 to 16 alphanumeric characters
TAXAMT	*(Required)* Sales 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`). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces. Character length and limitations: numeric

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

```
TRXTYPE=S&ACCT=5105105105105100&AMT=20.10&BILLTOCITY=Mountain View&COMMENT1
=L2 Testing&EXPDATE=1215&BILLTOFIRSTNAME=Cardholder FirstName&BILLTOLASTNAM
E=Cardholder LastName&PARTNER=PayPal&PWD=pwd&BILLTOSTATE=CA&BILLTOSTREET=12
3 Main St.&TENDER=C&USER=user&BILLTOZIP=94043&CUSTCODE=123456&TAXAMT=1.34
```

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

Heartland Purchasing Card Transaction Processing

Heartland Level 2 Parameters

Heartland supports MasterCard and Visa for Level 2 processing.

Heartland indicates in the authorization response whether the credit card in the transaction is a commercial card. Based on the commercial card indicator, Payflow will format the Level 2 information in the settlement request.

Heartland Level 2 Transaction Data

To get the discount rate, pass the Level 2 values marked *Required* in the following table.

Parameter	Description
PONUM	*(Required)* Customer reference ID. Character length and limitations: 1 to 16 alphanumeric characters

Parameter	Description
TAXAMT	*(Required)* 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`). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.
	Character length and limitations: numeric
TAXEXEMPT	*(Optional)* Tax amount identifier.
	Character length and limitations: 1 alpha character, `Y` or `N`

Example Heartland Level 2 Visa Transaction Parameter String

```
TRXTYPE=S&ACCT=4111111111111111&AMT=20.02&BILLTOCITY=Mountain View&COMMENT1
=L2 Testing&EXPDATE=1215&INVNUM=661254585&BILLTOFIRSTNAME=CardHolder Name&P
ARTNER=PayPal&PWD=pwd&BILLTOSTATE=CA&BILLTOSTREET=123 Main St.&TAXAMT=1.01&
TAXEXEMPT=N&TENDER=C&USER=user&BILLTOZIP=94043
```

Heartland 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 *Required* are required for Level 3 transactions. Level 3 transactions that do not include the required Level 2 values are rejected.

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

Heartland Level 2 MasterCard Parameters Required for Level 3 Transactions

Parameter	Description
PONUM	*(Required)* Purchase identifier.
	Character length and limitations: 25 alphanumeric characters
TAXAMT	*(Required)* 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`). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.
	Character length and limitations: numeric
LOCALTAXAMT	*(Optional)* Local tax.
	Character length and limitations: 12 numeric characters
TAXEXEMPT	*(Optional)* Local tax incl flag.
	Character length and limitations: 1 alphanumeric, `Y` or `N`

Parameter	Description
NATIONALTAXAMT	*(Optional)* National tax amount. You may omit this parameter if there is no such tax. Character length and limitations: 12 numeric characters
INVNUM	*(Required)* Purchase Order number or customer reference ID. The PNREF value is sent if no value is provided. Character length and limitations: 9 alphanumeric characters

Heartland Level 3 MasterCard Extended Data

The parameters listed in the table below apply to Level 3 MasterCard transactions as extended data.

Parameter	Description
FREIGHTAMT	*(Optional)* Freight amount. Character length and limitations: 12 numeric characters
DUTYAMT	*(Optional)* Duty amount. Character length and limitations: 12 numeric characters
SHIPTOZIP	*(Required)* The zip code of the address to which the goods are shipped. Character length and limitations: 10 alphanumeric characters
SHIPFROMZIP	*(Required)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 10 alphanumeric characters
SHIPTOCOUNTRY	*(Optional)* Destination country code. Character length and limitations: 3 alphanumeric characters
ALTTAXAMT	*(Optional)* Alternate tax amount. Character length and limitations: 9 numeric characters

Heartland Level 3 MasterCard Line Item Detail Records

NOTE: 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.

Parameter	Description
L_COMMCODE*n*	*(Optional)* Item commodity code. Character length and limitations: 12 alphanumeric characters
L_DESC*n*	*(Required)* Item descriptor. Character length and limitations: 35 alphanumeric characters
L_UPC*n*	*(Optional)* Product code. Character length and limitations: 12 alphanumeric characters

Parameter	Description
L_QTY*n*	*(Required)* Quantity. Character length and limitations: 12 numeric characters
L_UOM*n*	*(Required)* Unit of measure code. Character length and limitations: 12 alphanumeric characters
L_COST*n*	*(Required)* Unit cost. Character length and limitations: 12 numeric characters
L_TAXAMT*n*	*(Optional)* VAT/tax amount. Character length and limitations: 12 numeric characters
L_TAXRATE*n*	*(Optional)* VAT/tax rate. Character length and limitations: 4 numeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item. Character length and limitations: 12 numeric characters
L_AMT*n*	*(Optional)* Line-item total. Character length and limitations: 12 numeric characters

Example Heartland Level 3 MasterCard Transaction Parameter String.

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=552500000000
0005&EXPDATE=1215&AMT=1.00&BILLTOSTREET=5199 JOHNSON&BILLTOZIP=94588&ALTTAX
AMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.00&NATIONALTAXAMT=1.00&COMMCODE=
22222&VATAXAMT=1.00&VATAXPERCENT=10&TAXEXEMPT=Y&DISCOUNT=1.00&FREIGHTAMT=1.
00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&SHIPTOCOUNTRY=840&ORDERDA
TE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line item 1 description&L_UPC1=C
BA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.00&L_TAXAMT1=1.00&L_TAXR
ATE1=1.00&L_DISCOUNT1=1.00&L_AMT1=1.00&L_TAXTYPE1=TT3
```

Heartland 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 *Required* are required for Level 3 transactions. Level 3 transactions that do not include the required Level 2 values are rejected.

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

Heartland Level 2 Visa Parameters Required for Level 3 Transactions

Parameter	Description
PONUM	*(Required)* Purchase identifier. TheTransaction ID is sent if no value is provided. Character length and limitations: 25 alphanumeric characters

Parameter	Description
TAXAMT	*(Required)* 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). Character length and limitations: numeric
LOCALTAXAMT	*(Optional)* Local tax amount. Character length and limitations: 12 numeric characters
TAXEXEMPT	(Optional) Local tax incl flag. Character length and limitations: 1 alphanumeric, Y or N
NATIONALTAXAMT	*(Optional)* National tax amount. Character length and limitations: 12 numeric characters
INVNUM	*(Required)* Purchase order number/customer reference ID. The Transaction ID is sent if no value is provided. Character length and limitations: 9 alphanumeric characters

Heartland Level 3 Visa Extended Data

The parameters listed in the table below apply to Level 3 MasterCard transactions as extended data.

Parameter	Description
COMMCODE	*(Optional)* Summary commodity code identifier for the business. Character length and limitations: 4 alphanumeric characters
DISCOUNT	*(Optional)* Discount amount. Character length and limitations: 12 numeric characters
FREIGHTAMT	*(Optional)* Freight amount. Character length and limitations: 12 numeric characters
DUTYAMT	*(Optional)* Duty amount. Character length and limitations: 12 numeric characters
ORDERDATE	*(Required)* Order date. Format is mmddyy with no slashes or dashes. For example, July 28, 2003 is 072803. Character length and limitations: 6 numeric characters
SHIPTOZIP	*(Required)* The zip code of the address to which the goods are shipped. Character length and limitations: 10 alphanumeric characters
SHIPFROMZIP	*(Required)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 10 alphanumeric characters
SHIPTOCOUNTRY	*(Optional)* Destination country code. Character length and limitations: 3 alphanumeric characters

Parameter	Description
VATREGNUM	*(Required)* VAT registration number. Can be part of the registration data or passed with each transaction. Character length and limitations: 20 alphanumeric characters
FREIGHTAMT	*(Required)* Unique VAT inventory reference number. Can be part of the registration data or passed with each transaction. Character length and limitations: 9 alphanumeric characters
CUSTVATREGNUM	*(Required)* Customer VAT registration number. Character length and limitations: 13 alphanumeric characters
VATTAXAMT	*(Optional)* VAT/tax amount (freight/shipping). Character length and limitations: 12 numeric characters
VATTAXPERCENT	*(Optional)* VAT/tax rate (freight/shipping). Character length and limitations: 4 numeric characters

Heartland Level 3 Visa Line Item Detail Records

Parameter	Description
L_COMMCODE*n*	*(Optional)* Item commodity code. Character length and limitations: 12 alphanumeric characters
L_DESC*n*	*(Required)* Item descriptor. Character length and limitations: 35 alphanumeric characters
L_UPC*n*	*(Optional)* Product code. Character length and limitations: 12 alphanumeric characters
L_QTY*n*	*(Required)* Quantity. Character length and limitations: 12 numeric characters
L_UOM*n*	*(Required)* Unit of measure code. Character length and limitations: 12 alphanumeric characters
L_COST*n*	*(Required)* Unit cost. Character length and limitations: 12 numeric characters
L_TAXAMT*n*	*(Optional)* VAT/tax amount. Character length and limitations: 12 numeric characters
L_TAXRATE*n*	*(Optional)* VAT/tax rate. Character length and limitations: 4 numeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item. Character length and limitations: 12 numeric characters
L_AMT*n*	*(Optional)* Line-item total. Character length and limitations: 12 numeric characters

Example Heartland Level 3 Visa Transaction Parameter String

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=411111111111
1111&EXPDATE=1215&AMT=1.00&BILLTOSTREET=5199 JOHNSON&TAXAMT=1.06&BILLTOZIP=
94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.01&NATIONALTAXAMT=1.
02&COMMCODE=22222&VATAXAMT=1.03&VATAXPERCENT=55&TAXEXEMPT=N&DISCOUNT=.50&FR
EIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&SHIPTOCOUNTRY=
840&ORDERDATE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line item 1 descripti
on&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
```

Litle Purchasing Card Transaction Processing

Litle Level 2 Parameters

The Litle platform supports Level 2 transaction data.

Litle Level 2 Parameters

Field	Description
CUSTREF	*(Optional)* Reference, such as a purchase order number, used by the customer for the purchase. Character length and limitations: 17 alphanumeric characters
DISCOUNT	*(Optional)* Discount amount for the order. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
DUTYAMT	*(Optional)* Duty amount on the total purchased for the order. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
FREIGHTAMT	*(Optional)* Shipping amount for the order. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
TAXAMT	*(Optional)* Tax amount included in the amount of the transaction. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
L_AMT*n*	*(Optional)* Amount of this line-item including tax, where *n* is a line-item number from 1 to 99. L_AMT*n* - L_TAXAMT*n* = line-item total. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters

Field	Description
L_COMMCODE*n*	*(Optional)* Identifier assigned by the card acceptor that categorizes the purchased item, where *n* is a line-item number from 1 to 99. Character length and limitations: 12 alphanumeric characters
L_COST*n*	*(Required* if L_QTY*n* is supplied) Price of one unit of the item purchased, where *n* is a line-item number from 1 to 99. Character length and limitations: 12 numeric characters
L_DESC*n*	*(Required)* Description of this line-item, where *n* is a line-item number from 1 to 99. Character length and limitations: 26 alphanumeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item, where *n* is a line-item number from 1 to 99. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
L_PRODCODE*n*	*(Optional)* Supplier-specific product code of the purchased item, where *n* is a line-item number from 1 to 99. Character length and limitations: 12 numeric characters
L_QTY*n*	*(Optional)* Number of items purchased, where *n* is a line-item number from 1 to 99. Character length and limitations: 12 numeric characters
L_TAXAMT*n*	*(Optional)* Line item tax amount, where *n* is a line-item number from 1 to 99. L_AMT*n* - L_TAXAMT*n* = line-item total. Characteristic length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
L_UOM*n*	*(Optional)* Unit of measure of the purchased item (such as kit, pair, gallon or month), where *n* is a line-item number from 1 to 99. Character length and limitations: 12 alphanumeric characters

Litle Level 3 Parameters

The Litle platform supports Level 3 transaction data.

Litle Level 3 Parameters

Field	Description
CUSTREF	*(Optional)* Reference, such as a purchase order number, used by the customer for the purchase. Character length and limitations: 17 alphanumeric characters
DISCOUNT	*(Optional)* Discount amount for the order. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
DUTYAMT	*(Optional)* Duty amount on the total purchased for the order. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters

Field	Description
FREIGHTAMT	*(Optional)* Shipping amount for the order. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
TAXAMT	*(Optional)* Tax amount included in the amount of the transaction. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
L_AMTn	*(Optional)* Amount of this line-item including tax, where n is a line-item number from 1 to 99. L_AMTn - L_TAXAMTn = line-item total. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
L_COMMCODEn	*(Optional)* Identifier assigned by the card acceptor that categorizes the purchased item, where n is a line-item number from 1 to 99. Character length and limitations: 12 alphanumeric characters
L_COSTn	*(Required* if L_QTYn is supplied) Price of one unit of the item purchased, where n is a line-item number from 1 to 99. Character length and limitations: 12 numeric characters
L_DESCn	*(Required)* Description of this line-item, where n is a line-item number from 1 to 99. Character length and limitations: 26 alphanumeric characters
L_DISCOUNTn	*(Optional)* Discount per line item, where n is a line-item number from 1 to 99. Character length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
L_PRODCODEn	*(Optional)* Supplier-specific product code of the purchased item, where n is a line-item number from 1 to 99. Character length and limitations: 12 numeric characters
L_QTYn	*(Optional)* Number of items purchased, where n is a line-item number from 1 to 99. Character length and limitations: 12 numeric characters
L_TAXAMTn	*(Optional)* Line item tax amount, where n is a line-item number from 1 to 99. L_AMTn - L_TAXAMTn = line-item total. Characteristic length and limitations: The decimal is implied. If, for example, you specify 500, this value is equivalent to $5.00. 8 numeric characters
L_UOMn	*(Optional)* Unit of measure of the purchased item (such as kit, pair, gallon or month), where n is a line-item number from 1 to 99. Character length and limitations: 12 alphanumeric characters

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 the credit card in the transaction is a commercial card. Based on the commercial card indicator, Payflow will format the Level 2 information in the settlement request.

Merchant e-Solutions Level 2 Transaction Data

To get the discount rate, Level 2 values marked as *Required* in the following table must be present.

Parameter	Description
PONUM	*(Required)* Customer reference ID. Character length and limitations: 1 to 16 alphanumeric characters
TAXAMT	*(Required)* 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). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces. Character length and limitations: numeric
TAXEXEMPT	*(Optional)* Tax amount identifier. Character length and limitations: 1 alpha character, Y or N

Example Merchant e-Solutions Level 2 Visa Transaction Parameter String

```
TRXTYPE=S&ACCT=4111111111111111&AMT=20.02&BILLTOCITY=Mountain View&COMMENT1
=L2 Testing&EXPDATE=1215&INVNUM=661254585&BILLTOFIRSTNAME=CardHolder Name&P
ARTNER=PayPal&PWD=pwd&BILLTOSTATE=CA&BILLTOSTREET=123 Main St.&TAXAMT=1.01&
TAXEXEMPT=N&TENDER=C&USER=user&BILLTOZIP=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 *Required* are required for Level 3 transactions. Level 3 transactions that do not include the required 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

Parameter	Description
PONUM	*(Required)* Purchase identifier. Character length and limitations: 25 alphanumeric characters
TAXAMT	*(Required)* 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`). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces. Character length and limitations: numeric
LOCALTAXAMT	*(Optional)* Local tax. Character length and limitations: 12 numeric characters
TAXEXEMPT	*(Optional)* Local tax incl flag. Character length and limitations: 1 alphanumeric, `Y` or `N`
NATIONALTAXAMT	*(Optional)* National tax amount. You may omit this parameter if there is no such tax. Character length and limitations: 12 numeric characters
INVNUM	*(Required)* Purchase Order number or customer reference ID. The PNREF value is sent if no value is provided. Character length and limitations: 9 alphanumeric characters

Merchant e-Solutions Level 3 MasterCard Extended Data

The parameters listed in the table below apply to Level 3 MasterCard transactions as extended data.

Parameter	Description
FREIGHTAMT	*(Optional)* Freight amount. Character length and limitations: 12 numeric characters
DUTYAMT	*(Optional)* Duty amount. Character length and limitations: 12 numeric characters
SHIPTOZIP	*(Required)* The zip code of the address to which the goods are shipped. Character length and limitations: 10 alphanumeric characters
SHIPFROMZIP	*(Required)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 10 alphanumeric characters
SHIPTOCOUNTRY	*(Optional)* Destination country code. Character length and limitations: 3 alphanumeric characters
ALTTAXAMT	*(Optional)* Alternate tax amount. Character length and limitations: 9 numeric characters

Merchant e-Solutions Level 3 MasterCard Line Item Detail Records

NOTE: For the following values, *n* is a sequence counter that should begin with 1 and increase in sequence. With each line item, include the quantity (L_QTY*n*) and unit price (L_COST*n*) fields.

Parameter	Description
L_COMMCODE*n*	*(Optional)* Item commodity code. Character length and limitations: 12 alphanumeric characters
L_DESC*n*	*(Required)* Item descriptor. Character length and limitations: 35 alphanumeric characters
L_UPC*n*	*(Optional)* Product code. Character length and limitations: 12 alphanumeric characters
L_QTY*n*	*(Required)* Quantity. Character length and limitations: 12 numeric characters
L_UOM*n*	*(Required)* Unit of measure code. Character length and limitations: 12 alphanumeric characters
L_COST*n*	*(Required)* Unit cost. Character length and limitations: 12 numeric characters
L_TAXAMT*n*	*(Optional)* VAT/tax amount. Character length and limitations: 12 numeric characters
L_TAXRATE*n*	*(Optional)* VAT/tax rate. Character length and limitations: 4 numeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item. Character length and limitations: 12 numeric characters
L_AMT*n*	*(Optional)* Line-item total. Character length and limitations: 12 numeric characters

Example Merchant e-Solutions Level 3 MasterCard Transaction Parameter String.
```
TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=552500000000
0005&EXPDATE=1215&AMT=1.00&BILLTOSTREET=5199 JOHNSON&BILLTOZIP=94588&ALTTAX
AMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.00&NATIONALTAXAMT=1.00&COMMCODE=
22222&VATAXAMT=1.00&VATAXPERCENT=10&TAXEXEMPT=Y&DISCOUNT=1.00&FREIGHTAMT=1.
00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&SHIPTOCOUNTRY=840&ORDERDA
TE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line item 1 description&L_UPC1=C
BA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.00&L_TAXAMT1=1.00&L_TAXR
ATE1=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 *Required* are required for Level 3 transactions. Level 3 transactions that do not include the required 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

Parameter	Description
PONUM	*(Required)* Purchase identifier. TheTransaction ID is sent if no value is provided. Character length and limitations: 25 alphanumeric characters
TAXAMT	*(Required)* 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`). Character length and limitations: numeric
LOCALTAXAMT	*(Optional)* Local tax amount. Character length and limitations: 12 numeric characters
TAXEXEMPT	(Optional) Local tax incl flag. Character length and limitations: 1 alphanumeric, `Y` or `N`
NATIONALTAXAMT	*(Optional)* National tax amount. Character length and limitations: 12 numeric characters
INVNUM	*(Required)* Purchase order number/customer reference ID. The `Transaction ID` is sent if no value is provided. Character length and limitations: 9 alphanumeric characters

Merchant e-Solutions Level 3 Visa Extended Data

The parameters listed in the table below apply to Level 3 MasterCard transactions as extended data.

Parameter	Description
COMMCODE	*(Optional)* Summary commodity code identifier for the business. Character length and limitations: 4 alphanumeric characters
DISCOUNT	*(Optional)* Discount amount. Character length and limitations: 12 numeric characters

Parameter	Description
FREIGHTAMT	*(Optional)* Freight amount. Character length and limitations: 12 numeric characters
DUTYAMT	*(Optional)* Duty amount. Character length and limitations: 12 numeric characters
ORDERDATE	*(Required)* Order date. Format is mmddyy with no slashes or dashes. For example, July 28, 2003 is 072803. Character length and limitations: 6 numeric characters
SHIPTOZIP	*(Required)* The zip code of the address to which the goods are shipped. Character length and limitations: 10 alphanumeric characters
SHIPFROMZIP	*(Required)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 10 alphanumeric characters
SHIPTOCOUNTRY	*(Optional)* Destination country code. Character length and limitations: 3 alphanumeric characters
VATREGNUM	*(Required)* VAT registration number. Can be part of the registration data or passed with each transaction. Character length and limitations: 20 alphanumeric characters
FREIGHTAMT	*(Required)* Unique VAT inventory reference number. Can be part of the registration data or passed with each transaction. Character length and limitations: 9 alphanumeric characters
CUSTVATREGNUM	*(Required)* Customer VAT registration number. Character length and limitations: 13 alphanumeric characters
VATTAXAMT	*(Optional)* VAT/tax amount (freight/shipping). Character length and limitations: 12 numeric characters
VATTAXPERCENT	*(Optional)* VAT/tax rate (freight/shipping). Character length and limitations: 4 numeric characters

Merchant e-Solutions Level 3 Visa Line Item Detail Records

Parameter	Description
L_COMMCODE*n*	*(Optional)* Item commodity code. Character length and limitations: 12 alphanumeric characters
L_DESC*n*	*(Required)* Item descriptor. Character length and limitations: 35 alphanumeric characters
L_UPC*n*	*(Optional)* Product code. Character length and limitations: 12 alphanumeric characters
L_QTY*n*	*(Required)* Quantity. Character length and limitations: 12 numeric characters

Parameter	Description
L_UOM*n*	*(Required)* Unit of measure code. Character length and limitations: 12 alphanumeric characters
L_COST*n*	*(Required)* Unit cost. Character length and limitations: 12 numeric characters
L_TAXAMT*n*	*(Optional)* VAT/tax amount. Character length and limitations: 12 numeric characters
L_TAXRATE*n*	*(Optional)* VAT/tax rate. Character length and limitations: 4 numeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item. Character length and limitations: 12 numeric characters
L_AMT*n*	*(Optional)* Line-item total. Character length and limitations: 12 numeric characters

Example Merchant e-Solutions Level 3 Visa Transaction Parameter String

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=411111111111
1111&EXPDATE=1215&AMT=1.00&BILLTOSTREET=5199 JOHNSON&TAXAMT=1.06&BILLTOZIP=
94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.01&NATIONALTAXAMT=1.
02&COMMCODE=22222&VATAXAMT=1.03&VATAXPERCENT=55&TAXEXEMPT=N&DISCOUNT=.50&FR
EIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&SHIPTOCOUNTRY=
840&ORDERDATE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line item 1 descripti
on&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
```

Paymentech Salem (New Hampshire) Purchasing Card Transaction Processing

Paymentech Salem (New Hampshire) Level 2 Parameters for American Express

The Paymentech Salem (New Hampshire) platform supports Level 2 parameters for American Express, MasterCard, Visa, and Switch/Solo Maestro. The parameters in the following tables meet card acceptance and American Express reporting and statement requirements.

CPC Level 2 Transaction Advice Addendum Parameters

Field	Description
PONUM	*(Required)* Purchase order number. Character length and limitations: 17 alphanumeric characters

Field	Description
SHIPTOZIP	(Required) Ship-to postal code (called zip code in the USA). Character length and limitations: 15 alphanumeric characters
TAXAMT	(Optional) 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). Character length and limitations: 12 numeric characters
L_DESC1	(Optional) Description of this line item; if not provided, DESC1 (if present) is used. Character length and limitations: 140 alphanumeric characters
L_AMT1	(Optional) 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). Character length and limitations: 12 numeric characters
L_QTY1	(Optional) Quantity of this line item. Character length and limitations: 3 numeric characters
L_DESC2	(Optional) Description of this line item; if not provided, DESC2 (if present) is used. Character length and limitations: 40 alphanumeric characters
L_AMT2	(Optional) 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). Character length and limitations: 12 numeric characters
L_QTY2	(Optional) Quantity of this line item Character length and limitations: 3 numeric characters
L_DESC3	(Optional) Description of this line item; if not provided, DESC3 (if present) is used Character length and limitations: 40 alphanumeric characters
L_AMT3	(Optional) 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). Character length and limitations: 12 numeric characters
L_QTY3	(Optional) Quantity of this line item Character length and limitations: 3 numeric characters
L_DESC4	(Optional) Description of this line item; if not provided, DESC4 (if present) is used Character length and limitations: 30 alphanumeric characters
L_AMT4	(Optional) 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). Character length and limitations: 12 numeric characters
L_QTY4	(Optional) Quantity of this line item Character length and limitations: 3 numeric characters

Location Transaction Advice Addendum Parameters

Field	Description
MERCHANTNAME	*(Optional)* Name of merchant. Character length and limitations: 38 alphanumeric characters
MERCHANTSTREET	*(Optional)* Merchant's street address (number and street name). Character length and limitations: 38 alphanumeric characters. If more than 38 characters, use proper and meaningful abbreviation. Do not truncate.
MERCHANTCITY	*(Optional)* The name of the city were the transaction took place. • If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the name of the city in which the seller is located. • If you are a mail order, phone order, or internet industry, you may substitute the name of the city in which the merchant's order processing facility is located. Character length and limitations: 21 alphanumeric characters. If more than 21 characters, use proper and meaningful abbreviation. Do not truncate.
MERCHANTSTATE	*(Optional)* The region code that corresponds to the state, province, or country subdivision of the merchant location where the transaction took place. Region code examples: • CA = California, USA • NS = Nova Scotia, Canada • COS = Colima Mexico If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the region code that corresponds to the state, province, or country subdivision in which the seller is located. Character length and limitations: 3 alphanumeric characters
MERCHANTZIP	*(Optional)* The 5- to 9-digit zip (postal) code excluding spaces, dashes, and non-numeric characters where the transaction took place. If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the postal code that corresponds to the seller's location. Character length and limitations; 15 alphanumeric characters
MERCHANTCOUNTRYCODE	*(Optional)* Country code of the location where the transaction took place. Character length and limitations: 3 alphanumeric characters
MERCHANTLOCATIONID	*(Optional)* Merchant-assigned store or location number (or name) that uniquely identifies where the transaction took place. **NOTE:** Paymentech must enable your division for soft merchant processing or your transaction will fail with response reason code 258. Contact your Paymentech Account Manager for details. Character length and limitations: 15 alphanumeric characters

Field	Description
MERCHANTID	*(Required)* American Express-assigned service establishment number used to identify and facilitate payments to merchants.
	NOTE: Paymentech must enable your division for soft merchant processing or your transaction will fail with response reason code 258. Contact your Paymentech Account Manager for details.
	Character length and limitations: 15 alphanumeric characters
MERCHANTCONTACTINFO	*(Optional)* Merchant's telephone number or web address. (URLs and e-mail addresses may be lowercase, as appropriate.) This entry may appear on the descriptive bill on the card-member's statement, or may be used to resolve billing inquiries and disputes.
	NOTE: Paymentech must enable your division for soft merchant processing or your transaction will fail with response reason code 258. Contact your Paymentech Account Manager for details.
	Character length and limitations: 40 alphanumeric characters

Transaction Advice Detail Parameters

Field	Description
ADDLAMTn	*(Optional)* Detail of a charge where n is a value from 1 - 5. Use for additional breakdown of the amount.
	Character length and limitations: 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. 12 numeric characters
ADDLAMTTYPEn	*(Optional)* A 3-digit code indicating the type of the corresponding charge detail, where n is a value from 1 - 5.
	Character length and limitations: 3 numeric characters

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 in the following table are required for Level 3 transactions. Level 3 transactions that do not include them are rejected.

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

To get the discount rate, pass both Level 2 parameters in the following table.

Level 2 Parameters Required for Level 3 Transactions

Parameter	Description
PONUM	*(Required)* Customer reference number.
	Character length and limitations: 1 to 17 alphanumeric characters

Parameter	Description
TAXAMT	*(Required)* Sales 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`). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.
	Character length and limitations: numeric

Paymentech Salem (New Hampshire) Level 3 MasterCard Parameters

Level 3 MasterCard Order Parameters

Parameter	Description
FREIGHTAMT	*(Required)* Freight amount.
	Character length and limitations: numeric
DUTYAMT	*(Required)* Duty amount.
	Character length and limitations: numeric
SHIPTOZIP	*(Required)* Destination zip code.
SHIPTOCOUNTRY	*(Optional)* Destination country.
SHIPFROMZIP	*(Required)* Ship from zip code.
DISCOUNT	*(Required)* Discount amount.
	Character length and limitations: numeric
ALTERNATETAXID	*(Optional)* Alternate tax ID.
ALTERNATETAXAMT	*(Optional)* Alternate tax amount.
	Character length and limitations: numeric

. Level 3 MasterCard Line Item Record #1 Parameters

Parameter	Description
L_DESC*n*	*(Required)* Description.
L_PRODCODE*n*	*(Optional)* Product code.
L_QTY*n*	*(Required)* Quantity.
	Character length and limitations: numeric characters
L_UOM*n*	*(Required)* Unit of measure.
TAXAMT*n*	*(Optional)* Tax amount.
	Character length and limitations: numeric
L_TAXRATE*n*	*(Optional)* Tax rate.
	Character length and limitations: 4 numeric characters

. Level 3 MasterCard Line Item Record #2 Parameters

Parameter	Description
L_AMT*n*	*(Optional)* Line-item total. Character length and limitations: numeric
L_DISCOUNT*n*	*(Optional)* Discount amount. Character length and limitations: numeric
L_TAXTYPE*n*	*(Optional)* Tax type applied.

Paymentech Salem (New Hampshire) Level 3 Visa Parameters

Level 3 Visa Order Parameters

Parameter	Description
FREIGHTAMT	*(Required)* Freight amount. Character length and limitations: numeric
DUTYAMT	*(Required)* Duty amount. Character length and limitations: numeric
SHIPTOZIP	*(Required)* Destination zip code.
SHIPTOCOUNTRY	*(Optional)* Destination country.
SHIPFROMZIP	*(Required)* Ship from zip code.
DISCOUNT	*(Required)* Discount amount. Character length and limitations: numeric
TAXAMT	*(Optional)* VAT/Tax ID. Character length and limitations: numeric
TAXPERCENTAGE	*(Optional)* VAT/Tax amount.

. Level 3 Visa Line Item Record #1 Parameters

Parameter	Description
L_DESC*n*	*(Required)* Description.
L_PRODCODE*n*	*(Required)* Product code.
L_QTY*n*	*(Required)* Quantity. Character length and limitations: numeric characters
L_UOM*n*	*(Required)* Unit of measure.
TAXAMT*n*	*(Optional)* Tax amount. Character length and limitations: numeric
L_TAXRATE*n*	*(Optional)* Tax rate. Character length and limitations: 4 numeric characters

. Level 3 Visa Line Item Record #2 Parameters

Parameter	Description
L_AMT*n*	*(Optional)* Line-item total. Character length and limitations: numeric
L_DISCOUNT*n*	*(Optional)* Discount amount. Character length and limitations: numeric
L_UPC*n*	*(Optional)* Item commodity code.
L_COST*n*	*(Optional)* Unit cost. Character length and limitations: numeric

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=1215&AMT=1.00&COMMENT1=0508&BILLTOFIRSTNAME=Robert&BILLTOSTREE
T=123 Main St.&BILLTOZIP=94065&CVV2=426&PONUM=ABCDEFGHIJ&TAXAMT=1.00&FREIGH
TAMT=2.00&DUTYAMT=3.00&SHIPTOZIP=94543&SHIPTOCOUNTRY=840&SHIPFROMZIP=94509&
ALTERNATETAXID=10&ALTERNATETAXAMT=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=1215&AMT=1.00&COMMENT1=0508&BILLTOFIRSTNAME=Robert&BILLTOSTREE
T=123 Main St.&BILLTOZIP=94065&CVV2=426&PONUM=ABCDEFGHIJ&TAXAMT=1.00&FREIGH
TAMT=2.00&DUTYAMT=3.00&SHIPTOZIP=94543&SHIPTOCOUNTRY=840&SHIPFROMZIP=94509&
DISCOUNT=4.00&VATAXAMT=5.00&VATAXPERCENT=10&L_DESC1=TSYS Acquiring Solution
s Pcard&L_UPC1=1&L_UOM1=2&L_QTY1=3&L_TAXAMT1=4&L_TAXRATE1=5&L_AMT1=6&L_DISC
OUNT1=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

Paymentech Tampa Level 2 Parameters	Description
PONUM	*(Required)* Customer reference number. Character length and limitations: 1 to 17 alphanumeric characters
TAXAMT	*(Required)* Sales 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). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces. Character length and limitations: numeric
TAXEXEMPT	*(Required)* Tax exempt. Character length and limitations: 1 alphanumeric character, Y or N
SHIPTOZIP	*(Required)* Ship-to postal code (called zip code in the USA). Character length and limitations: 1 to 16 alphanumeric characters

Example Paymentech Tampa Level 2 Visa and MasterCard Transaction Parameter String

```
TRXTYPE=S&TENDER=C&PWD=PWD&USER=USER&PARTNER=PARTNER&ACCT=4275330012345675&
EXPDATE=1215&AMT=12.59&VERBOSITY=HIGH&BILLTOSTREET=123 Main St.&BILLTOZIP=4
9801&CVV2=248&TAXAMT=1.22&PONUM=AB12345678&SHIPTOZIP=98765&TAXEXEMPT=N
```

SecureNet Purchasing Card Transaction Processing

SecureNet supports MasterCard and Visa for performing Level 2 and Level 3 purchasing card transactions.

SecureNet Level 2 Parameters

SecureNet supports MasterCard and Visa for Level 2 purchasing card transactions.

SecureNet indicates in the authorization response whether the credit card in the transaction is a commercial card. Based in the commercial card indicator, Payflow will format the Level 2 information in the settlement request.

To get the discount rate, Level 2 parameters marked as *Required* in the following table must be present .

SecureNet Level 2 Parameters

Parameter	Description
PONUM	*(Required)* Customer reference ID. Character length and limitations: 1 to 17 alphanumeric characters
TAXAMT	*(Required)* 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). Character length and limitations: numeric
TAXEXEMPT	*(Optional)* Tax amount identifier. Character length and limitations: 1 alpha character, Y or N

Example SecureNet Level 2 Visa Transaction Parameter String.

```
TRXTYPE=S&ACCT=4111111111111111&AMT=20.02&BILLTOCITY=Mountain View&COMMENT1
=L2 Testing&EXPDATE=1215&INVNUM=661254585&BILLTOFIRSTNAME=CardHolder First
Name&BILLTOLASTNAME=CardHolder Last Name&PARTNER=PayPal&PWD=pwd&BILLTOSTATE
=CA&BILLTOSTREET=123 Main St.&TAXAMT=1.01&TAXEXEMPT=N&TENDER=C&USER=user&BI
LLTOZIP=94043
```

SecureNet 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 *Required* are required for Level 3 transactions. Level 3 transactions that do not include the required Level 2 values are rejected.

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

SecureNet Level 2 MasterCard Parameters Required for Level 3 Line Item Transactions

Parameter	Description
PONUM	*(Required)* Purchase identifier. The transaction ID is sent if no value is provided. Character length and limitations: 25 alphanumeric characters
TAXAMT	*(Required)*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). Character length and limitations: numeric
LOCALTAXAMT	*(Optional)* Local tax. Character length and limitations: 12 numeric characters

Parameter	Description
TAXEXEMPT	*(Optional)* Local tax incl flag. Character length and limitations: 1 alphanumeric, Y or N
NATIONALTAXAMT	*(Optional)*National tax amount. Character length and limitations: 12 numeric characters
INVNUM	*(Required)* Purchase order number/customer reference ID. The value of PNREF is sent if the INVNUM parameter is not provided. Character length and limitations: 9 alphanumeric characters

SecureNet Level 3 MasterCard Extended Data

The parameters listed in the table below apply to Level 3 MasterCard transactions as extended data.

Parameter	Description
FREIGHTAMT	*(Optional)* Freight amount. Character length and limitations: 12 numeric characters
DUTYAMT	*(Optional)* Duty amount. Character length and limitations: 12 numeric characters
SHIPTOZIP	*(Required)* The zip code of the address to which the goods are shipped. Character length and limitations: 10 alphanumeric characters
SHIPFROMZIP	*(Required)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 10 alphanumeric characters
SHIPTOCOUNTRY	*(Optional)* Destination country code. Character length and limitations: 3 alphanumeric characters
ALTTAXAMT	*(Optional)* Alternate tax amount. Character length and limitations: 9 numeric characters

SecureNet Level 3 MasterCard Line Item Detail Records

NOTE: 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.

Parameter	Description
L_DESC*n*	*(Required)* Item descriptor. Character length and limitations: 35 alphanumeric characters
L_UPC*n*	*(Optional)* Product code. Character length and limitations: 12 alphanumeric characters

Parameter	Description
L_QTY*n*	*(Required)* Quantity. Character length and limitations: 12 numeric characters
L_UOM*n*	*(Required)*Unit of measure/code. Character length and limitations: 12 alphanumeric characters
L_TAXRATE*n*	*(Optional)* Tax rate applied. Character length and limitations: 4 numeric characters
L_TAXTYPE*n*	*(Optional)* Tax type applied. Character length and limitations: 4 alphanumeric characters
L_TAXAMT*n*	*(Optional)*Tax amount. Character length and limitations: 12 numeric characters
L_DISCOUNT*n*	*(Optional)* Discount amount. Character length and limitations: 12 numeric characters

Example SecureNet Level 3 MasterCard Transaction Parameter String

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=552500000000
0005&EXPDATE=1215&AMT=1.00&BILLTOSTREET=5199 JOHNSON&BILLTOZIP=94588&ALTTAX
AMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.00&NATIONALTAXAMT=1.00&COMMCODE=
22222&VATAXAMT=1.00&VATAXPERCENT=10&TAXEXEMPT=Y&DISCOUNT=1.00&FREIGHTAMT=1.
00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&SHIPTOCOUNTRY=840&ORDERDA
TE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line item 1 description&L_UPC1=C
BA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.00&L_TAXAMT1=1.00&L_TAXR
ATE1=1.00&L_DISCOUNT1=1.00&L_AMT1=1.00&L_TAXTYPE1=TT3
```

SecureNet 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 *Required* are required for Level 3 transactions. Level 3 transactions that do not include the required Level 2 values are rejected.

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

SecureNet Level 2 Visa Parameters for Level 3 Line Item Transactions

Parameter	Description
PONUM	*(Required)* Purchase identifier. The transaction ID is sent if no value is provided. Character length and limitations: 25 alphanumeric characters

Parameter	Description
TAXAMT	*(Required)*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). Character length and limitations: numeric
LOCALTAXAMT	*(Optional)* Local tax. Character length and limitations: 12 numeric characters
TAXEXEMPT	*(Optional)* Local tax incl flag. Character length and limitations: 1 alphanumeric, Y or N
NATIONALTAXAMT	*(Optional)*National tax amount. Character length and limitations: 12 numeric characters
INVNUM	*(Required)* Purchase order number/customer reference ID. The value of PNREF is sent if the INVNUM parameter is not provided. Character length and limitations: 9 alphanumeric characters

SecureNet Level 3 Visa Extended Data

The parameters listed in the table below apply to Level 3 Visa transactions as extended data.

Parameter	Description
COMMCODE	*(Optional)* Commodity code identifier for the business. Character length and limitations: 4 alphanumeric characters
DISCOUNT	*(Optional)* Discount amount. Character length and limitations: 12 numeric characters
FREIGHTAMT	*(Optional)* Freight amount. Character length and limitations: 12 numeric characters
DUTYAMT	*(Optional)* Duty amount. Character length and limitations: 12 numeric characters
ORDERDATE	*(Required)* Order date. The format is mmddyy with no slashes or dashes. For example, July 28, 2003 is 072803. Character length and limitations: 6 numeric characters
SHIPTOZIP	*(Required)* The zip code of the address to which the goods are shipped. Character length and limitations: 10 alphanumeric characters
SHIPFROMZIP	*(Required)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 10 alphanumeric characters
SHIPTOCOUNTRY	*(Optional)* Destination country code. Character length and limitations: 3 alphanumeric characters

Parameter	Description
VATREGNUM	*(Required)* VAT registration number. Can be part of the registration data or passed with each transaction.
	Character length and limitations: 20 alphanumeric characters
FREIGHTAMT	*(Required)* Unique VAT inv reference number. Can be part of the registration data or passed with each transaction.
	Character length and limitations: 9 alphanumeric characters
CUSTVATREGNUM	*(Required)* Customer VAT Registration Number.
	Character length and limitations: 13 alphanumeric characters
VATTAXAMT	*(Optional)* VAT/tax amount (freight/shipping).
	Character length and limitations: 12 numeric characters
VATTAXPERCENT	*(Optional)* VAT/tax rate (freight/shipping).
	Character length and limitations: 4 numeric characters

SecureNet Level 3 Visa Line Item Detail Records

NOTE: 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.

Parameter	Description
L_COMMCODE*n*	*(Optional)* Item commodity code.
	Character length and limitations: 12 alphanumeric characters
L_DESC*n*	*(Required)* Item descriptor.
	Character length and limitations: 35 alphanumeric characters
L_UPC*n*	*(Optional)* Product code.
	Character length and limitations: 12 alphanumeric characters
L_QTY*n*	*(Required)* Item quantity.
	Character length and limitations: 12 numeric characters
L_UOM*n*	*(Required)* Unit of measure/code.
	Character length and limitations: 12 alphanumeric characters
L_COST*n*	*(Required)* Unit cost.
	Character length and limitations: 12 numeric characters
L_TAXAMT*n*	*(Optional)* VAT/tax amount.
	Character length and limitations: 12 numeric characters
L_TAXRATE*n*	*(Optional)* VAT/tax rate.
	Character length and limitations: 4 numeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item.
	Character length and limitations: 12 numeric characters

Parameter	Description
L_AMT*n*	*(Optional)* Line-item total. Character length and limitations: 12 numeric characters

Example SecureNet Level 3 Visa Transaction Parameter String

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=411111111111
1111&EXPDATE=1215&AMT=1.00&BILLTOSTREET=5199 JOHNSON&TAXAMT=1.06&BILLTOZIP=
94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.01&NATIONALTAXAMT=1.
02&COMMCODE=22222&VATAXAMT=1.03&VATAXPERCENT=55&TAXEXEMPT=N&DISCOUNT=.50&FR
EIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&SHIPTOCOUNTRY=
840&ORDERDATE=081125&L_COMMCODE1=123456789ABC&L_DESC1=Line item 1 descripti
on&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
```

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 the credit card in the transaction is a commercial card. Based in the commercial card indicator, Payflow will format the Level 2 information in the settlement request.

To get the discount rate, Level 2 parameters marked as required in the following table must be present .

TSYS Acquiring Solutions Level 2 Parameters

Parameter	Description
PONUM	*(Required)* Customer reference ID. Character length and limitations: 1 to 17 alphanumeric characters
TAXAMT	*(Required)* 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). Character length and limitations: numeric

Parameter	Description
TAXEXEMPT	*(Optional)* Tax amount identifier.
	Character length and limitations: 1 alpha character, `Y` or `N`

Example TSYS Acquiring Solutions Level 2 Visa Transaction Parameter String.
```
TRXTYPE=S&ACCT=4111111111111111&AMT=20.02&BILLTOCITY=Mountain View&COMMENT1
=L2 Testing&EXPDATE=1215&INVNUM=661254585&BILLTOFIRSTNAME=CardHolder First
Name&BILLTOLASTNAME=CardHolder Last Name&PARTNER=PayPal&PWD=pwd&BILLTOSTATE
=CA&BILLTOSTREET=123 Main St.&TAXAMT=1.01&TAXEXEMPT=N&TENDER=C&USER=user&BI
LLTOZIP=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 *Required* are required for Level 3 transactions. Level 3 transactions that do not include the required 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

Parameter	Description
PONUM	*(Required)* Purchase identifier. The transaction ID is sent if no value is provided.
	Character length and limitations: 25 alphanumeric characters
TAXAMT	*(Required)* 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`).
	Character length and limitations: numeric
LOCALTAXAMT	*(Optional)* Local tax.
	Character length and limitations: 12 numeric characters
TAXEXEMPT	*(Optional)* Local tax incl flag.
	Character length and limitations: 1 alphanumeric, `Y` or `N`
NATIONALTAXAMT	*(Optional)* National tax amount.
	Character length and limitations: 12 numeric characters
INVNUM	*(Required)* Purchase order number/customer reference ID. The value of `PNREF` is sent if the `INVNUM` parameter is not provided.
	Character length and limitations: 9 alphanumeric characters

TSYS Acquiring Solutions Level 3 MasterCard Extended Data

The parameters listed in the table below apply to Level 3 MasterCard transactions as extended data.

Parameter	Description
FREIGHTAMT	*(Optional)* Freight amount. Character length and limitations: 12 numeric characters
DUTYAMT	*(Optional)* Duty amount. Character length and limitations: 12 numeric characters
SHIPTOZIP	*(Required)* The zip code of the address to which the goods are shipped. Character length and limitations: 10 alphanumeric characters
SHIPFROMZIP	*(Required)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 10 alphanumeric characters
SHIPTOCOUNTRY	*(Optional)* Destination country code. Character length and limitations: 3 alphanumeric characters
ALTTAXAMT	*(Optional)* Alternate tax amount. Character length and limitations: 9 numeric characters

TSYS Acquiring Solutions Level 3 MasterCard Line Item Detail Records

NOTE: 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.

Parameter	Description
L_DESC*n*	*(Required)* Item descriptor. Character length and limitations: 35 alphanumeric characters
L_UPC*n*	*(Optional)* Product code. Character length and limitations: 12 alphanumeric characters
L_QTY*n*	*(Required)* Quantity. Character length and limitations: 12 numeric characters
L_UOM*n*	*(Required)*Unit of measure/code. Character length and limitations: 12 alphanumeric characters
L_TAXRATE*n*	*(Optional)* Tax rate applied. Character length and limitations: 4 numeric characters
L_TAXTYPE*n*	*(Optional)* Tax type applied. Character length and limitations: 4 alphanumeric characters
L_TAXAMT*n*	*(Optional)*Tax amount. Character length and limitations: 12 numeric characters

Parameter	Description
L_DISCOUNT*n*	*(Optional)* Discount amount. Character length and limitations: 12 numeric characters

Example TSYS Acquiring Solutions Level 3 MasterCard Transaction Parameter String

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=552500000000
0005&EXPDATE=1215&AMT=1.00&BILLTOSTREET=5199 JOHNSON&BILLTOZIP=94588&ALTTAX
AMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.00&NATIONALTAXAMT=1.00&COMMCODE=
22222&VATAXAMT=1.00&VATAXPERCENT=10&TAXEXEMPT=Y&DISCOUNT=1.00&FREIGHTAMT=1.
00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&SHIPTOCOUNTRY=840&ORDERDA
TE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line item 1 description&L_UPC1=C
BA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.00&L_TAXAMT1=1.00&L_TAXR
ATE1=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 *Required* are required for Level 3 transactions. Level 3 transactions that do not include the required 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

Parameter	Description
PONUM	*(Required)* Purchase identifier. The transaction ID is sent if no value is provided. Character length and limitations: 25 alphanumeric characters
TAXAMT	*(Required)*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). Character length and limitations: numeric
LOCALTAXAMT	*(Optional)* Local tax. Character length and limitations: 12 numeric characters
TAXEXEMPT	*(Optional)* Local tax incl flag. Character length and limitations: 1 alphanumeric, Y or N
NATIONALTAXAMT	*(Optional)*National tax amount. Character length and limitations: 12 numeric characters

Parameter	Description
INVNUM	*(Required)* Purchase order number/customer reference ID. The value of PNREF is sent if the INVNUM parameter is not provided. Character length and limitations: 9 alphanumeric characters

TSYS Acquiring Solutions Level 3 Visa Extended Data

The parameters listed in the table below apply to Level 3 Visa transactions as extended data.

Parameter	Description
COMMCODE	*(Optional)* Commodity code identifier for the business. Character length and limitations: 4 alphanumeric characters
DISCOUNT	*(Optional)* Discount amount. Character length and limitations: 12 numeric characters
FREIGHTAMT	*(Optional)* Freight amount. Character length and limitations: 12 numeric characters
DUTYAMT	*(Optional)* Duty amount. Character length and limitations: 12 numeric characters
ORDERDATE	*(Required)* Order date. The format is yymmdd with no slashes or dashes. For example, January 28, 2013 is 130128. Character length and limitations: 6 numeric characters
SHIPTOZIP	*(Required)* The zip code of the address to which the goods are shipped. Character length and limitations: 10 alphanumeric characters
SHIPFROMZIP	*(Required)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 10 alphanumeric characters
SHIPTOCOUNTRY	*(Optional)* Destination country code. Character length and limitations: 3 alphanumeric characters
VATREGNUM	*(Required)* VAT registration number. Can be part of the registration data or passed with each transaction. Character length and limitations: 20 alphanumeric characters
FREIGHTAMT	*(Required)* Unique VAT inv reference number. Can be part of the registration data or passed with each transaction. Character length and limitations: 9 alphanumeric characters
CUSTVATREGNUM	*(Required)* Customer VAT Registration Number. Character length and limitations: 13 alphanumeric characters
VATTAXAMT	*(Optional)* VAT/tax amount (freight/shipping). Character length and limitations: 12 numeric characters
VATTAXPERCENT	*(Optional)* VAT/tax rate (freight/shipping). Character length and limitations: 4 numeric characters

TSYS Acquiring Solutions Level 3 Visa Line Item Detail Records

NOTE: 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_QTYn`) and unit price (`L_COSTn`) fields.

Parameter	Description
L_COMMCODE*n*	*(Optional)* Item commodity code. Character length and limitations: 12 alphanumeric characters
L_DESC*n*	*(Required)* Item descriptor. Character length and limitations: 35 alphanumeric characters
L_UPC*n*	*(Optional)* Product code. Character length and limitations: 12 alphanumeric characters
L_QTY*n*	*(Required)* Item quantity. Character length and limitations: 12 numeric characters
L_UOM*n*	*(Required)* Unit of measure/code. Character length and limitations: 12 alphanumeric characters
L_COST*n*	*(Required)* Unit cost. Character length and limitations: 12 numeric characters
L_TAXAMT*n*	*(Optional)* VAT/tax amount. Character length and limitations: 12 numeric characters
L_TAXRATE*n*	*(Optional)* VAT/tax rate. Character length and limitations: 4 numeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item. Character length and limitations: 12 numeric characters
L_AMT*n*	*(Optional)* Line-item total. Character length and limitations: 12 numeric characters

Example TSYS Acquiring Solutions Level 3 Visa Transaction Parameter String

```
TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=411111111111
1111&EXPDATE=1215&AMT=1.00&BILLTOSTREET=5199 JOHNSON&TAXAMT=1.06&BILLTOZIP=
94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.01&NATIONALTAXAMT=1.
02&COMMCODE=22222&VATAXAMT=1.03&VATAXPERCENT=55&TAXEXEMPT=N&DISCOUNT=.50&FR
EIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&SHIPTOCOUNTRY=
840&ORDERDATE=130125L_COMMCODE1=123456789ABC&L_DESC1=Line item 1 descripti
on&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
```

Vantiv Purchasing Card Transaction Processing

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

Vantiv Purchasing Parameters

Field	Description
SHIPTOCOUNTRY	*(Optional)* Destination country code. Visa and MasterCard are different. Character length and limitations: 3 alpha characters
DISCOUNT	*(Optional)* Discount amount on total sale Character length and limitations: 10 currency characters
DUTYAMT	*(Optional)* 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). Character length and limitations: 10 currency characters
FREIGHTAMT	Character length and limitations: 10 currency characters
PONUM	*(Optional)* Purchase order number / merchant-related data. Character length and limitations: 25 alphanumeric characters, provides best rate when used
SHIPFROMZIP	*(Optional)* The postal code (called zip code in the USA) from which shipping occurs. Character length and limitations: 9 numeric characters, provides best rate when used
SHIPTOZIP	*(Optional)* Ship to postal code (called zip code in the USA). Character length and limitations: 9 numeric characters, provides best rate when used
TAXAMT	*(Optional)* 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). Character length and limitations: 10 currency characters

Vantiv 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.

Vantiv Line Item Parameters

Field	Description
L_QTY*n*	*(Required)* Quantity (whole units only). Character length and limitations: 10 numeric characters
L_COMMCODE*n*	*(Optional)* Item commodity code. Character length and limitations: 12alphanumeric characters
L_DESC*n*	*(Optional)* Item description. Character length and limitations: 35 alphanumeric characters
L_UOM*n*	*(Optional)* Item unit of measure. Character length and limitations: 3 alpha characters
L_COST*n*	*(Optional)* Cost per item, excluding tax. Character length and limitations: 10 currency characters
L_UPC*n*	*(Optional)* Supplier specific product code. Character length and limitations: 12 alphanumeric characters
L_DISCOUNT*n*	*(Optional)* Discount per line item. Character length and limitations: 10 currency characters
L_AMT*n*	*(Optional)* Total line item amount including tax and discount. + for debit, - for credits. Character length and limitations: 10 currency characters
L_TAXAMT*n*	*(Optional)* Line item tax amount. Character length and limitations: 10 currency characters

WorldPay Purchasing Cards Transaction Processing

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

WorldPay Level 2 Parameters

Pass the following WorldPay Level 2 parameters to get the discount rate.

WorldPay Level 2 parameters

Level 2 Parameters	Description
ALTTAXAMT	*(Optional)* Alternate tax amount. Character length and limitations: 8 alphanumeric characters
COMMCODE	*(Optional)* Summary commodity code identifier for the business. Character length and limitations: 4 alphanumeric characters

Level 2 Parameters	Description
COUNTRYCODE	*(Optional)* Country code. Character length and limitations: 3 alphanumeric characters
CUSTDATA	*(Optional)* Generic data the merchant can pass to the WorldPay processor. Character length and limitations: 95 alphanumeric characters
CUSTOMERID	*(Optional)* Purchase order number. Character length and limitations: 95 alphanumeric characters
CUSTOMERNUMBER	*(Optional)* Customer number. Character length and limitations: 95 alphanumeric characters
DISCOUNT	*(Optional)* Discount amount on total sale. Character length and limitations: 10 currency characters
DLNAME	*(Optional)* Account holder's driver license name. Character length and limitations: 95characters
DLNUM	*(Optional)* Account holder's driver license number. Character length and limitations: 95 alphanumeric characters
DOB	*(Optional)* Account holder's date of birth in the format MMDDYYYY. For example, July 28, 2011 is represented as: 07282011 Character length and limitations: 8 characters
DUTYAMT	*(Optional)* Sometimes called import tax. Character length and limitations: 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). 10 currency characters
FREIGHTAMT	*(Optional)* Total freight amount. Character length and limitations: 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). 10 currency characters
INVNUM	*(Optional)* Merchant invoice number for the transaction. Character length and limitations: 95 alphanumeric characters
MERCHANTDESCR	*(Optional)* Description of product. Character length and limitations: 50 alphanumeric characters
MERCHANTINVNUM	*(Optional)* Merchant invoice number. Character length and limitations: 25 alphanumeric characters
MERCHANTVATNUM	*(Optional)* Merchant value added tax number. Character length and limitations: 95 alphanumericcharacters
MERCHANTZIP	*(Optional)* 5- to 9-digit zip (postal) code excluding spaces, dashes, and nonnumeric characters where the transaction took place. If you are a third-party biller (bill for services or goods rendered by another entity), you must enter the postal code that corresponds to the seller's location. Character length and limitations: 15 alphanumeric characters

Level 2 Parameters	Description
MISCDATA	*(Optional)* Miscellaneous data. Character length and limitations: 95 alphanumeric characters
ORDERDATE	*(Required)* Order date. The format is MMDDYY with no slashes or dashes. For example, July 28, 2011 is 072811. Character length and limitations: 6 numeric characters
PONUM	*(Optional)* Purchase order number. Character length and limitations: 25 alphanumeric characters
SHIPTOZIP	*(Optional)* Ship to postal code (called zip code in the USA). Character length and limitations: 9 numeric characters
TAXAMT	*(Optional)* Sales 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). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces. Character length and limitations: numeric
TAXEXEMPT	*(Optional)* Indicates whether the customer is tax exempt. It is one of the following values: • Y – The customer is tax exempt. • N – The customer is not tax exempt (default). Character length and limitations: 1alpha character
VATINVNUM	*(Optional)* Value added tax invoice number. Character length and limitations: 95 alphanumeric characters
VATNUM	*(Optional)* Customer valued added tax number. Character length and limitations: 95 alphanumeric characters
VATTAXAMT	*(Optional)* VAT/tax amount (freight/shipping). Character length and limitations: 12 numeric characters
VATTAXRATE	*(Optional)* VAT/tax rate (freight/shipping). Character length and limitations: 4 numeric characters

WorldPay Level 3 Parameters

Pass the following WorldPay Level 3 parameters to get the discount rate.

WorldPay Level 3 parameters

Level 3 Parameters	Description
L_ALTTAXAMT*n*	*(Optional)* Alternate tax amount for this item. Character length and limitations: 8 numeric characters plus decimal: *XXXX.XX*

Level 3 Parameters	Description
L_ALTTAXRATE*n*	*(Optional)* Alternate tax rate for this item. Character length and limitations: 4 numeric characters plus decimal: *XX.XX*
L_ALTTAXID*n*	*(Optional)* Alternate tax identifier for this item. Character length and limitations: 95 alphanumeric characters
L_EXTAMT*n*	*(Optional)* Extended item amount. Character length and limitations: 8 numeric characters
L_TAXTYPE*n*	*(Optional)* Tax type applied. Character length and limitations: 4 alphanumeric characters
L_COMMCODE*n*	*(Optional)* Item commodity code. Character length and limitations: 35 alphanumeric characters
L_DESC*n*	*(Optional)* Item description. Character length and limitations: 10 currency characters
L_AMT*n*	*(Optional)* Total line item amount including tax. + for debit, - for credits Character length and limitations: 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. 12 numeric characters
L_SKU*n*	*(Optional)* Item's supplier stock keeping unit (SKU) number or product code. Character length and limitations: 8 numeric characters
L_QTY*n*	*(Required)* Quantity (whole units only). Character length and limitations: 10 numeric characters
L_CARRIERSERVICELEVELCODE*n*	*(Optional)* Service code. Character length and limitations: 1 alphanumeric character
L_COST*n*	*(Optional)* Item freight amount. Character length and limitations: 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. 10 currency characters
L_UOM*n*	*(Optional)* Item unit of measure. Character length and limitations: 3 alpha characters
L_TAXAMT*n*	*(Optional)* Item tax amount. Character length and limitations: 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. 12 numeric characters
L_TAXRATE*n*	*(Optional)* Tax rate for this item. Character length and limitations: 4 numeric characters plus decimal:*XXXX*

D Payflow Header Parameters

The Payflow header parameters can be used to bypass Payflow and send a request message directly to PayPal. They can also be used to post transactions directly to the Payflow servers without installing an SDK. This appendix includes the following sections:

- "Sending Requests Directly to PayPal Bypassing Payflow" on page 207
- "Posting Transactions Directly Without the Payflow SDK" on page 208

Sending Requests Directly to PayPal Bypassing Payflow

Payflow will ignore the request parameters you pass and will forward them to PayPal when you declare `PAYPAL-NVP=Y` in the request header. Declaring `PAYPAL-NVP=Y` in the request header is required when passing negative discount amounts to PayPal through Payflow.

Please note that passing `PAYPAL-NVP=Y` in the request header changes the format of the response message you receive from Payflow. For example, if `PAYPAL-NVP=Y` is NOT declared in the header, the Payflow response message is formatted as follows:

```
RESULT=0&RESPMSG=Approved&TOKEN=EC-
868676987J8393917&CORRELATIONID=5f817d830101
```

If the request header `PAYPAL-NVP=Y` is declared, the response returned from Payflow includes bracketed numbers next to the names of the response parameters. These bracketed numbers are length tags indicating the length of the values returned. The following is a response message that contains length tags:

```
RESULT=0&RESPMSG=Approved&TOKEN[20]=EC-
97J718043X120051H&TIMESTAMP[20]=2012-10-
11T15:19:37Z&CORRELATIONID[13]=274f8d4493dbe&ACK[7]=Success&VERSION[
4]=92.0&BUILD[7]=3893058
```

You can also use length tags in the Payflow request message to pass the special characters of "&" and "=" in the values sent. See "Using Special Characters In Values" on page 51 for more information.

Express Checkout for Payflow

For information on using the PayPal Express Checkout API with Payflow, see the Express Checkout for Payflow Pro integration guide.

Posting Transactions Directly Without the Payflow SDK

The Payflow SDK is recommended for .NET and Java users to simplify the Payflow integration. Developers who prefer to write code in other programming languages can go to the PayPal Labs integration wizard web site (https://www.paypal-labs.com/integrationwizard/index.php.). The wizard generates customizable code samples in languages such as PHP.

Developers also have the option to post transactions directly to the Payflow servers using the Payflow message protocol, without the need to install an SDK. This section describes the HTTP headers that are required to post transactions directly to the Payflow servers.

The Payflow Message Protocol

What is the Payflow message protocol and what are its advantages?

PayPal's Payflow message protocol is an HTTP-compatible protocol for transactions. The HTTP-compliant implementation of this protocol has the following goals:

- It enhances flexibility to developers integrating with the Payflow Service. Merchants can use the protocol in either of these ways:
  - Using a Payflow SDK such as .NET or Java that uses this protocol.
  - Integrating this protocol directly into your own client application without using an SDK.
  - It increases reliability through adherence to open standards.
  - Built-in tools to prevent duplicate transactions and authorizations.

- The Payflow message protocol provides the underlying transport for application-level transactions, using either the Payflow name-value pair or XMLPay 2.0 format. All transaction data as documented in this guide is embedded in the body of a standard HTTPS POST and POSTed to the URLs specified.

What is the disadvantage of building your own integration?

Since you are building your own integration, you will need to add your own error handling, retry logic and duplicate transaction handling within your code.

NOTE: If you prefer not to write your own client, you can use the .NET SDK, which can also be used with classic ASP, or the Java SDK if appropriate. See "Payflow SDK" on page 49 for more information about the SDKs.

What code changes are required when migrating from a previous Payflow SDKs to this service?

The Payflow HTTPS service uses the same name-value-pair parameters or XMLPay schema as found in the current SDKs. The the only code change needed is the way you communicate with the Payflow servers. Instead of using an SDK to send the data, you will use the methods

available in your programming language of choice to send the data via HTTPS. For example, if you use PHP, you might choose to use cURL.

Payflow Message Protocol Headers

In addition to the Payflow parameters that you pass in your request, you must set the request headers described in the following table.

Required Payflow Headers

Header Name	Description
X-VPS-REQUEST-ID	(**Required**) A unique identifier for each request, whether the request is a single name-value transaction or an XMLPay 2.0 document with multiple transactions. This identifier is associated with all the transactions in that particular request.
	X-VPS-REQUEST-ID is made up of 1 to 32 printable characters. You must provide the X-VPS-REQUEST-ID value in the transaction request. The server uses the X-VPS-REQUEST-ID to check for duplicate transaction requests. When a transaction request is received, the server checks the requests table to see if the X-VPS-REQUEST-ID has been used before by this merchant.
	If the X-VPS-REQUEST-ID has been used before, the server views it as a retry transaction and the transaction is treated as a duplicate. The response to the original transaction request is returned and "DUPLICATE=1" is appended to the response indicating that this transaction is a duplicate. In Manager, you will see these DUPLICATE transactions with a TENDER type of "N".
	IMPORTANT: If you send in a NEW transaction with a previously used X-VPS-REQUEST-ID, the server ignores the new data and returns the response to the original transaction associated with that X-VPS-REQUEST-ID.
	It is VERY IMPORTANT that you check for DUPLICATE=1 and if you receive it and the transaction is not a re-attempt of the original request of a failed transaction, you must change the Request ID.
	If the X-VPS-REQUEST-ID has not been used before, the server stores the X-VPS-REQUEST-ID to ensure that the X-VPS-REQUEST-ID is not reused and then runs the associated transactions. Duplicate checking is designed for short-term retries (a few minutes to a few hours after the original transaction). The X-VPS-REQUEST-ID is stored for a minimum of 7 to 8 days; however, retries should not be sent so long after the original transaction.
	NOTE: Any transaction with an ID older than 8 days will be treated as a new transaction.
	The X-VPS-REQUEST-ID check is only available if the database is up and available. If for some reason the database is down, transactions (authorizations and sales) will continue to be processed as normal; however, DUPLICATE=-1 (negative one) will be returned to alert you that the database is down and there is no duplicate check being performed.
	NOTE: Buyer Authentication: E-Verify Enrollment, Z-Validate Authentication transactions and PayPal Express Checkout: SetExpressCheckout and GetExpressCheckout transactions do not use duplicate suppression and will not return DUPLICATE=1
X-VPS-CLIENT-TIMEOUT	(**Required**) Time-out value in seconds. A transaction times out if the elapsed time between ending the original transaction request and receiving the transaction response exceeds the value of X-VPS-CLIENT-TIMEOUT. The default value is 45.

Header Name	Description
Connection	State of the connection. The server returns the value `close` to close the connection after the response is sent.
Content-Length	**(Required)** Size of message body.
Content-Type	**(Required)** Provide one of the following values: • text/name value, transaction request body is in name-value pair format. • text/xml, transaction request body is in XMLPay 2.0 format.
Host	**(Required)** Provide one of the two host URLs: • Production: payflowpro.paypal.com • Pilot: pilot-payflowpro.paypal.com

Transaction Message

The transaction message communicates the initial transaction data to the server. It is made up of the transaction request and response.

URLs for Sending Messages

Use the following URLs for sending transactions to PayPal's Payflow Production servers:

Production (Live): https://payflowpro.paypal.com/

Pilot (Test): https://pilot-payflowpro.paypal.com/

Transaction Request

The transaction request consists of a transaction request header and body.

Name-Value Pair Transaction Request Header

```
Content-Type: text/name value
Content-Length: 233
Connection: close
Host: payflowpro.verisign.com
X-VPS-REQUEST-ID: [See Required Payflow Parameters above]
X-VPS-CLIENT-TIMEOUT: 45
X-VPS-VIT-[See Integrator-Provided Data below]
X-VPS-VIT-[See Integrator-Provided Data below]
```

The following is an example of a transaction request header associated with a message in name-value format. For XMLPay, it would follow the same format except the content-type would be text/xml and the body of the request and response would contain the XML document.

Name-Value Pair Transaction Request Body

The transaction request body contains the transaction information. The following is an example transaction request body in name-value pair format.

```
TRXTYPE[1]=S&ACCT[16]=5105105105105100&EXPDATE[4]=0109&TENDER[1]=C&INVNUM[8
]=INV12345&AMT[5]=25.12&PONUM[7]=PO12345&STREET[23]=123 Main
St.&ZIP[5]=12345&USER[6]=jsmith&VENDOR[6]=jsmith&PARTNER[6]=PayPal&PWD[8]=t
esting1
```

NOTE: The bracketed numbers are length tags which allow you to use the special characters of "&" and "=" in the value sent. See "Using Special Characters In Values" on page 51 for more information.

The Request Body should **NOT** be URL-encoded. Pass the data as a standard data and use the length tags if needed.

Transaction Response

The transaction response consists of a transaction response header and body.

Name-Value Pair Transaction Response Header

The following is an example transaction response header associated with a message in name-value format.

```
Connection: close
Server: VPS-3.028.00
Date: Mon, 16 May 2005 22:48:06 GMT
Content-Type: text/name value
Content-Length: 145
X-VPS-REQUEST-ID: [Same ID as sent]
```

Name-Value Pair Transaction Response Body

The transaction response body contains the response to the request. The following is an example response body in name-value format.

```
RESULT=0&PNREF=V53A0A30B542&RESPMSG=Approved&AUTHCODE=882PNI&AVSADDR=X&AVSZ
IP=X&IAVS=X&PREFPSMSG=No Rules Triggered&POSTFPSMSG=No Rules Triggered
```

Integrator-Provided Data

These headers are extensions to the Payflow message protocol. The extension parameters describe the specific version of a client and the client's environment. Send the applicable parameters to PayPal in the transaction request headers.

NOTE: The parameters in this section are not required but it is highly recommended you send them.

Payflow Recommended Headers

Header Name	Description
`X-VPS-VIT-INTEGRATION-PRODUCT`	Identifies the integration product that calls the PayPal server. **Format:** String **Examples:** iPayment, ColdFusion, MIVA, shopping cart **Default Value:** Blank
`X-VPS-VIT-INTEGRATION-VERSION`	Version of the software as defined by the integrator/vendor. Limited to the major version and one digit of the minor version (can include alphanumeric characters, not just digits). **Format:** String \<Major Version>.\<Minor Version> **Examples:** 1.1, 4.5, 10.0, Linux2.1 **Default Value:** Blank
`X-VPS-VIT-OS-NAME`	Name of operating system on which the client is running. **Format:** String **Examples:** Linux, SunOS, Windows 2000, Windows NT, Windows XP, Mac OS X, Free BSD **Default Value:** Blank
`X-VPS-VIT-OS-VERSION`	Version of operating system on which the client is running. **Format:** String XXX.X **Example:** 2.4 **Default Value:** Blank
`X-VPS-VIT-RUNTIME-VERSION`	Version of runtime environment of the language in which the client is written and is running. **Format:** String XXX.XE **Examples:** 10.1, 2.5 **Default Value:** Blank

E VERBOSITY: Processor-Specific Transaction Results

Set the VERBOSITY parameter to HIGH to view the processor's raw response values and additional values. This setting returns multiple parameters. Select only the returned parameters that you want to handle and disregard the rest.

NOTE: VERBOSITY is being deprecated in future Gateway releases.

F ISO Country Codes

The Gateway API uses the International Standards Organization (ISO) 3166-1 numeric country codes in the following fields: `BILLTOCOUNTRY` and `SHIPTOCOUNTRY`. For a complete list of the current officially assigned ISO 3166-1 numeric country codes, refer to: http://en.wikipedia.org/wiki/ISO_3166-1_numeric

NOTE: If PayPal is your acquirer, refer instead to the "Countries and Regions Supported by PayPal" on page 241.

G Codes Used by FDMS South Only

The following codes are used by FDMS South only.

MasterCard Country Codes for FDMS South Only

ALBANIA	ALB
ALGERIA	DZA
AMERICAN SAMOA	ASM
ANDORRA	AND
ANGOLA	AGO
ANGUILLA	AIA
ANTARCTICA	ATA
ANTIGUA	ATG
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

BELIZE	BLZ
BENIN	BEN
BERMUDA	BMU
BHUTAN	BTN
BOLIVIA	BOL
BOSNIA AND HERZEGOVINA	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) ISLANDS	CCK
COLOMBIA	COL
COMOROS	COM
CONGO	GOG
COOK ISLANDS	COK
COSTA RICA	CRI
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 TERRITORIES	ATF
GABON	GAB
GAMBIA	GMB
GEORGIA	GEO
GERMAN DEMOCRATIC REP	DDR
GERMANY	DEU
GHANA	GHA
GIBRALTAR	GIB
GREECE	GRC
GREENLAND	GRL
GRENADA	GRD
GUADALUPE	GLP
GUAM	GUM
GUATEMALA	GTM
GUINEA	GIN

GUINEA-BISSAU	GNB
GUYANA	GUY
HAITI	HTI
HEARD AND MCDONALD ISLANDS	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
LAO PEOPLES DEMOCRATIC	LAO
LATVIA	LVA
LEBANON	LBN
LESOTHO	LSO
LIBERIA	LBR
LIBYAN ARAB JAMAHIRIYA	LBY
LIECHTNSTIEN	LIE
LITHUANIA	LTU
LUXEMBOURG	LUX

MACAU	MAC
MALAYSIA	MYS
MALDIVES	MDV
MALI	MLI
MALTA	MLT
MANACO	MCO
MARSHALL ISLANDS	MHL
MARTINIQUE	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 CALEDONIA	NCL
NEW ZEALAND	NZL
NICARAGUA	NIC
NIGER	NER
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 PRICIPEL	STP
SAUDI ARABIA	SAU
SEYCHELLES	SYC
SIERRA LEONA	SLE
SINGAPORE	SGP
ST. HELENA	SHN
ST. KITTS-NEVIS-ANGUILLA	KNA
ST. LUCIA	LCA
ST. PIERRE AND MIQUELON	SPM
ST. VINCENT AND THE GRENADINES	VCT
SUDAN	SDN
SURINAME	SUR

SVALBARD AND JAN MAYEN ISLANDS	SJM
SWAZILAND	SWZ
SWEDEN	SWE
SWITZERLAND	CHE
SYRIAN ARAB REPUBLIC	SYR
TAIWAN, PROVIDENCE 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 AND CAICOS ISLANDS	TC
TUVALU	TUV
U.S. MINOR OUTLYING ISL.	UMI
UGANDA	UGA
UKRAINE	UKR
UNITED ARAB EMIRATES	ARE
UNITED KINGDOM	GBR
UNITED STATES	USA
URUGUAY	URY
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

ALBANIA	AL
ALGERIA	DZ
AMERICAN SAMOA	AS
ANDORRA	AD
ANGOLA	AO
ANGUILLA	AI
ANTARCTICA	AQ
ANTIGUA	AG
APHGANISTAN	AF
ARGENTINA	AR
ARMENIA	AM
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
BHUTAN	BT
BOLIVIA	BO
BOSNIA AND HERZEGOVINA	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
CHAD	TD
CHILE	CL
CHINA	CN
CHRISTMAS ISLAND	CX
CMEROON, UNITED REP.	CM
COLOMBIA	CO
COMOROS	KM
CONGO	CG
COOK ISLANDS	CK
COSTA RICA	CR
COTED'IVOIRE	CI
CROATIA	HR
CYPRUS	CY

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
ESTONIA	EE
ETHIOPIA	ET
FAEROE ISLANDS	FK
FALKLAND ISLANDS (MALVINAS)	FK
FIJI	FJ
FINLAND	FI
FRANCE	FR
FRENCH GUIANA	GF
FRENCH METROPOLITAN	FX
FRENCH POLYNESIA	PF
FRENCH SOUTHERN TERRITORIES	TF
GABON	GA
GAMBIA	GM
GEORGIA	GE
GERMANY	DE
GHANA	GH
GIBRALTER	GI
GREECE	GR
GREENLAND	GL
GRENADA	GD
GUADALUPE	GP
GUAM	GU

GUATEMALA	GT
GUINEA	GN
GUINEA-BISSAU	GW
GUYANA	GY
HAITI	HT
HEARD AND MCDONALD ISLANDS	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
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
MARTINIQUE	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
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
PORTUGUL	PT
PUERTO RICO	PR
QATAR	QA
REUNION	RE
ROMANIA	RO
RUSSIAN FEDERATION	RU
RWANDA	RW
SAMOA	WS
SAN MARINO	SM
SAN TOME AND PRICIPEL	ST
SAUDI ARABIA	SA
SENEGAL	SN
SEYCHELLES	SC
SIERRA LEONA	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
SURINAME	SR
SVALBARD AND JAN MAYEN IS	SJ
SWAZILAND	SZ
SWEDEN	SE
SWITZERLAND	CH
SYRIAN ARAB REPUBLIC	SY
TAIWAN, PROVIDENCE 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 AND CAICOS ISLANDS	TC
TUVALU	TV
U.S. MINOR OUTLYING ISL.	UM
UGANDA	UG
UKRAINIAN SSR	UA
UNITED ARAB EMIRATES	AE
UNITED KINGDOM	GB
UNITED STATES	US
URUGUAY	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

Acre (4840 yd2)	ACR
Alcoholic strength by mass	ASM
Alcoholic strength by volume	ASV
Ampere*	AMP
Ampere=hour (3,6 kC)*	AMH
Are (100 m2)	ARE
Bar*	BAR
Barrel (petroleum) (158,987 dm3)	BLL
Becquerel*	BQL
Billion EUR	BIL
Billion US	MLD
Board foot	BFT
Brake horse power (245,7 watts)	BHP
British thermal unit (1,055 kilojoules)	BTU

Bushel (35,2391 dm3)	BUA
Bushel (36,36874 dm3)	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 m3)	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
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 dm3)	BLD
Dry gallon (4,404884 dm3)	GLD
Dry pint (0,55061 dm3)	PTD
Dry quart (1,101221 dm3)	QTD
Farad*	FAR
Fluid ounce (28,413 cm3)	OZI
Fluid ounce (29,5735 cm3)	OZA
Foot (0,3048 m)	FOT
Gallon (4,546092 dm3)	GLI
Gigabecquerel*	GBQ
Gigawatt-hour (1 million kW/h)*	GWH
Gill (0,142065 dm3)	GII
Gill (11,8294 cm3)	GIA
Grain GB, US (64,798910 mg)	GRN
Gram of fissile isotopes	GFI
Gram*	GRM
Great gross (12 gross)	GGR
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
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
Kilorgram 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
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
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 dm3)	PTI
Pound GB, US (0,45359237 kg)	LBR
Proof gallon	PGL

Quart (1,136523 dm3)	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
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 m3)	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

H PayPal Acquirer

If PayPal is your acquirer, use the following PayPal specific codes.

Countries and Regions Supported by PayPal

PayPal uses 2-character IS0-3166-1 codes for specifying countries and regions that are supported in fields and variables.

For a complete list of countries and regions supported by PayPal and their 2-character ISO-3166-1 codes, please refer to the PayPal API reference list of Countries and Regions.

PayPal Currency Codes

PayPal uses 3-character ISO-4217 codes for specifying currencies in fields and variables. Please refer to the Currency Codes section of the PayPal API reference for a complete list of currencies supported by PayPal.
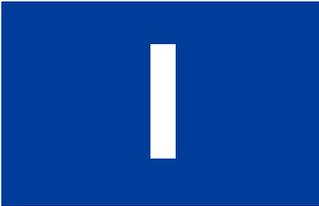
I   Additional Processor Information

Moneris Solutions

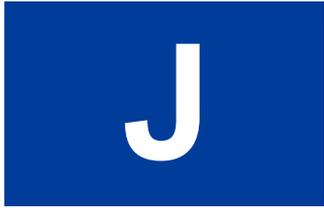The Moneris Solutions processor has the following characteristics:

- 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 PayPal developer website.

J Payflow Link Migration

If you are currently using the legacy Payflow Link HTML input tag integration and you would like to use the name-value pair integration, you will need to contact PayPal Merchant Technical Support to request your account to be upgraded to the new version of Payflow.

Before you request an upgrade, it is important that you understand the differences between the Payflow Link legacy parameters and the equivalent Payflow parameters. Once you upgrade your account to the new version, your old legacy integration will still work. However, to take advantage of the new features we recommend that you update your Payflow Link integration and use equivalent Payflow Gateway parameters instead of the legacy Payflow Link HTML input tags.

Migrating from a legacy Payflow Link Integration

The legacy Payflow Link integration is now deprecated. It is recommended that you upgrade the version of your Payflow Link account which allows you to perform a broader set of functions. This upgrade allows you to switch from using the legacy Payflow Link HTML input tag parameters to using Payflow parameters. The table below lists legacy Payflow Link parameters and their Payflow equivalents.

Payflow Link legacy parameters and the equivalent Payflow parameters

Payflow Link Legacy Parameter	Payflow Parameter
ADDRESS	BILLTOSTREET
ADDRESSTOSHIP	SHIPTOSTREET
AMOUNT	AMT
AVSDATA	AVSADDR and AVSZIP
CARDNUM	ACCT
CITY	BILLTOCITY
CITYTOSHIP	SHIPTOCITY
COUNTRY	BILLTOCOUNTRY
COUNTRYTOSHIP	SHIPTOCOUNTRY
CSC	CVV2
CSCMATCH	CVV2MATCH
DESCRIPTION	N/A
EMAIL	BILLTOEMAIL

Payflow Link Legacy Parameter	Payflow Parameter
EMAILTOSHIP	SHIPTOEMAIL
FAX	BILLTOFAX
FAXTOSHIP	SHIPTOFAX
FIRSTNAME	BILLTOFIRSTNAME
INVOICE	INVNUM
LASTNAME	BILLTOLASTNAME
LOGIN	VENDOR
METHOD	TENDER
NAME	BILLTOFIRSTNAME BILLTOLASTNAME
NAMETOSHIP	SHIPTOFIRSTNAME SHIPTOLASTNAME
PHONE	BILLTOPHONENUM
PHONETOSHIP	SHIPTOPHONENUM
SHIPAMOUNT	FREIGHTAMT
STATE	BILLTOSTATE
STATETOSHIP	SHIPTOSTATE
TAX	TAXAMT
TYPE	TRXTYPE
ZIP	BILLTOZIP
ZIPTOSHIP	SHIPTOZIP

K Payflow Gateway MagTek Parameters

MagTek products for both merchants and consumers provide added security to payment transactions. For merchants, MagTek's MagneSafe card readers encrypt payment card data when the card is swiped. For consumers, MagTek has a subscription based service named Qwick Codes. Consumers can use Qwick Codes instead of their payment card details to purchase goods and services.

NOTE: You must have a MagneSafe card reader or the required Qwick Code information to use the MagTek specific parameters described in this appendix. Please contact MagTek directly for more information.

- MagTek MagneSafe Secure Card Readers and Qwick Codes
- Passing Encrypted Card Swipe Data and Qwick Codes to the Payflow Gateway
- Parameters for Encrypted Card Swipe Transactions
- Parameters for MagTek Qwick Code (PCode) Transactions
- MagTek Error Codes and Messages

MagTek MagneSafe Secure Card Readers and Qwick Codes

MagneSafe Secure Card Reader Authenticators

MagTek's MagneSafe™ secure card readers encrypt payment card track data such as the credit card account number and the expiration date. MagTek's Secure Card Reader Authenticators (SCRAs) capture data with a single swipe and can deliver dynamic card authentication, data encryption, tokenization, and device/host authentication to help protect merchants and their customers from identity theft and card fraud. MagTek's MagneSafe SCRAs can also identify counterfeit cards.

What is MagneSafe?

The MagneSafe Security Architecture (MSA) is MagTek's digital identification and authentication architecture that can safeguard consumers and their personal data. MSA leverages strong encryption, secure tokenization, counterfeit detection, tamper recognition, data relevance and integrity, and dynamic digital transaction signatures to validate and protect the entire transaction.

The devices suported by MagTek's MagneSafe security and Magensa Services are:

- USB MSR: Dynamag.

- Insert MSR for Kiosks, ATMs, etc.: MagneSafe I-65 for Chip Cards and MagStripe, PSeries MagneSafe for outdoors, Slim Seal MagneSafe.

- Mobile Readers: iDynamo for iOS, Bullet for Android, uDynamo for phones and tablets with audio jack port.

- PINPads: IPAD PINPad available as standard model and also with signature capture support.

For more information, go to: http://www.magtek.com/V2/products/secure-card-reader-authenticators/index.asp

MagTek Qwick Codes

MagTek offers a subscription based service to consumers named Qwick Codes. Instead of handing over plastic cards to store clerks or inserting them into unattended terminals like ATMs or gas pumps that may have been rigged with skimmers to steal card data, consumers can scan or type a Qwick Code from their smartphone or computer. The Qwick Code token is used instead to initiate a transaction whereby the merchant or ATM's processor can gather the actual card data on the back end of the transaction where it can be better secured and shielded from potential compromise. Qwick Code tokens are also known as Protection Codes or PCodes.

Passing Encrypted Card Swipe Data and Qwick Codes to the Payflow Gateway

The Payflow Gateway can process transactions for merchants who already have MagneSafe card readers or who accept MagTek Qwick Codes. You must have a MagneSafe card reader or the required Qwick Code information to use the MagTek specific parameters described below. Please contact MagTek directly for more information on obtaining the required card readers and codes.

When you pass MagneSafe encrypted card swipe data or a Qwick Code to the Payflow Gateway, Payflow will communicate directly with MagTek's Magensa servers to retrieve the payment card information. Payflow then passes the transaction data onto your merchant bank.

Supported Transaction Types

Encrypted card swipe or Qwick Code (PCode) requests can be used with the following Payflow transaction types:

- Authorization (`TRXTYPE=A`)

- Credit (`TRXTYPE=C`)

- Delayed Capture (`TRXTYPE=D`)
- Sale (`TRXTYPE=S`)
- Void (`TRXTYPE=V`)

Encrypted Card Swipe Payflow Example

The purpose of this example is to show you how to format a request.You cannot use the values in this example for testing. You must have a MagneSafe card reader and test credit cards or live credit cards to send a request to the Payflow Gateway. Please contact MagTek for more information on obtaining card readers.

Request

This request contains regular Payflow parameters along with **required** MagTek parameters:

```
TRXTYPE=A&TENDER=C&VENDOR=MerchantUserID&PARTNER=PayPal&USER=
UserIDIfAvailOrSameAsVendor&PWD=Pwd4Gateway&VERBOSITY=HIGH&CARDTYPE=
1&SWIPEDECRHOST=MAGT&ENCTRACK2=82C69E600FF72FC1755509A76AD049E896A6E
EA64D9BB2F203DF8AAD78265E90F4F8952A9AC03CFC&AMT=11.00&ENCMP=71AB2EE7
A15887C36B8A23FED1CE7E6404D98119E24D15549E9B69AB6ABFB251C4A607D6A718
B494449B506B7555BF8ED5FA4A9E2A6B814B&KSN=9011400B02AA0E00002B&MPSTAT
US=3162209&ENCRYPTIONBLOCKTYPE=1&REGISTEREDBY=PayPal&MAGTEKCARDTYPE=
1&DEVICESN=B02AA0E12151
```

See the Encrypted Card Swipe Transactions - Request Parameters for more information.

Response

If successful, the response will contain the standard Payflow response parameters for your transaction type:

```
RESULT=0&PNREF=V24A0A55E168&RESPMSG=Approved&AUTHCODE=098PNI00PN&HOS
TCODE=A&VISACARDLEVEL=12
```

If you do not pass the required MagTek parameters, you will see: `RESULT=7` in the response along with a MagTek specific error message, such as: `MAGTRESPONSE=H178-ENCTRACK2` has incorrect format.

See the Encrypted Card Swipe Transactions - Response Parameters for more information.

Qwick Code (PCode) Payflow Example

The purpose of this example is to show you how to format a request.You cannot use the values in this example for testing. You must have a MagTek test Qwick Code or live Qwick Codes to send a request to the Payflow Gateway. Please contact MagTek for more Qwick Code information.

Request

This request contains regular Payflow parameters along with **required** MagTek parameters:

```
TRXTYPE=A&TENDER=C&VENDOR=MerchantUserID&PARTNER=PayPal&USER=UserIDI
fAvailOrSameAsVendor&PWD=Pwd4Gateway&VERBOSITY=HIGH&AMT=18&SWIPEDECR
HOST=MAGT&PCODE=23456789&MERCHANTID=MerchantID123&MERCHANTNAME=Merch
antName&PAN4=1234&BILLTOLASTNAME=Miller&MAGTEKUSERNAME=MagTekUserNam
e&MAGTEKPWD=MagTekPwd&BILLTOEMAIL=jmiller@anyemailprovider.com&BILLT
OZIP=95131&SHIPTOZIP=94089&AUTHVALUE1=1234&AUTHVALUE2=5678&AUTHVALUE
3=9012
```

See the Qwick Code (PCode) Transactions - Request Parameters for more information.

Response

If successful, the response will contain the standard Payflow response parameters for your transaction type:

```
RESULT=0&PNREF=V24A0A55E19C&RESPMSG=Approved&AUTHCODE=474PNI00PN&HOS
TCODE=A&VISACARDLEVEL=12
```

If you do not pass the required MagTek parameters, you will see: `RESULT=7` in the response along with a MagTek specific error message, such as: `MAGTRESPONSE=H364-MERCHANTID has incorrect format`.

See the Qwick Code (PCode) Transactions - Response Parameters for more information.

Parameters for Encrypted Card Swipe Transactions

Encrypted Card Swipe Transactions - Request Parameters

Field	Required	Description	Data Type	Length
ENCMP	Required	Encrypted MagnePrint Information returned by a MagneSafe device when a card is swiped.	String	

Field	Required	Description	Data Type	Length
ENCRYPTIONBLOCK TYPE	Required	The code which indicates what type of Encryption Block is used. 1=MagneSafe V4/V5 compatible 2TDEA-CBC Encryption, IV=0 Block contains data only.2=iPad V1 compatible 2TDEA-CBC Encryption Block contains header + data.	Integer	1
ENCTRACK2	Required	Encrypted Track 2 information returned by a MagneSafe device when a card is swiped.	String	
KSN	Required	20 character string returned by a MagneSafe device when a card is swiped.	String	20 char
MAGTEKCARDTYPE	Required	The code which indicates what type of Card Data Format is being submitted. 1=Encoding Format for Financial Transaction Cards (ISO 7811).	Integer	
MPSTATUS	Required	MagnePrint Status of Card Swipe. This is an alpha numeric string, returned by a MagneSafe device when a card is swiped.		
REGISTEREDBY	Required	An alpha numeric entry between 1 and 20 characters long.	Alphanumeric [a-z][A-Z][0-9]	1 to 20 char

Field	Required	Description	Data Type	Length
SWIPEDECRHOST	Required	MAGT is the only value that is accepted in the SWIPEDECRHOST parameter. If you pass a different value you will see RESULT=7 and MAGTRESPONSE with an error message in the response.		
DEVICESN	Optional	The device serial number.	String	
ENCTRACK1	Optional	Encrypted Track 1 information returned by a MagneSafe device when a card is swiped.	String	
ENCTRACK3	Optional	Encrypted Track 3 information returned by a MagneSafe device when a card is swiped.	String	

Encrypted Card Swipe Transactions - Response Parameters

Field	Description	Data Type	Notes
MAGTRESPONSE	This parameter appears in the response if a data validation error occurs or if the MagTek processor throws an error.	String	See the error codes below for more information.

Parameters for MagTek Qwick Code (PCode) Transactions

Qwick Code (PCode) Transactions - Request Parameters

Field	Required	Description	Data Type	Length
MERCHANTID	Required	Your Merchant ID or the Merchant ID of the merchant redeeming the Protection Code.	String	1 to 40 characters
PAN4	Required	The last 4 digits of the PAN / account number encoded in the card.	String	4 characters
PCODE	Required	The generated Protection Code.	String	8 character alphanumeric
SWIPEDECRHOST	Required	MAGT is the only value currently accepted in the SWIPEDECRHOST parameter. .		
AUTHVALUE1	Optional	Authentication Value 1generated with the PCode.	String	
AUTHVALUE2	Optional	Authentication Value 2 generated with the PCode.	String	
AUTHVALUE3	Optional	Authentication Value 3 generated with the PCode.	String	
BILLTOEMAIL	Optional	Purchaser's email address.	String	
BILLTOLASTNAME	Optional	The last name of the card holder encoded in the card.	String	
BILLT0ZIP	Optional	The billing zipcode.	String	
MAGTEKUSERNAME	Optional	MagTek username.	String	
MAGTEKPWD	Optional	MagTek password.	String	
MERCHANTNAME	Optional			
SHIPTOZIP	Optional	Shipping zipcode.	String	

Qwick Code (PCode) Transactions - Response Parameters

Field	Description	Data Type	Notes
MAGTRESPONSE	This only appears in the response if a data validation error occurs or if the MagTek processor throws an error.	String	See the error codes below for more information.

MagTek Error Codes and Messages

If an error occurs, you will see one of the following error codes in the MAGTRESPONSE response parameter.

Encrypted Card Swipe Transactions - Input Validation Error Codes

Error Message	Notes
H023 - REGISTEREDBY has incorrect length	
H024 - REGISTEREDBY has incorrect format	
H176 - ENCTRACK1 has incorrect format	
H177 - ENCTRACK1 has incorrect length	
H178 - ENCTRACK2 has incorrect format	
H179 - ENCTRACK2 has incorrect length	
H180 - ENCTRACK3 has incorrect format	
H181 - ENCTRACK3 has incorrect length	
H182 - ENCMP has incorrect format	
H183 - ENCMP has incorrect length	
H186 - KSN has incorrect format	
H187 - KSN has incorrect length	
H188 - MPSTATUS has incorrect format	
H189 - MPSTATUS has incorrect length	
H206 - Invalid CARDTYPE	Invalid MAGTEKCARDTYPE
H211 - Invalid ENCRYPTIONBLOCKTYPE	
H219 - Invalid OUTPUTFORMATCODE	
H251 - Invalid DEVICESN	

Encrypted Card Swipe Transactions - Other Error Codes

Error Message	Notes
Y001 - No PAN Found in Track2 Data	
Y003 - Device is not allowed	MagTek maintains a list of registered Devices.
Y093 - Invalid MagnePrint	Error obtained while Scoring Transaction MagnePrint against a Reference MagnePrint made up of Zeros.
Y094 - Invalid MagnePrint	"Negative 2 - Invalid Transaction CRC / PAN" Obtained when Scoring Transaction MagnePrint against a Reference MagnePrint Made up of Zeros.
Y095 - Error Scoring Card	
Y096 - Inactive MagnePrint Reference	This occurs whenever the Card has an inactive MagnePrint Reference.
Y097 - Replay Prevented	This occurs when the DUKPT KSN and Counter is replayed.
Y098 - Problem with Reader Data	This occurs if there is a problem while decrypting the Data..

Qwick Code (PCode) Transactions - Input Validation Error Codes

Error Message	Notes
H330 - PCODE has incorrect length	
H331 - PCODE has incorrect format	
H336 - EMAIL has incorrect format	BILLTOEMAIL has incorrect format
H337 - EMAIL has incorrect length	BILLTOEMAIL has incorrect length
H348 - BTZIP has incorrect format	BILLTOZIP has incorrect format
H349 - BTZIP has incorrect length	BILLTOZIP has incorrect length
H360 - STZIP has incorrect format	SHIPTOZIP has incorrect format
H361 - STZIP has incorrect length	SHIPTOZIP has incorrect length
H364 - MERCHANTID has incorrect format	
H365 - MERCHANTID has incorrect length	
H366 - Invalid LASTNAME	Invalid BILLTOLASTNAME
H375 - PAN4 has incorrect length	
H376 - PAN4 has incorrect format	
H380 - Invalid AUTHVALUE1	

Error Message	Notes
H381 - Invalid `AUTHVALUE2`	
H382 - Invalid `AUTHVALUE3`	
H383 - Invalid `MERCHANTNAME`	
H384 - Invalid `USERNAME`	Invalid `MAGTEKUSERNAME`
H385 - Invalid `PASSWORD`	Invalid `MAGTEKPWD`

Qwick Code (PCode) Transactions - Other Error Codes

Error Message	Notes
P021 - Invalid Protection Code - Not Found.	
P022 - Revoked Protection Code.	This Protection Code has already been revoked.
P028 - Expired Protection Code.	
P031 - Last 4 of `PAN` mismatch.	
P032 - `LASTNAME` mismatch.	`BILLTOLASTNAME` mismatch.
P033 - `MERCHANTID` is locked.	
P034 - Protection Code can no longer be Redeemed.	
P035 - `USERNAME` mismatch.	`MAGTEKUSERNAME` given does not match the one stored.
P036 - `PASSWORD` mismatch.	`MAGTEKPWD` given does not match the one stored.
P037 - `EMAIL` mismatch.	`BILLTOEMAIL` given does not match the one stored.
P038 - `BTZIP` mismatch.	`BILLTOZIP` given does not match the one stored.
P039 - `STZIP` mismatch.	`SHIPTOZIP` given does not match the one stored.
P040 - `AUTHVALUE1` mismatch.	`AUTHVALUE1` given does not match the one stored.
P041 - `AUTHVALUE2` mismatch.	`AUTHVALUE2` given does not match the one stored.
P042 - `AUTHVALUE3` mismatch.	`AUTHVALUE3` given does not match the one stored.
P098 - Problem with Reader Data	This occurs if there is a problem while decrypting the Data.