# PayPal™

Order Management Integration Guide

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PayPal Order Management Integration Guide

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P Preface

This Document

This document describes the PayPal features for managing orders, such as Payment Data Transfer (PDT), Instant Payment Notification (IPN), and Downloadable History Log.

This document is written for merchants who use PayPal to manage order information.

Revision History

TABLE P.1 Revision History

Date	Description
March 2008	Corrected the procedure for checking the postback response from PayPal when performing notification validation of IPNs. See "Using Postbacks for Validation" on page 28.
January 2008	Added information on how to search for contribution payments in transaction history and what values the Type column in downloadable history logs carries for donation activity. See Chapter 4, "Transaction History and Reporting Tools."
September 2007	Replaced the old PayPal logo in screen shots with the new PayPal logo
August 2007	Added shipping_method to Appendix A, "IPN and PDT Variables". See the table of variables for "Website Payments Standard, Website Payments Pro, and Refund Information" on page 55.
July 2007	Minor bug fixing.
April 2007	Added contact_phone to IPN variables. Added pointer to PayPal Business Overview page.
October 2006	Details about the Downloadable Dispute Report. Minor additions and corrections to some variables in Appendix A.
July 2006	Minor correction to values of payment_status IPN variable.
May 2006	Description of the programmatically retrievable Dispute Report. Additional IPN variable values for txn_type: merch-pmt for the Website Payments Pro monthly fee and adjustment for a resolved dispute requiring a chargeback.

1 Introduction

PayPal offers four payment notification methods for back-end integration:

- Email
- Reporting
- Instant Payment Notification (IPN)
- Payment Data Transfer (PDT)

Email

You will receive an email notification when:

- you receive a payment (including captured payment for funds that were authorized)
- a buyer makes an order
- you refund a buyer

If you do not want to receive payment notifications via email:

1. Log-in to PayPal

2. Click the **Profile** tab.

3. Click the **Notifications** link in the **Account Information** column.

4. Find the **Payment Notifications** heading and clear the **Receive PayPal Website Payments and Instant Purchase** checkbox.

5. Click the **Save** button.

Reporting

PayPal's Reporting Tools provide you with the information you need to effectively measure and manage your business. With PayPal's Reporting Tools, you can:

- Analyze your revenue sources to better understand your customers' buying behavior
- Automate time-consuming bookkeeping tasks
- Accurately settle and reconcile transactions

Available reports:

- **Monthly Account Statements:** View a summary of all credits and debits that have affected your account balance each month.

- **Merchant Sales Reports:** Every week, receive valuable analysis of revenue by sales channel and currency.

- **History Log:** View an online record of your received and sent payments.

- **Downloadable Logs:** Keep track of your transaction history by downloading it into various file formats (suitable for financial settlements).

For more information about PayPal's reports, see http://www.paypal.com/cgi-bin/webscr?cmd=p/xcl/rec/reports-intro-outside.

Differences between Payment Data Transfer (PDT) and Instant Payment Notification (IPN)

PDT's primary function is to display payment transaction details to buyers when they are automatically redirected back to your site upon payment completion; however, there are cases where you will not receive notification of all transactions, such as with pending transactions, refunds, and reversals. For these reasons, or if you are using this data to fulfill orders, PayPal strongly recommends that you also enable Instant Payment Notification (IPN).

Both IPN and PDT send back the same data; however, there are several important differences.

PDT:

- Is available only to merchants who integrate PayPal with their websites by using Website Payments Standard.

- Requires Auto Return to be enabled.

- Auto Return will include an ID that can be used to query PayPal for the complete transaction details.

- It is possible to miss a notification if the user closes the browser before the redirection is complete.

IPN:

- Does not require Auto Return to be enabled.

- At the end of the website payment flow, PayPal POSTs the IPN data asynchronously (i.e. not as part of the website payment flow).

- IPNs will also POST for eCheck clearings, reversals, and refunds.

SSL Not Required for IPN

Because credit card and bank information is not transmitted in Instant Payment Notification (IPN), PayPal does not require Secure Sockets Layer (SSL) to encrypt IPN transmissions.

PayPal-Supported Transactional Currencies

The following currencies are supported by PayPal for use in transactions and currency balances:

TABLE 1.1 PayPal-Supported Currencies and Currency Codes

Currency	ISO-4217 Code
Australian Dollar	AUD
Canadian Dollar	CAD
Czech Koruna	CZK
Danish Krone	DKK
Euro	EUR
Hong Kong Dollar	HKD
Hungarian Forint	HUF
Israeli New Sheqel	ILS
Japanese Yen	JPY
Mexican Peso	MXN
Norwegian Krone	NOK
New Zealand Dollar	NZD
Polish Zloty	PLN
Pound Sterling	GBP
Singapore Dollar	SGD
Swedish Krona	SEK
Swiss Franc	CHF
U.S. Dollar	USD

2 Payment Data Transfer (PDT)

Merchants who use Website Payments Standard can use Payment Data Transfer (PDT) to display transaction details to buyers who are redirected back to the merchants' websites after they complete their payments.

NOTE: You must enable Auto Return for Website Payments Standard to use Payment Data Transfer. Auto Return applies to PayPal Website Payments Standard, including Buy Now, Donation, Subscriptions, Shopping Cart, and Gift Certficate buttons. For more information about Auto Return, see the *PayPal Website Payments Standard Integration Guide*.

How PDT Works

Bob is going to purchase a widget from the Widget Warehouse.

Step 1: Bob goes to the Widget Warehouse website, finds the widget he wants, and clicks the **Buy Now** button.

Step 2: Bob is taken to a PayPal **Payment Details** page which displays the details of the payment he is about to make.

Step 3: Bob enters his PayPal account information into the PayPal Login fields.

Step 4: Bob is then taken to a confirmation page that displays the details of his selection, information about how his automatic payments will be funded, and his shipping information. He clicks the **Pay** button to complete the payment.

Step 5: A payment confirmation page appears that informs Bob that his payment has been completed and that he is being redirected back to the Widget Warehouse website.

Step 6: A transaction token is passed to the return URL provided by the Widget Warehouse. The Widget Warehouse fetches the transaction token and retrieves the transaction details from PayPal via an HTTP POST. Included in the HTTP post is the identity token that was given to the Widget Warehouse when PDT was enabled.

For more information about the PDT identity token, see "Getting and Using the Identity Token" on page 18. For more information about the HTTP POST, see "PDT Notification Synch" on page 19.

Step 7: The Widget Warehouse's Thank You page appears and displays the transaction information, again informing Bob that his transaction has been completed and a receipt for the purchase has been sent to him by email. The page also displays payment details, a link to PayPal that Bob can use to view more transaction details if necessary, as well as links that he can use to continue shopping.

For example, as shown in the following diagram: Thank you for your payment. Your transaction has been completed, and a receipt for your purchase has been emailed to you. You may log into your account at www.paypal.com to view details of this transaction.

Step 8: Bob receives an email receipt for this transaction, confirming his purchase and including a copy of the payment details, the Widget Warehouse's business information, and his confirmed shipping address.
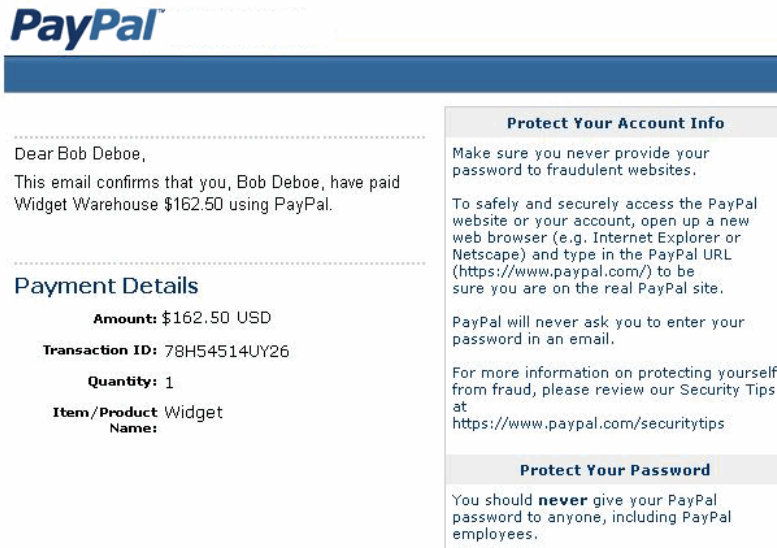
Enabling Payment Data Transfer

You can enable PDT from your account profile, and you can enable PDT when you use a button creation tool on the PayPal website to create payment buttons for Website Payments Standard.

For more information about enabling PDT from a button creation tool, see the *Website Payments Standard Integration Guide*.

To enable PD from your account profile:

1. Click the **My Account** tab.

2. Click the **Profile** subtab.

3. Click the **Website Payment Preferences** link, as shown in the following snapshot.
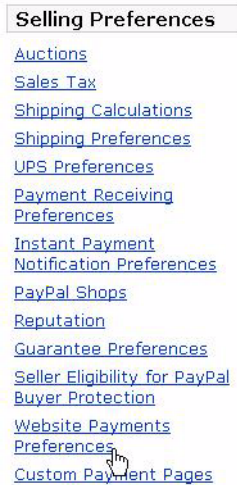
The **Website Payment Preferences** page opens.

4. Click the Payment Data Transfer **On** radio button, as shown in the following diagram.

You *must* enable Auto Return in order to use Payment Data Transfer. Auto Return can also be enabled from the **Website Payment Preferences** page.

5. Click the **Save** button.

Getting and Using the Identity Token

When you click the **Save** button and save your PDT preferences, a message appears at the top of the page indicating that you have successfully saved your preferences. Your identity token also appears in this message.

You will need to pass this identity token, along with the transaction token, to PayPal in order to receive information that confirms that a payment is complete.

For security, the identity token is not sent to you; however, once you have enabled PDT, it permanently appears below the Payment Data Transfer On/Off radio buttons on the **Website Payments Preferences** page.

PDT and PayPal Account Optional

The PayPal Account Optional does not require your customers who are new to PayPal to create a PayPal account to complete a purchase—they go through an alternate checkout and have the option to sign up afterward. Customers who already have PayPal accounts will continue to enjoy the privileges of those accounts, such as payment history and integration with eBay Auctions, and their checkout experience will remain the same.

This PayPal Account Optional feature is available for Buy Now, Donations, and Shopping Cart buttons, but not for Subscription buttons.

PayPal Account Optional is enabled by default. If the merchant has turned on Payment Data Transfer and has not disabled PayPal Account Optional, a new user will not be automatically directed back to the merchant website, but will be given the option to return. When the buyer clicks the **Continue** button, the transaction ID associated with the transaction is sent. The merchant returns the transaction ID, along with their identity token, and PayPal then sends the merchant payment information that confirms that the payment is complete. The buyer is directed back to the merchant site where the transaction information is displayed. However, if the buyer does *not* click the **Continue** button, they will not be directed back to the merchant's site and PDT will not be initiated.

PDT Notification Synch

After you have activated PDT, every time a buyer makes a website payment and is redirected to your return URL, a transaction token is sent via a FORM GET variable to this return URL.

To properly use PDT and display transaction details to your customer, you should read the transaction token from the variable `tx` and retrieve transaction details from PayPal by constructing an HTTPS POST to PayPal. This is called *notification synch* or synchronization.

Constructing the POST

Here are the guidelines for constructing the PDT HTTPS POST to PayPal for notification synch:

1. Your POST must be sent to https://www.paypal.com/cgi-bin/webscr.

2. You must include the cmd variable with the value `_notify-synch`:

   cmd=_notify-synch

3. You must include the transaction token in the variable `tx` and the value of the transaction token received via PayPal's GET:

   tx=*value_of_transaction_token*

4. You must post your identity token using the variable at and the value of your PDT identity token:

   at=*your_identity_token*

For information about the identity token, see "Getting and Using the Identity Token" on page 18.

PayPal Response to POST

PayPal responds to the post with a single word on one line in the body of the response: `SUCCESS` or `FAIL`. When you receive a `SUCCESS` response, the rest of the body of the response is the transaction details, one per line, in the format *key*=*value* where *key* and *value* are both be URL-encoded strings. This response data needs to be parsed appropriately and then URL-decoded.

Example successful response:

```
SUCCESS
first_name=Jane+Doe
last_name=Smith
payment_status=Completed
payer_email=janedoesmith%40hotmail.com
payment_gross=3.99
mc_currency=USD
custom=For+the+purchase+of+the+rare+book+Green+Eggs+%26+Ham
...
```

If the response is FAIL, PayPal recommends making sure that:

- The Transaction token is not bad.
- The ID token is not bad.
- The tokens have not expired.

PDT and Auto Return: Messaging to Buyer

With Auto Return, you must display a message on the page displayed by the Return URL that helps the buyer understand that the payment has been made, that the transaction has been completed, and that payment transaction details will be sent to the buyer by email. You can display to your customer whatever payment details you feel are appropriate; however, PayPal recommends including the following:

● Item name

● Amount paid

● Payer email

● Shipping address

If you are using PDT to determine when to fulfill an order automatically, confirm that the `payment_status` is **Completed**, since the buyer could use methods such as eChecks that do not immediately clear.

For a list of PDT variables, see Appendix A, "IPN and PDT Variables."

Preventing Fraud

In order to prevent fraud, PayPal recommends that your programs verify the following:

● `txn_id` is not a duplicate to prevent someone from reusing an old, completed transaction.

● `receiver_email` is an email address registered in your PayPal account, to prevent the payment from being sent to a fraudulent account.

● Other transaction details, such as the item number and price, to confirm that the price has not been changed.

Sample Code for PDT

Sample code for the following development environments is available on the PayPal website at https://www.paypal.com/us/cgi-bin/webscr?cmd=p/xcl/rec/pdt-code.

● ASP/VBScript

● ColdFusion

● PERL

● PHP

3 Instant Payment Notification (IPN)

Instant Payment Notification (IPN) allows you to integrate PayPal payments with your website's back-end operations. IPN provides immediate notification and confirmation of PayPal payments you receive.

This chapter details IPN in the following sections:

About IPN

Instant Payment Notification consists of three parts:

1. A customer pays you.

2. PayPal `POSTs` `FORM` variables to a URL you specify that runs a program to process the variables.

3. You validate the notification.

FIGURE *3.1 How IPN Works: Three General Steps*
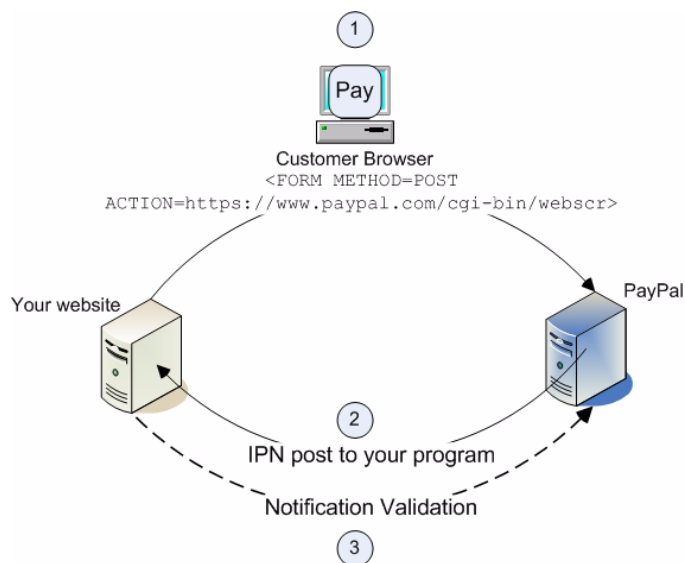
1. A customer payment or a refund triggers IPN. This payment can be via Website Payments Standard FORMs or via the PayPal Web Services APIs for Express Checkout, MassPay, or RefundTransaction. If the payment has a "Pending" status, you receive another IPN when the payment clears, fails, or is denied.

2. PayPal posts HTML FORM variables to a program at a URL you specify. You can specify this URL either in your Profile or with the notify_url variable on each transaction. This post is the heart of IPN. Included in the notification is the customer's payment information (such as customer name, payment amount). All possible variables in IPN posts are detailed in the *Order Management Integration Guide*this guide. When your server receives a notification, it must process the incoming data.

3. Your server must then validate the notification to ensure that it is legitimate. For details, see the *Order Management Integration Guide*.

Setting Up IPN

Follow these procedures to set up IPN:

● "Activating IPN for Your PayPal Account" on page 25

● "Setting Up an IPN-Processing Program" on page 26

[WRITER] Need to indicate that the merchant must have a Premiere or Business account before they can activate IPN. Merchants with Personal accounts must upgrade to Premiere or Business accounts first.

Activating IPN for Your PayPal Account

You can activate IPN for your PayPal account through your account profile. Separately, you can activate IPN for specific payments by including a notification URL in the programming code that your website sends to PayPal when people pay you.

Activating IPN Through Your Account Profile

When you activate IPN through your account profile, the notification URL that you specify is used for all your IPNs, You can override the value on specific payment transactions by including notification URLs in the programming code that your website sends to PayPal when people pay you.

To activate IPN through your account profile:

1. Log in to your Business or Premier account.

2. Click the **Profile** subtab.

3. In the **Selling Preferences** column, click the **Instant Payment Notification Preferences** link.

4. Click the **Edit** button.

5. Select the checkbox to activate IPN.

6. In the **Notification URL** text box, enter the URL of the program that will receive and process IPNs

7. Click the **Save** button.

Activating IPN by Including the Notification URL in Programming Code

You can activate IPN for specific payments by including a notification URL in the programming code that your website sends to PayPal when people pay you. PayPal sends only IPNs related to payments that result from the code. PayPal sends them to the URL that you specified in the code.

For example, if you accept payments from different websites through one PayPal account, you could include different notification URLs in your programming code to let each website receive IPNs only for its own payments.

NOTE: Notifcation URLs that you include in programming code override the notification URL that you may have set in your account profile.

To learn how to include notification URLs in programming code:

● See the *Name-Value Pair API Developer Guide and Reference*

– **or** –

● See the *Website Payments Standard Integration Guide*

Setting Up an IPN-Processing Program

The data sent to you by IPN comes as HTML FORM name/value pairs.

Sample code for the following development environments is available on the PayPal website at http://www.paypal.com/us/cgi-bin/webscr?cmd=p/pdn/ipn-codesamples-pop-outside:

- ASP.Net/C#
- ASP/VBScript
- ColdFusion
- Java/JSP
- Perl
- PHP

Using IPN Notification Validation to Help Prevent Fraud

After your server receives an Instant Payment Notification, you must confirm that the notification is authentic. This is known as *notification validation*. Performing notification validation for all the IPNs that you receive helps you and PayPal prevent the kind of fraud that results from spoofing, or "man-in-the-middle" attacks.

IMPORTANT: If you do not use Encrypted Website Payments (EWP) or shared secret validation, you must check the price, transaction ID, PayPal receiver email address and other data sent to you by IPN to ensure that they are correct. By examining this data, you can avoid being spoofed.

PayPal offers two methods for notification validation:

- Use shared secrets.

  PayPal recommends this method because it ensures the validity of the data and decreases network traffic to and from your website. Use shared secrets for validation if:
  - You are *not* using a shared website hosting service.
  - You have enabled SSL on your web server.
  - You are using Encrypted Website Payments.
  - You use the `notify_url` variable on each individual payment transaction.

  For more information, see "Using Shared Secrets for Validation" on page 27.

- Send a postback to PayPal.

  Use postbacks for validation if:
  - You rely on a shared website hosting service
  - You do not have SSL enabled on your web server

   For more information, see "Using Postbacks for Validation" on page 28.

Using Shared Secrets for Validation

You can use shared secrets for IPN notification validation by including them in the programming code that your website sends to PayPal when people pay you. As an alternative, can set a shared secret in your account profile.

When your IPN-processing program receives an IPN, it must compare that the shared secret in the post from PayPal matches the shared secret that you expect for notifications about that payment. If the secret posted by PayPal does not match the secret that you expect, flag the IPN for further investigation.

Including Shared Secrets in Programming Code

If you use shared secrets for IPN notification validation, PayPal recommends that you include shared secrets in all the programming code that your website sends to PayPal when people pay you. Add a shared secret variable and value to the value of the notification URL that you include in your programming code.

Use the following format to specify a shared secret as part of a notification URL in your programming code:

yourIPNnotificationURL?*shared_secret_variable_name*=*shared_secret_value*

where:

yourIPNNotificationURL is the URL where you receive IPNs.

shared_secret_variable_name is any variable name that you want.

shared_secret_value is the shared secret itself.

For example, the value of the notification URL variable might look like this:

```
https%3A//www.mysite.com/PP-IPN-Validate.cfm?secret=shhhhhh
```

NOTE: When you include a shared secret in programming code, the secret is included in IPNs that are related to payments that result from the code, overriding the shared secret that you may have set in your account profile.

Setting a Shared Secret in Your Account Profile

If you want to use the same shared secret for notification verification of all IPNs, you can set the secret in your account profile. PayPal includes the secret you set in all IPNs, except for payments that result from programming code in which you include shared secrets with the notification URL variable.

To set a shared secret in your account profile:

1. Log in to your Business or Premier account.

2. Click the **Profile** subtab.

3. In the **Selling Preferences** column, click the **Instant Payment Notification Preferences** link.

[WRITER: investigating how you do the above procedure. There isn't a place in the linked page above that lets you enter a shared secret.

Security Considerations with Shared Secrets for Validation

To ensure the security of the shared secrets in HTML button code that you send to PayPal, use Encrypted Website Payments (EWP). For more information about EWP, see the *Website Payments Standard Integration Guide*.

Shared secrets posted to you by PayPal through IPN are not encrypted; they are in clear text for easier processing. Therefore, the shared secrets are recorded in the clear in the access logs of your web server. Be sure to practice proper security for these logs. If you use a web server hosting service, ensure that your provider practices proper security of your data.

Using Postbacks for Validation

If you cannot use shared secrets for notification validation, you can use postbacks to PayPal, instead. Your postback must include exactly the same variables and values that you receive in the IPN posted to your server by PayPal, and they must be in the same order.

Constructing Your Postback

Use these guidelines for constructing your postback to PayPal:.

1. Your postback must be sent to https://www.paypal.com/cgi-bin/webscr.

    NOTE: You can implement IPN without SSL, including your postbacks for validation, but PayPal recommends against doing so.

2. Your postback must include the variable `cmd` with the value `_notify-validate`:

    `cmd=_notify-validate`

3. Your postback must include exactly the same variables and values that you receive in the IPN from PayPal, and they must be in the same order.

Processing the PayPal Response to Your Postback

PayPal responds to your postbacks with a single word in the body of the response: `VERIFIED` or `INVALID`.

When you receive a `VERIFIED` postback response, perform the following checks on data in the IPN:

1. Check that the `payment_status` is **Completed**.

2. If the `payment_status` is **Completed**, check the `txn_id` against the previous PayPal transaction that you processed to ensure it is not a duplicate.

3. Check that the `receiver_email` is an email address registered in your PayPal account.

4. Check that the price, carried in `mc_gross`, and the currency, carried in `mc_currency`, are correct for the item, carried in `item_name` or `item_number`.

After you complete the above checks, notification validation is complete. You can update your database with the information provided, and you can initiate other appropriate automated back-end processing.

Handling Invalid Responses to Your Postback

When you receive an `INVALID` postback response, you should investigate. In some cases, these responses result from an IPN error, possibly from a change in the IPN format.

To determine if an `INVALID` response results from an IPN error, first examine your code. Your postback must include exactly the same variables and values that you receive in the IPN posted to your server by PayPal, and they must be in the same order.

Using IPN with Multiple Currencies

With multiple currencies, you can accept payments in any of the PayPal-supported currencies (see "PayPal-Supported Transactional Currencies" on page 11). As a result, your IPN notifications will then include information about the currency of the payment. The following overview explains how IPN interacts with multiple currencies.

NOTE: If you are using one of PayPal's Website Payments solutions (e.g. PayPal Shopping Cart), and would like to be paid in a currency other than U.S. Dollars, you will need to set up your buttons for your currency of choice.

payment_gross and payment_fee

These variables reflect the amount received and corresponding fee of U.S. Dollar (USD) payments. If the amount received and fee deducted are in a currency other than USD, the variables will still appear in your IPN, but will have no values in them.

NOTE: `payment_fee` is not always present in IPNs, such as when a payment is pending.

These values are absent for non-USD payments so that IPN scripts will not process these amounts as USD. However, legacy IPN scripts will continue to work as before as long as the merchant only receives USD payments.

Examples of Multi-currency IPN Variables

IPN notifications that use the `payment_gross` variable will have the following multi-currency variables added. The variables `mc_gross` and `mc_fee` will not be added to IPN notifications with `txn_type`: `subscr_signup`, `subscr_cancel`, `subscr_modify`, `subscr_failed`, or `subscr_eot`.

- `mc_gross`: Full amount of payment received, before transaction fee.

  NOTE: If payment is in USD, the `payment_gross` value equals `mc_gross`.

- `mc_fee`: Transaction fee associated with the payment. Variable function like `payment_fee` variable (variable does not appear when payment pending, and so on).

  NOTE: If payment is in USD, the `payment_fee` value equals `mc_fee`.

- `mc_currency`: Currency of `mc_gross`, `mc_fee`, `payment_gross`, and `payment_fee` amounts. Possible values are detailed in "" on page 10.
- For subscription IPN notifications, such as signup, cancel, modify, failed, and eot, `mc_currency` is the currency of the subscription, rather than the currency of the payment.

Example 1

If a user with a USD balance receives a $100 USD payment, the following variables will be used for the payment:

- `mc_gross` = `payment_gross`
- `mc_fee` = `payment_fee`

EXAMPLE 3.1 Multi-currency IPN: USD Payment

```
payment_status = Completed
payment_gross = 100
payment_fee = 3.00
mc_gross = 100
mc_fee = 3.00
mc_currency = USD
```

Example 2

f a user with a CAD balance receives a $100 CAD payment, the following variables will be used for the payment:

- `mc_gross` and `mc_fee` have values.
- `payment_gross` and `payment_fee` are blank.

EXAMPLE 3.2 Multi-currency IPN: CAD Payment

```
payment_status = Completed
payment_gross =
payment_fee =
mc_gross = 100
mc_fee = 3.00
mc_currency = CAD
```

Example 3

If the account is set to automatically convert payments, these variables will be used to show the conversion. This example is for a user with a USD balance who receives a payment of 100 GBP:

EXAMPLE 3.3 Multiple-currency IPN: Automatic Conversion of GBP Payment

```
payment_status = Completed
payment_gross =
payment_fee =
mc_gross = 100
mc_fee = 3.00
mc_currency = GBP
```

```
settle_amount = 145.5
settle_currency = USD
exchange_rate = 1.5
```

Example 4

If a payment received is pending due to pending_reason = multi_currency, the first IPN received would not have the `settle_amount`, `settle_currency`, or `exchange_rate`.

EXAMPLE 3.4 *Multiple-currency IPN: Pending Payment*

```
payment_status = Pending
pending_reason = multi_currency
payment_gross =
mc_gross = 100
mc_currency = GBP
```

The second IPN contains information about settling the payment. If the payment is accepted into the account's primary currency, which is USD in the following example:

EXAMPLE 3.5 *Pending - Convert to Primary Currency*

```
payment_status = Completed
payment_gross =
payment_fee =
mc_gross = 100
mc_fee = 3.00
mc_currency = GBP
settle_amount = 145.5
settle_currency = USD
exchange_rate = 1.5
```

If the payment is accepted into a balance of the same currency:

EXAMPLE 3.6 *Pending - Accept to Currency Balance*

```
payment_status = Completed
payment_gross =
payment_fee =
mc_gross = 100
mc_fee = 3.00
mc_currency = GBP
```

If the payment is denied:

EXAMPLE 3.7 *Pending - Denied*

```
payment_status = Denied
payment_gross =
mc_gross = 100
mc_currency = GBP
```

> **NOTE:** If a user receives a payment into a currency balance and later converts this amount into another currency balance, the corresponding currency conversion transaction has no IPN.

Dispute Notification and Downloadable Dispute Report

[WRITER] The chapter on transaction history and reporting reporting tools has a topic on Dispute Reports and DDR, which duplicates a lot of content found. Neither topic is specific to IPN, and they seems more appropriate to the reporting chapter. Straigthen this out when migrating the Order Management Guide into the Merchant Admin guide.

Buyers can register claims about payments; such claims are called *cases.* PayPal notifies merchants about new cases with email and with IPN.

There are two kinds of cases:

● Complaint: A buyer has used the PayPal Resolution Center to register a claim about a payment to a merchant.

> **NOTE:** After notification about a complaint claim, merchants must log in to PayPal to use the Resolution Center to respond to the case.

● Chargeback: A buyer has filed a complaint with a credit card company that has resulted in a chargeback. The credit card company notifies PayPal about the reason for the chargeback. After investigating the case, PayPal notifies the merchant of any action required.

The IPN messages for chargebacks resulting from a complaint are asynchronous: the IPN message for the chargeback can be sent to the merchant before the IPN message relating to the complaint. You should compare the IPN variable parent_txn_id of all IPN messages to match the chargeback with the complaint.

IPN variables for cases include the type of case, the reason, and other information about the case. For details about all variables and their possible values, see "Dispute Notification Variables" on page 68.

Downloadable Dispute Report

The Downloadable Dispute Report provides details about newly created disputes and changes in the status of cases already in mid-process. The report is designed for the merchant that processes payment volumes better handled by programmatic interfaces. Thus, while the report resembles the Dispute Report available via the Resolution Center on the PayPal site, the downloadable is different in that it contains all open records (records cannot be filtered) and the invoice ID, which can use to track dispute cases based on your transaction identifiers.

The report is generated every day based on activity for the previous day. Days in which no activity occurred create an empty report. Reports are available for seven days, after which the report is no longer available

The report contains information about all chargebacks and buyer complaints for your account. This report does not contain information about ACH returns of PayPal-unauthorized complaints.

First Report

When you are first signed up for the DDR, the report contains:

1. All open Chargebacks, regardless of the date the case was created or the current status of the case

2. All open Buyer Complaints, regardless of the date the case was created or the current status of the case

Use this report as a starting point against which you will compare all future reports. If you want this "first report" re-run, contact your PayPal Account Manager and ask them to generate a "first day" DDR report.

Subsequent Daily Reports

Reports generated every day following the First DDR report contain information about dispute activity for your account in the past 24 hours or since the last report was generated, including the following:

- New cases
- Changed cases, including cases that are closed

Setup

To use the report you must:

1. Create a unique user with PayPal's Multi-User Access feature for downloading reports

   – Login to your PayPal account.
   – Click the Profile subtab.
   – Under the Account Information column, click Multi-User Access.
   – Click Add.
   – On the Multi-User Access page, enter the requested information into the fields provided.
   – Click the checkboxes next to each permission you want the alias to have.
   – Click Save.

2. Contact your PayPal Account Manager to sign you up for the report.

3. Write a script to download the report from PayPal.

Scripts

You can automate which details you want to be prioritized in your dispute reports by assigning values shown in the sample HTML below. You can set the values for day, month, and year. The uname value is the alias you created with the Multi-User Access feature.

```
<FORM ACTION="https://www.paypal.com/us/DISPUTE-REPORT-SCHED-LOGIN"
METHOD="post">
<INPUT TYPE="hidden" NAME="day" VALUE="16">
```

```
<INPUT TYPE="hidden" NAME="month" VALUE="09">
<INPUT TYPE="hidden" NAME="year" VALUE="2006"
<INPUT TYPE="hidden" NAME="uname" VALUE="yourAliasUsername">
<INPUT TYPE="hidden" NAME="pword" VALUE="yourAliasPassword">
<INPUT TYPE="image" VALUE="Submit">
</FORM>
```

Additional Set Up

You will receive an email informing you that the report is ready. Be sure to monitor your primary email address for an email stating the download report is ready. This email contains a hyperlink to the report, which can you access with a browser. You can also use the email as a trigger for your script that programmatically retrieves the report.

4 Transaction History and Reporting Tools

With transaction history and reporting tools, you can access monthly account statements, search your account history for different kinds payments and transactions, download history to your local computer, and access reports about disputed transactions.

NOTE: PayPal offers an additional set of reporting tools from the PayPal Business Overview page. Visit the page, at *https://business.paypal.com*, to access the *PayPal Reporting User's Guide* and to use the additional reporting tools.

To access the history and tools described here:

1. Log in to your Business or Premier account.

2. Click the **History** subtab.

   The **History** page appears, as shown in Figure 4.1 , "The History Page."

FIGURE 4.1 The History Page

Using Monthly Account Statements

After you activate monthly account statements, you can view them from the **History** page. New statements become available on the 15th of each month, and they remain available online for up to three months.
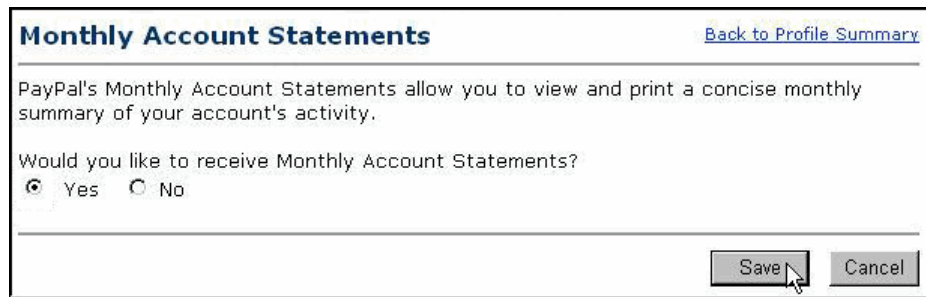
To activate monthly account statements:

1. From the **My Account Overview** page, click the **History** subtab.

    The **History** page appears.

2. Click the **View** button.

3. On the displayed page, click the **Yes** radio button.

4. Click the **Save** button.

Searching History

There are two ways to search your account history for payments and other activity:

- Basic Searching by Activity: specify a kind of account activity, and specify a date range.

- Advanced Searching by Field Value: specify a value or a pattern of values in a specific field, and specify a date range.

Basic Searching by Activity

From the **History** page, you can search your transaction history by specifying the kind of account activity you want to view.

In the **Show** dropdown menu, select one of the following types of account activity.

TABLE 4.1 Basic Search: Selectable Activity Types

All Activity - Advanced View	Fee	Reversals	Open Authorizations: Sent or Received
All Activity - Simple View	Subscriptions	Shipping	PayPal Buyer Credit
Payments Sent or Received	BillPay Transactions	Balance Affecting Transactions	Donations Sent or Received
Mass Payments	Refunds	eChecks	
Money Requests	Currency Conversions	Preapproved Payments	

TABLE 4.1 Basic Search: Selectable Activity Types

Funds Added or Withdrawn	Balance Transfer	Gift Certificates

The choice **All Activity - Simple View** is selected by default. You can scroll up the list to select **All Activity - Advanced View**, which differs from **All Activity - Simple View** by including a Balance column. The Balance column shows an ellipsis (**. . .**) for transactions that do not affect your account balance.

For detailed information on how to specify a date range, see "Specifying Date Ranges for Basic and Advanced History Search" on page 40.

Advanced Searching by Field Value

From the **Search** page, you can search your transaction history for a value or a pattern of values in a specific field.

In the **Search For** text box, type the value or pattern. From the **In** dropdown menu, select one of the following fields.

TABLE 4.2 Advanced Transaction Search: Key Fields

Field	Matching Criteria
Email	The text you enter must exactly match an email address
Transaction ID	Exact match

TABLE 4.2 *Advanced Transaction Search: Key Fields*

Field	Matching Criteria
Last Name	Any part of the text you enter can match. For example, the text `mit` matches `Smith` and `Mitty`
Last Name, First Name	Any part of text can match
Receipt ID	Exact match
Invoice ID	Exact match
Billing Agreement	Exact match
Profile ID	Exact match

For detailed information on how to specify a date range, see "Specifying Date Ranges for Basic and Advanced History Search" on page 40.

Specifying Date Ranges for Basic and Advanced History Search

You can confine your basic or advanced to search to a specific date range in these ways:

- Select the **Within** radio button, and select one of these time frames from the dropdown menu:
    - The Past Day
    - The Past Week
    - The Past Month
    - The Past Year

- Select the **From** radio button, and specify a date range using the text boxes for the **From** and **To** day, month, and year.

Specify the From and To month, day, and year to specify the date range for a basic or advanced search.

IMPORTANT: The duration of the date range you specify affects how quickly you can view the search results. The longer the duration, the longer the search results take. For faster results, narrow the date range.

Downloading History

The **Download History** page lets you specify a time frame for payments and transactions to include in downloadable history logs, which are files that you save on your local computer. You can also specify which fields to include and what file format your want.

To to create a downloadable history log and save it on your computer:

1. In the upper left area of the **History** page, click the **Download My History** link.

Click here to access the Download History page.

The **Download History** page appears.

FIGURE *4.2 Download History Page*

2. In the upper right area of the **History Download** page, click the **Customize Download Fields** link to select which fields you want to include in your downloadable history log.

   For more information, see "Selecting Which Fields to Include in the Download" on page 43.

3. Specify a **Custom Date Range** for the history you want to download, and select a **File Type for Download**.

   Your choices are:
   – Comma Delimited – All Activity
   – Comma Delimited – Completed Payments
   – Comma Delimited – Balance Affecting Payments
   – Tab Delimited – All Activity
   – Tab Delimited – Completed Payments
   – Tab Delimited – Balance Affecting Payments
   – Intuit Quicken (.qif file format)

– Intuit QuickBooks (.iif file format)

– or –

Select the **Last Download to Present** radio button to download transactions that occurred after the last time you downloaded history, and select a **File Type for Download**.

Your choices are:

– Comma Delimited – Completed Payments
– Tab Delimited – Completed Payments
– Intuit Quicken (.qif file format)
– Intuit QuickBooks (.iif file format)

4. Select the **Include Shopping Cart** details checkbox if you want your downloadable history log to include a row of information for each item associated with shopping cart payments.

5. Click the **Download History** button.

6. When prompted, select whether to open the downloadable history log or to save it on your local computer.

Selecting Which Fields to Include in the Download

Downloadable history logs always contains these fields:

- Date, Time, and Timezone

- Name

- Type, Status and Currency

- Gross, Fee, and Net

- From Email Address and To Email Address

- Transaction ID and Reference Transaction ID

- Receipt ID

- Balance

For details about these default fields, see Appendix B, "Downloadable History Logs."

In addition, you can select other fields to include, using the **Customize My History Download** page.

To select the optional fields you want to include in downloadable history logs:

1. In the upper right area of the **History Download** page, click the **Customize Download Fields** link, as shown below.

2. In the **Customize My History Download** page, select the checkboxes next to the fields that you want to include.

FIGURE 4.3 *The Customize My History Download Page*

For details about these optional fields, see Appendix B, "Downloadable History Logs."

3. Click the **Save** button to preserve you choices for future downloadable history logs.

Understanding the Status and Life Cycle of Transactions

Each row in a downloadable history log shows a transaction, its status at the time of the download, and its effect on your balance.

Various types of transaction statuses and scenarios can have a negative, positive, or neutral balance effect. These statuses include:

- Pending
- Held
- Completed
- Denied
- Cancelled
- Reversed

For a complete list of possible transaction statuses, see "Status" on page 73.

Pending to Cleared or Uncleared

When a pending payment, such as an eCheck, clears after the three to four business days, the transaction status changes from Uncleared to Cleared.

Status of Disputed Transactions

Transactions with a Placed status (for temporary holds) usually involve a customer dispute.

If you are found in favor in a dispute, the transaction will be updated with a new line-item to indicate a Credit. However, if the opposite is true, the Balance Impact column will not change from the Debit status for that transaction.

You can generate a dispute report that correlates the transaction to the customer and the reason for the dispute. For more information, see "Reporting Disputed Transactions" on page 47.

Reconciling Transactions using the Balance Impact Column

The optional Balance Impact column shows the word "Credit" for a positive effect or the word "Debit" for a negative effect on your PayPal account balance.

Credit

When you receive an instant payment or credit card transaction, the Balance Impact column indicates a credit. Other possible credits to your account are refunds, reversals and payments sent but never claimed.

In some cases, a credit line-item can update a debit for a transaction. For example, if you send a payment initially indicated as a debit, but it is denied by the recipient, a new line-item for that transaction will indicate a credit.

Debit

Debits are transactions that reduce your available balance. For example, refunded transactions are recorded as a debit in the Balance Impact column and as completed in the Status column.

Memo Entries

The Balance Impact column can display a Memo entry for transactions that do not affect your balance, such as unclaimed or uncleared transactions. These kinds of transactions have no effect on your balance, because they never becomes completed transactions.

Reconciling Transactions Using the Net Amount Column

The Net Amount of a transaction can aid in faster reconciliation.

In most cases, the Net Amount is the Gross minus Fee. When a History entry is updated (for example, in the case of a refund), the Net Amount column indicates the current net value of the transaction on a separate line-item.

FIGURE 4.4 Gross, Fee and Net Amount Calculations from History Log

	Status	Details	Action	Gross	Fee	Net Amount
	Pending	Details	(Remind) (Cancel)	€1.00 EUR	€0.00 EUR	€1.00 EUR
	Completed	Details		-$0.50 USD	$0.00 USD	-$0.50 USD
nal Interiors	Unclaimed	Details		-$1.00 CAD	$0.00 CAD	-$1.00 CAD
	Completed	Details		-$1.00 USD	$0.00 USD	-$1.00 USD
	Unclaimed	Details		-$1.00 CAD	$0.00 CAD	-$1.00 CAD

(Table heading: ug. 29, 2005)

Reporting Disputed Transactions

With dispute reports, you can focus only on transactions that are disputed by customers for some reason.

FIGURE 4.5 Dispute Report

Programmatic Access to Dispute Report

The Downloadable Dispute Report (DDR) provides merchants with a regular report of newly created disputes and changes in the status of those cases that are already open and are in the midst of processing.

The report is designed for the merchant that processes large volumes of payments. Thus, while the report resembles the Dispute Report available via the Resolution Center within the PayPal site, the DDR differs in that it contains all open records and the invoice ID which can be used to track dispute cases based on your transactional identifiers. The DDR cannot filter on open records.

NOTE: To use this feature, you must sign up for the report through your PayPal Account Manager.

Content of the Report

The report contains information about all chargebacks and buyer complaints generated for your account. This report does not contain information about ACH returns of PayPal unauthorized complaints.

First DDR Report

When you first sign up for the DDR, the report contains:

- All open chargebacks, regardless of the date the case was created or the current status of the case

- All open buyer complaints, regardless of the date the case was created or the current status of the case

Use this report as a starting point against which you will read future DDR reports.

NOTE: If you need to regenerate the first report, contact your PayPal Account Manager and ask them to generate a first day DDR report for you.

Subsequent Daily DDR Reports

Following the first DDR report, reports are generated daily and contain information about dispute activity for your account in the past 24 hours, or since the last report was generated, including:

- New cases created

- Cases that were modified, including cases that were closed

Frequency / Archiving

The DDR is generated every day based on activity for the previous day. Days with no activity will generate an empty report.

PayPal will maintain DDR reports for seven days after which the report will not longer be available.

Report Set Up

To use the DDR you must:

1. Sign up for the report through your PayPal Account Manager

2. Create a unique user to download the report

3. Write code to download the report from a PayPal server

Step 1. Sign up for the report via PayPal Account Management. Contact your PayPal Account Manager to sign up for the Downloadable Dispute Report.

Step 2. Create a Unique User on PayPal to Download the Report. To use the DDR, you must use PayPal's Multi-User Access feature to create a unique user for downloading reports.

1. Login to your PayPal account.

2. Select the **Profile** subtab.

3. Click the **Multi-User Access** link under the Account Information column to open the **Multi-User Access** page.

4. Click the **Add** button. On the **Multi-User Access** page, enter the requested information into the fields provided.

5. Select the checkboxes next to each of the choices that you want the alias to have.

6. Click the **Save** button.

Your new user and alias appear on the **Multi-User Access** page along with a confirmation message that you have successfully added a new user to your account.

Step 3. Write Code to Download the Report from the PayPal Server. Write code to request the report from a PayPal server. The code must send an HTTP POST to the PayPal server. The POST must be sent from a secure server that uses HTTPS. PayPal does not accept requests from servers using HTTP.

You can automate which details you want to be prioritized in your Settlement File reports by assigning values as depicted in the sample HTML code.

The HTML code below is an example of the values that your DDR may contain. In the following example, the uname value is the alias created using the Multi-User Access feature.

```
<FORM ACTION="https://www.paypal.com/us/DISPUTE-REPORT-SCHED-LOGIN"
METHOD="post">
    <INPUT TYPE="hidden" NAME="day" VALUE="16">
    <INPUT TYPE="hidden" NAME="month" VALUE="09">
    <INPUT TYPE="hidden" NAME="year" VALUE="2006">
    <INPUT TYPE="hidden" NAME="uname" VALUE="queuealias2">
    <INPUT TYPE="hidden" NAME="pword" VALUE="22222222">
    <INPUT TYPE="image" VALUE="Submit">
</FORM>
```

View the Report

You will receive an email when the report is ready. This email contains a link to the report which can you access via a browser.

You can also use the email as a trigger for your code to programmatically access the report.

A IPN and PDT Variables

IPN and PDT variables are case-sensitive. All values are lowercase, except those for `payment_status`, which have an initial capital letter.

In addition, values posted by IPN are URL-encoded. For example, a colon in `http://` is encoded as `%3A` in the IPN post: `http%3A//`

About These Tables of Variables

The tables in this appendix group IPN variables by different characteristics:

Transaction-Specific Variable Values

Unless otherwise indicated in the table column labeled **Possible Values**, the value of an IPN or PDT variable is always specific to the transaction whose information is being posted.

test_ipn Variable in Sandbox

In the Sandbox environment, IPN includes the additional variable `test_ipn` with a value of `1` (one). The purpose of `test_ipn` is to provide testing programs a means to differentiate between Sandbox IPN and live IPN.

IPN Variables in All Posts

IPN Version: notify_version

The value of the `notify_version` variable is the version number of Instant Payment Notification that makes the post.

NOTE: The value `notify_version` is a means for PayPal to track versions of IPN. There is no need for your programs to store this value or query it.

Security Information: verify_sign

The value of `verify_sign` is an encrypted string used to validate the authenticity of the transaction.

Buyer Information

TABLE A.1 IPN and PDT Variables: Buyer Information

Variable Name	Possible Values	Description	Char Length
address_ city		City of customer's address.	40
address_ country		Country of customer's address.	64
address_ country_ code		Two-character ISO 3166 country code	2
address_ name		Name used with address (included when the customer provides a Gift Address)	128
address_ state		State of customer's address	40
address_ status	confirmed unconfirmed	Customer provided a confirmed address. Customer provided an unconfirmed address.	
address_ street		Customer's street address.	200
address_zip		Zip code of customer's address.	20
first_name		Customer's first name	64

TABLE A.1 *IPN and PDT Variables: Buyer Information*

Variable Name	Possible Values	Description	Char Length
last_name		Customer's last name	64
payer_ business_ name		Customer's company name, if customer represents a business	127
payer_email		Customer's primary email address. Use this email to provide any credits.	127
payer_id		Unique customer ID.	13
payer_ status	verified unverified	Customer has a Verified PayPal account. Customer has an Unverified PayPal account.	
contact_ phone		Customer's telephone number.	20
residence_ country		Two-character ISO 3166 country code	2

Basic Information

TABLE A.2 *IPN and PDT Variables: Basic Information*

Variable Name	Possible Values	Description	Char Length
business		Email address or account ID of the payment recipient (that is, the merchant). Equivalent to the values of receiver_email (if payment is sent to primary account) and business set in the Website Payment HTML. **NOTE:** The value of this variable is normalized to lowercase characters.	127
item_name		Item name as passed by you, the merchant. Or, if not passed by you, as entered by your customer. If this is a shopping cart transaction, PayPal will append the number of the item (e.g., item_name_1, item_name_2, and so forth).	127
item_number		Pass-through variable for you to track purchases. It will get passed back to you at the completion of the payment. If omitted, no variable will be passed back to you.	127

TABLE A.2 IPN and PDT Variables: Basic Information

Variable Name	Possible Values	Description	Char Length
quantity		Quantity as entered by your customer or as passed by you, the merchant. If this is a shopping cart transaction, PayPal appends the number of the item (e.g. quantity1, quantity2).	
receiver_ email		Primary email address of the payment recipient (that is, the merchant). If the payment is sent to a non-primary email address on your PayPal account, the receiver_email is still your primary email. **NOTE:** The value of this variable is normalized to lowercase characters.	127
receiver_id		Unique account ID of the payment recipient (i.e., the merchant). This is the same as the recipient's referral ID.	13

Advanced and Custom Information

TABLE A.3 IPN and PDT Variables: Advanced and Custom Information

Variable Name	Possible Values	Description	Char Length
custom		Custom value as passed by you, the merchant. These are pass-through variables that are never presented to your customer	255
invoice		Passthrough variable you can use to identify your Invoice Number for this purchase. If omitted, no variable is passed back.	127
memo		Memo as entered by your customer in PayPal Website Payments note field.	255
option_ name_1		Option 1 name as requested by you. If this is a shopping cart transaction, see Table A.4, "IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information," on page 55 for more information.	64
option_ name_2		Option 2 name as requested by you. If this is a shopping cart transaction, see Table A.4, "IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information," on page 55 for more information.	64
option_ selection1		Option 1 choice as entered by your customer. If this is a shopping cart transaction, see Table A.4, "IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information," on page 55 for more information.	200

TABLE A.3 IPN and PDT Variables: Advanced and Custom Information

Variable Name	Possible Values	Description	Char Length
option_ selection2		Option 2 choice as entered by your customer. If this is a shopping cart transaction, see Table A.4, "IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information," on page 55 for more information.	200
tax		Amount of tax charged on payment. If this is a shopping cart transaction, see Table A.4, "IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information," on page 55 for more information.	

Website Payments Standard, Website Payments Pro, and Refund Information

TABLE A.4 IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information

Variable Name	Possible Values	Description	Char Length
auth_id	Transaction-specific	Authorization identification number	19
auth_exp	Transaction-specific	Authorization expiration date and time, in the following format: HH:MM:SS DD Mmm YY, YYYY PST	28
auth_amount	Transaction-specific	Authorization amount	
auth_status	Completed Pending Voided	Status of authorization	
mc_gross_x	Transaction-specific for multiple currencies	The amount is in the currency of mc_currency, where x is the shopping cart detail item number. The sum of mc_gross_x should total mc_gross.	
mc_ handling_x	Transaction-specific for multiple currencies	The x is the shopping cart detail item number. The handling_cart cart-wide Website Payments variable is also included in the mc_handling variable; for this reason, the sum of mc_handling_x might not be equal to mc_handling	

TABLE A.4 IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information

Variable Name	Possible Values	Description	Char Length
mc_ shipping_ *x*	Transaction-specific for multiple currencies	This is the combined total of shipping and shipping2 Website Payments Standard variables, where x is the shopping cart detail item number. The shippingx variable is only shown when the merchant applies a shipping amount for a specific item. Because profile shipping might apply, the sum of shippingx might not be equal to shipping.	
num_cart_ items		If this is a PayPal Shopping Cart transaction, number of items in cart.	
option_ name1		PayPal appends the number of the item where x represents the number of the shopping cart detail item (e.g., option_name1, option_name2).	64
option_ name2		PayPal appends the number of the item where x represents the number of the shopping cart detail item (e.g., option_name2, option_name2).	64
option_ selection1_ *x*		PayPal appends the number of the item (e.g., option_selection1, option_selection2), where x represents the number of the shopping cart detail item.	200
option_ selection2_ *x*		PayPal appends the number of the item where x represents the number of the shopping cart detail item (e.g., option_selection1, option_selection2).	200
parent_txn_ id		In the case of a refund, reversal, or canceled reversal, this variable contains the txn_id of the original transaction, while txn_id contains a new ID for the new transaction.	19
payment_ date		Time/Date stamp generated by PayPal, in the following format: HH:MM:SS DD Mmm YY, YYYY PST	28

TABLE A.4 IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information

Variable Name	Possible Values	Description	Char Length
payment_status	Canceled_Reversal Completed Denied Expired Failed Pending Processed Refunded Reversed Voided	The status of the payment: `Canceled_Reversal`: A reversal has been canceled. For example, you won a dispute with the customer, and the funds for the transaction that was reversed have been returned to you. `Completed`: The payment has been completed, and the funds have been added successfully to your account balance. `Denied`: You denied the payment. This happens only if the payment was previously pending because of possible reasons described for the PendingReason element. `Expired`: This authorization has expired and cannot be captured. `Failed`: The payment has failed. This happens only if the payment was made from your customer's bank account. `Pending`: The payment is pending. See pending_reason for more information. `Refunded`: You refunded the payment. `Reversed`: A payment was reversed due to a chargeback or other type of reversal. The funds have been removed from your account balance and returned to the buyer. The reason for the reversal is specified in the `ReasonCode` element. `Processed`: A payment has been accepted. `Voided`: This authorization has been voided.	
payment_type	echeck instant	`echeck`: This payment was funded with an eCheck. `instant`: This payment was funded with PayPal balance, credit card, or Instant Transfer.	

***TABLE* A.4** *IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information*

Variable Name	Possible Values	Description	Char Length
pending_ reason	address authorizati on echeck intl multi- currency unilateral upgrade verify other	This variable is set only if `payment_status` = `Pending`. `address`: The payment is pending because your customer did not include a confirmed shipping address and your Payment Receiving Preferences is set yo allow you to manually accept or deny each of these payments. To change your preference, go to the **Preferences** section of your **Profile**. `authorization`: You set `<PaymentAction>` `Authorization</PaymentAction>` on `SetExpressCheckoutRequest` and have not yet captured funds. `echeck`: The payment is pending because it was made by an eCheck that has not yet cleared. `intl`: The payment is pending because you hold a non-U.S. account and do not have a withdrawal mechanism. You must manually accept or deny this payment from your **Account Overview**. `multi-currency`: You do not have a balance in the currency sent, and you do not have your **Payment Receiving Preferences** set to automatically convert and accept this payment. You must manually accept or deny this payment. `unilateral`: The payment is pending because it was made to an email address that is not yet registered or confirmed. `upgrade`: The payment is pending because it was made via credit card and you must upgrade your account to Business or Premier status in order to receive the funds. `upgrade` can also mean that you have reached the monthly limit for transactions on your account. `verify`: The payment is pending because you are not yet verified. You must verify your account before you can accept this payment. `other`: The payment is pending for a reason other than those listed above. For more information, contact PayPal Customer Service.	

TABLE A.4 IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information

Variable Name	Possible Values	Description	Char Length
reason_code	chargeback guarantee buyer_ complaint refund other	This variable is set if payment_status =Reversed, Refunded, or Cancelled_Reversal chargeback: A reversal has occurred on this transaction due to a chargeback by your customer. guarantee: A reversal has occurred on this transaction due to your customer triggering a money-back guarantee. buyer-complaint: A reversal has occurred on this transaction due to a complaint about the transaction from your customer. refund: A reversal has occurred on this transaction because you have given the customer a refund. other: A reversal has occurred on this transaction due to a reason not listed above.	
remaining_ settle	Transaction-specific	Remaining amount that can be captured with Authorization and Capture	
shipping_ method	Merchant-specific	The name of a shipping method from the Shipping Calculations section of the merchant's account profile. The buyer selected the named shipping method for this transaction.	
shipping	Transaction-specific	Shipping charges associated with this transaction. Format: unsigned, no currency symbol, two decimal places.	
tax		PayPal appends the number of the item (e.g., item_name1, item_name2). The tax_x variable is included only if there was a specific tax amount applied to a particular shopping cart item. Because profile tax may apply to other items in the cart, the sum of tax_x might not total to tax.	
transaction _entity	auth reauth order payment	Authorization and Capture transaction entity	
txn_id		A unique transaction ID generated by PayPal.	19

TABLE A.4 IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information

Variable Name	Possible Values	Description	Char Length
txn_type	cart express_ checkout send_money virtual_ terminal web-accept	cart: Transaction created by a customer: ● Via the PayPal Shopping Cart feature. ● Via Express Checkout when the cart contains multiple items. express_checkout: Transaction created by Express Checkout when the customer's cart contains a single item. send-money: Transaction created by customer from the **Send Money** tab on the PayPal website. virtual_terminal: Transaction created with Virtual Terminal. web-accept: Transaction created by customer via Buy Now, Donation, or Auction Smart Logos. **NOTE:** In some cases, txn_type is blank when the variable reason_code is chargeback.	

Currency and Currency Exchange

TABLE A.5 IPN and PDT Variables: Currency and Currency Exchange Information

Variable Name	Possible Values	Description	Char Length
exchange_rate		Exchange rate used if a currency conversion occurred.	
mc_currency	Three-character currency code. See table of supported currencies.	For payment IPN notifications, this is the currency of the payment. For non-payment subscription IPN notifications, this is the currency of the subscription.	
mc_fee		Transaction fee associated with the payment. mc_gross minus mc_fee equals the amount deposited into the receiver_email account. Equivalent to payment_fee for USD payments. If this amount is negative, it signifies a refund or reversal, and either of those payment statuses can be for the full or partial amount of the original transaction fee.	

TABLE A.5 IPN and PDT Variables: Currency and Currency Exchange Information

Variable Name	Possible Values	Description	Char Length
`mc_gross`		Full amount of the customer's payment, before transaction fee is subtracted. Equivalent to `payment_gross` for USD payments. If this amount is negative, it signifies a refund or reversal, and either of those payment statuses can be for the full or partial amount of the original transaction.	
`mc_handling #`		Total handling amount associated with the transaction. If this is a shopping cart transaction, see Table A.4, "IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information," on page 55 for more information.	
`mc_shipping #`		Total shipping amount associated with the transaction. If this is a shopping cart transaction, see Table A.4, "IPN and PDT Variables: Website Payments Standard, Website Payments Pro, and Refund Information," on page 55 for more information.	
`payment_fee`	Transaction-specific for USD payments only	USD transaction fee associated with the payment. `payment_gross` minus `payment_fee` equals the amount deposited into the receiver email account. Is empty for non-USD payments. If this amount is negative, it signifies a refund or reversal, and either of those payment statuses can be for the full or partial amount of the original transaction fee. **NOTE:** This is a deprecated field. Use `mc_fee` instead.	
`payment_ gross`	Transaction-specific for USD payments only	Full USD amount of the customer's payment, before transaction fee is subtracted. Will be empty for non-USD payments. This is a legacy field replaced by `mc_gross`. If this amount is negative, it signifies a refund or reversal, and either of those payment statuses can be for the full or partial amount of the original transaction.	
`settle_ amount`		Amount that is deposited into the account's primary balance after a currency conversion from automatic conversion (through your Payment Receiving Preferences) or manual conversion (through manually accepting a payment).	
`settle_ currency`	Three-character currency code. See table of supported currencies.	Currency of `settle_amount`.	

Auctions

TABLE A.6 IPN and PDT Variables: Auctions

Variable Name	Possible Values	Description	Char Length
`auction_ buyer_id`		The customer's auction ID.	64
`auction_ closing_ date`		The auction's close date, in the following format: HH:MM:SS DD Mmm YY, YYYY PST	28
`auction_ multi_item`		The number of items purchased in multi-item auction payments. It allows you to count the `mc_gross` or `payment_gross` for the first IPN you receive from a multi-item auction (`auction_multi_item`), since each item from the auction will generate an Instant Payment Notification showing the amount for the entire auction.	
`for_auction`	true	This is an auction payment—payments made using Pay for eBay Items or Smart Logos—as well as Send Money/Money Request payments with the type **eBay items** or **Auction Goods (non-eBay)**.	

Mass Payment

TABLE A.7 IPN and PDT Variables: Mass Payment

Variable Name	Possible Values	Description	Char Length
`masspay_ txn_id_x`		For Mass Payments, a unique transaction ID generated by the PayPal system, where x is the record number of the mass pay item	19
`mc_currency _x`	Transaction-specific for multiple currencies	For Mass Payments, the currency of the amount and fee, where x is the record number the mass pay item	
`mc_fee_x`	Transaction-specific for multiple Currencies	For Mass Payments, the transaction fee associated with the payment, where x is the record number the mass pay item	

TABLE A.7 IPN and PDT Variables: Mass Payment

Variable Name	Possible Values	Description	Char Length
mc_gross_*x*	Transaction-specific for Multiple Currencies	The gross amount for the amount, where x is the record number the mass pay item	
payment_ date		For Mass Payments, the first IPN is the date/time when the record set is processed and the second IPN is the date/time when all payments are completed/returned. Format: HH:MM:SS DD Mmm YY, YYYY PST	28
payment_fee _*x*	Transaction-specific for USD payments only	If the payment is USD, then the value is the same as that for mc_fee_x, where x is the record number; if the currency is not USD, then this is an empty string. **NOTE:** This is a deprecated field. Use mc_fee_x instead.	
payment_ gross_*x*	Transaction-specific for USD payments only	If the payment is USD, then the value for this is the same as that for the mc_gross_x, where x is the record number the mass pay item. If the currency is not USD, this is an empty string. **NOTE:** This is a deprecated field. Use mc_gross_x instead.	
payment_ status	Completed Denied Processed	Completed: For Mass Payments, this means that all of your payments have been claimed, or after a period of 30 days, unclaimed payments have been returned to you. Denied: For Mass Payments, this means that your funds were not sent and the Mass Payment was not initiated. This may have been caused by lack of funds. Processed: Your Mass Payment has been processed and all payments have been sent.	
reason_code	1001 1003 1004	This variable is only set if status = Failed. 1001: Invalid UserID. 1003: Country of Residence check failure 1004: Country of Funding Source check failure	
receiver_ email_*x*		For Mass Payments, the primary email address of the payment recipient, where x is the record number of the mass pay item	127
status_*x*	Completed Failed Reversed Unclaimed	For Mass Payments, the status of the payment, where x is the record number Completed: The payment has been processed, regardless of whether this was originally a unilateral payment Failed: The payment failed because of insufficient PayPal balance. Reversed: This is for unilateral payments that were not claimed after 30 days and have been returned to the sender. Or the funds have been returned because the Receiver's account was locked. Unclaimed: This is for unilateral payments that are unclaimed.	

TABLE A.7 IPN and PDT Variables: Mass Payment

Variable Name	Possible Values	Description	Char Length
txn_type	masspay	This payment was sent via Mass Payment	
unique_id *x*		For Mass Payments, the unique ID from input, where x is the record number. This allows the merchant to cross-reference the payment	13

Subscriptions

Subscriptions Variables

Along with other IPN variables, the following variables are included in Subscriptions IPNs.

TABLE A.1 Subscriptions Variables

Variable	Possible Values	Description	Char Limit
txn_type	subscr-failed subscr-cancel subscr-payment subscr-signup subscr-eot subscr-modify	subscr_signup: subscription sign-up. subscr_cancel: subscription cancellation. subscr_failed: subscription payment failure. subscr_payment: subscription payment. subscr_eot: subscription's end-of-term. subscr_modify: subscription modification.	
subscr_date		Start date or cancellation date depending on whether transaction is subscr_signup or subscr_cancel. Time/Date stamp generated by PayPal , in the following format: HH:MM:SS DD Mmm YY, YYYY PST	
subscr_ effective		Date when the subscription modification will be effective (only for txn_type = subscr_modify). Time/Date stamp generated by PayPal , in the following format: HH:MM:SS DD Mmm YY, YYYY PST	

TABLE A.1 Subscriptions Variables

Variable	Possible Values	Description	Char Limit
period1		(optional) Trial subscription interval in days, weeks, months, years (example: a 4 day interval is "period1: 4 D").	
period2		(optional) Trial subscription interval in days, weeks, months, or years.	
period3		Regular subscription interval in days, weeks, months, or years.	
amount1		Amount of payment for trial period 1 for USD payments; otherwise blank (optional).	
amount2		Amount of payment for trial period 2 for USD payments; otherwise blank (optional).	
amount3		Amount of payment for regular subscription period for USD payments; otherwise blank.	
mc_amount1		Amount of payment for trial period 1, regardless of currency (optional).	
mc_amount2		Amount of payment for trial period 2, regardless of currency (optional).	
mc_amount3		Amount of payment for regular subscription period, regardless of currency.	
mc_currency	See table of supported currencies.	For non-payment subscriptions IPNs (i.e., txn_type= signup, cancel, failed, eot, or modify), this is the currency of the subscription. For payment IPNs, it is the currency of the payment (i.e., txn_type = subscr_payment)	
recurring		Indicates whether regular rate recurs (1 is yes, blank is no).	
reattempt		Indicates whether reattempts should occur upon payment failures (1 is yes, blank is no).	
retry_at		Date PayPal will retry a failed subscription payment.	
recur_times		The number of payment installments that will occur at the regular rate.	
username		(optional) Username generated by PayPal and given to subscriber to access the subscription.	64
password		(optional) Password generated by PayPal and given to subscriber to access the subscription (password will be encrypted).	24

TABLE A.1 Subscriptions Variables

Variable	Possible Values	Description	Char Limit
subscr_id		ID generated by PayPal for the subscriber.	19

Variables for Each Subscription Event

The following table shows which variables are associated and can be included in IPN posts with each subscription event type.

About payment_status and txn_type with Subscription IPN. In IPN messages posted by Subscription events, the payment_status variable is sent when a payment or refund occurs. For all other events, the pertinent variable is txn_type.

TABLE A.2 IPN Variables with Each Subscription Event

Variable	Signup	Cancel	Modify	Payment (USD)	Payment (Multi-Currency)	Refund	Failed	EOT
Basic Information								
business	X	X	X	X	X		X	X
receiver_email	X	X	X	X	X		X	X
receiver_id				X	X			
item_name	X	X	X	X	X		X	X
item_number	X	X	X	X	X		X	X
Advanced and Custom Information								
invoice	X	X	X	X	X		X	X
custom	X	X	X	X	X		X	X
option_name1	X	X	X	X	X		X	X
option_selection1	X	X	X	X	X		X	X
option_name2	X	X	X	X	X		X	X
option_selection2	X	X	X	X	X		X	X
Transaction Information								
payment_status				X	X	X		
pending_reason				X	X			
reason_code				X	X			

TABLE A.2 IPN Variables with Each Subscription Event

Variable	Signup	Cancel	Modify	Payment (USD)	Payment (Multi-Currency)	Refund	Failed	EOT
payment_date				X	X			
txn_id				X	X			
parent_txn_id				X	X			
txn_type	subscr_ signup	subscr_ cancel	subscr_ modify	subscr_payment			subscr_ failed	subscr _ eot
Currency and Exchange information								
mc_gross				X	X			
mc_fee				X	X			
mc_currency	X	X	X	X	X		X	X
settle_amount				X	X			
exchange_rate				X	X			
payment_gross				X			X	X
payment_fee				X				
Buyer Information								
first_name	X	X	X	X	X		X	X
last_name	X	X	X	X	X		X	X
payer_business _name	X	X	X	X	X		X	
address_name	X	X	X	X	X		X	
address_street	X	X	X	X	X		X	
address_city	X	X	X	X	X		X	
address_state	X	X	X	X	X		X	
address_zip	X	X	X	X	X		X	
address_ country	X	X	X	X	X		X	
payer_email	X	X	X	X	X		X	X
payer_id	X	X	X	X	X		X	X
payer_status	X	X	X	X	X		X	X
payment_type				X	X			

TABLE A.2 IPN Variables with Each Subscription Event

Variable	Signup	Cancel	Modify	Payment (USD)	Payment (Multi-Currency)	Refund	Failed	EOT
Subscription Information								
subscr_date	X	X	X					
subscr_effective			X					
period1	X	X	X					
period2	X	X	X					
period3	X	X	X					
amount1	X	X	X					
amount2	X	X	X					
amount3	X	X	X					
mc_amount1	X	X	X					
mc_amount2	X	X	X					
recurring	X	X	X					
reattempt	X	X	X					
retry_at							X	
recur_times	X	X	X					
username	X	X	X	X	X		X	X
password	X	X	X	X	X		X	X
subscr_id	X	X	X	X	X		X	X

Dispute Notification Variables

TABLE A.8 Dispute Notification Variables

Variable	Possible Values	Description
txn_type	new_case adjustment	new_case: A new case has been registered. adjustment: A case has been resolved and closed.

TABLE A.8 Dispute Notification Variables

Variable	Possible Values	Description
`txn_id`		The merchant's original transaction identification number for the payment from the buyer, against which the case was registered.
`case_id`		Case identification number. Format: `PP-nnn-nnn-nnn` where n is any numeric character.
`case_type`	`complaint` `chargeback`	• complaint: A buyer has logged a complaint through the PayPal Resolution Center. • chargeback: A buyer has filed a chargeback with his credit card company, which has notified PayPal of the reason for the chargeback.
`case_creation_date`	Transaction-specific	Date and time case was registered, in the following format: HH:MM:SS DD Mmm YY, YYYY PST
`reason_code`	Depends on value of `case_type`	Reason for the case. Values for `case_type` set to `complaint`: • `non_receipt`: Buyer claims that he did not receive goods or service. • `not_as_described`: Buyer claims that the goods or service received differ from merchant's description of the goods or service. Values for `case_type` set to `chargeback`: • `unauthorized` • `adjustment_reimburse`: A case that has been resolved and close requires a reimbursement. • `non_receipt`: Buyer claims that he did not receive goods or service. • `duplicate`: Buyer claims that a possible duplicate payment was made to the merchant. • `merchandise`: Buyer claims that the received merchandise is unsatisfactory, defective, or damaged. • `special`: Some other reason. Usually, special indicates a credit card processing error for which the merchant is not responsible and for which no debit to the merchant will result. PayPal must review the documentation from the credit card company to determine the nature of the dispute and possibly contact the merchant to resolve it.

Miscellaneous and Fee-Related IPN Variables

TABLE A.9 Miscellaneous and Fee-Related IPN Variables

Variable Name	Possible Values	Description	Char Length
txn_type	merch-pmt	Monthly fee for use of Website Payments Pro	64

PDT-Specific Variables

The following variables apply *only* to PDT.

TABLE A.10 PDT-Specific Variables

Variable	Description
amt	Amount of the transaction
cc	Currency code
cm	Custom message
sig	
st	Transaction status
tx	Transaction ID/PDT token

A Downloadable History Logs

TABLE B.1 Fields and Values in Downloadable History Logs

Field Name	Description	Format	Payment Button Variable	Related IPN Variable
Date	Date transaction was initiated (according to PayPal system time, US-Pacific time zone). Log sorted in reverse chronological order by Date (most recent first)	[M]M/[D]D/YYYY		`payment_date` `subscr_date`
Time	Time transaction was initiated (according to PayPal system time, US-Pacific time zone).	HH:MM:SS		
Timezone	The time zone used for recording transactions in your PayPal account.	Alphanumeric; three-character codes		
Name	Name of counterparty. If counterparty is a PayPal verified user, this field will contain the user's first and last name. If counterparty is not a verified user, field will contain the user's email address.	alphanumeric; 128-character limit	`first_namel ast_name`	

TABLE B.1 Fields and Values in Downloadable History Logs

Field Name	Description	Format	Payment Button Variable	Related IPN Variable
Type	Type of transaction: Add Funds from a Bank Account ATM Withdrawal ATM Withdrawal Reversal Auction Payment Received Auction Payment Sent Canceled Fee Canceled Payment Canceled Transfer Chargeback Settlement Check Withdrawal from PayPal Currency Conversion Debit Card Cash Advance Debit Card Purchase Dividend From PayPal Money Market Donation Received Donation Sent eCheck Received eCheck Sent Funds Added with a Personal Check Guarantee Reimbursement Payment Received Payment Sent PayPal PayPal Balance Adjustment Referral Bonus Refund Shopping Cart Item Shopping Cart Payment Received Shopping Cart Payment Sent Subscription Payment Received Subscription Payment Sent Transfer Update to Add Funds from a Bank Account Update to Debit Card Credit Update to eCheck Received Update to Payment Received Update to Payment Sent continued...	alphanumeric; 39-character limit		`txn_type`

TABLE B.1 Fields and Values in Downloadable History Logs

Field Name	Description	Format	Payment Button Variable	Related IPN Variable
Type (continued)	Update to Reversal Update to Web Accept Payment Received Virtual Debit Card Authorization Virtual Debit Card Credit Received Virtual Debit Card Purchase Virtual Debt Card Credit Received Web Accept Payment Received Web Accept Payment Sent Withdraw Funds to a Bank Account			
Status	Status of transaction at time of download: Canceled Cleared Completed Denied Expired Failed Pending Refunded Returned Reversed Unclaimed Uncleared	alphanumeric; 10-character limit		`payment_status` `pending_reason`
Subject	Subject of transaction as entered by counterparty	alphanumeric; 256-character limit		

Currency	Currency of transaction	alphanumeric; three character limit	`currency_code`	`mc_currency`
				`settle_currency`
				`exchange_rate`
				`mc_gross`

TABLE B.1 Fields and Values in Downloadable History Logs

Field Name	Description	Format	Payment Button Variable	Related IPN Variable
Gross	Gross amount of transaction	signed decimal	`amount`	`payment_ gross` `settle_ amount` `amount1` `amount2` `amount3`
Fee	Fee (if applicable) for transaction	signed decimal		`payment_fee` `mc_fee`
Net	Net amount of transaction	signed decimal		
Note	Note for transaction as entered by counterparty	alphanumeric; 2000-character limit		
From Email Address	Email address of transaction sender	alphanumeric; 128-character limit		`payer_email`
To Email Address	Email address of transaction recipient	alphanumeric; 128-character limit	`business`	`receiver_ email`
Transaction ID	PayPal-generated unique transaction ID	alphanumeric; 17-character limit		`txn_id`
Payment Type	Payment type used for transaction: eCheck Instant PayPal Funds	alphanumeric; 27-character limit		`payment_typ e`
Counterparty Status	Account status of buyer: International – Unverified International – Verified Unverified Verified	alphanumeric; 27-character limit		`payer_statu s`
Address Status	Status of counterparty's Shipping Address. Confirmed Non-confirmed	alphanumeric; 14-character limit		`address_ status`

TABLE B.1 Fields and Values in Downloadable History Logs

Field Name	Description	Format	Payment Button Variable	Related IPN Variable
Item Title	Specified by buyer in the website field: • Auction/Item Title Or by seller in any of the following button-creation fields: • PayPal Shopping Cart Item Name • Buy Now Item Name • Donations Item Name • Subscriptions Name	alphanumeric; 128-character limit	`item_name`	`item_name`
Item ID	Specified by buyer in the website field: • Auction/Item Number Or by seller in any of the following button-creation fields: • PayPal Shopping Cart Item Number • Buy Now ID Number • Donations ID Number • Subscription Reference Number	alphanumeric; 256-character limit	`item_number`	`item_number`

Shipping Amount	Specified by buyer in the website field:
	• eBay/Auction Shipping amount
	Or by seller in any of the following button-creation fields:
	• PayPal Shopping Cart Shipping amount
	• Buy Now Shipping amount
		unsigned decimal	`shipping`
			`shipping2`
			`handling`	

Insurance Amount	Specified by buyer in the website field: • eBay/Auction Insurance amount	unsigned decimal		
Sales Tax	Sales Tax Amount specified in seller's button-creation process and Profile preferences	unsigned decimal	`tax`	
Option 1 Name	Specified by seller in any of the following button-creation fields: • PayPal Shopping Cart Option 1 Name • Buy Now Option 1 Name • Subscription Option 1 Name	alphanumeric; 60-character limit	`on0`	`option_name1`

TABLE B.1 Fields and Values in Downloadable History Logs

Field Name	Description	Format	Payment Button Variable	Related IPN Variable
Option 1 Value	Entered by buyer in any of the following website fields: • PayPal Shopping Cart Option 1 Value • Buy Now Option 1 Value • Subscription Option 1 Value Or specified by seller in any of the following button-creation fields: • PayPal Shopping Cart Value 1 Choices • Buy Now Value 1 Choices • Subscription Value 1 Choices	`alphanumeric; 30-character limit`	`on1`	`option_name2`
Option 2 Name	Specified by seller in any of the following button-creation fields: • PayPal Shopping Cart Option 2 Name • Buy Now Option 2 Name • Subscription Option 2 Name	alphanumeric; 60-character limit	`on1`	`option_ selection1`
Option 2 Value	Entered by buyer in any of the following website fields: • PayPal Shopping Cart Option 2 Value • Buy Now Option 2 Value • Subscription Option 2 Value Or specified by seller in any of the following button-creation fields: • PayPal Shopping Cart Value 2 Choices • Buy Now Value 2 Choices • Subscription Value 2 Choices	alphanumeric; 30-character limit	`os1`	`option_ selection2`
Auction Site	Name of Auction Site: • eBay • Yahoo! Auctions • uBid.com • Amazon.com Auctions • MSN Auctions • BidVille • Other	alphanumeric; 20-character limit		
Item URL	URL of eBay/Auction Item (eBay/Auction-specific)	alphanumeric; 256-character limit		

TABLE B.1 Fields and Values in Downloadable History Logs

Field Name	Description	Format	Payment Button Variable	Related IPN Variable
Closing Date	Close date of eBay/Auction Item (eBay/Auction-specific)	[M]M/[D]D/YYYY		
Reference Txn ID	Transaction ID of parent transaction	alphanumeric; 17-character limit		
Invoice Number	Specified by seller in any of the following button-creation fields: • PayPal Shopping Cart Invoice Number • Buy Now Invoice Number • Subscription Invoice Number	alphanumeric	`invoice`	`invoice`
Subscription Number	PayPal-generated Subscription Transaction ID Number S-xxxxxxxxxxxxxxx where x is the transaction ID.	alphanumeric; 19-character limit		`subscr_id`
Custom Number	Specified by seller in any of the following button-creation fields: • PayPal Shopping Cart Custom Number • Buy Now Custom Number • Subscription Custom Number	alphanumeric	`custom`	`custom`
Shipping Address Line 1	First line of shipping address as specified by counterparty	alphanumeric; 395-character limit		`address_street1`
Shipping Address Line 2	Second line of shipping address as specified by counterparty (if applicable)	alphanumeric; 395-character limit		`address_street2`
Town/City	Town/City of shipping address as specified by counterparty	alphanumeric		`address_city`
State/Province/Region/County/Territory/Prefecture/Republic	State/Province/Region/Territory/Prefecture/Republic of shipping address as specified by counterparty			`address_state`
Zip/Postal Code	Zip/Postal Code of shipping address as specified by counterparty			`address_zip`
Country	Country of shipping address as specified by counterparty			`address_country`

TABLE B.1 *Fields and Values in Downloadable History Logs*

Field Name	Description	Format	Payment Button Variable	Related IPN Variable
Balance	Account balance at time of transaction. Balance is reported in the currency of the transaction. The Balance column can show "..." in some instances, which indicates that showing a balance is not appropriate for these kinds of transaction.	signed decimal		

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