



Integrating PayPal PLUS

A Quick Integration Guide for PayPal PLUS

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01. Introduction

PayPal PLUS is a solution where PayPal offers PayPal, Credit Card, Direct Debit (ELV) and pay upon invoice as individual payment options on the payment selection page. The available payment methods are provided in a PayPal hosted iframe.

Based on the payment method selected by the buyer, he will at a later stage (on redirect to PayPal / in context checkout) be presented with either the PayPal Login page or an input mask for bank / credit card details or a pay upon invoice details page.

The redirect can be initiated from within the iframe or at any later stage during checkout. The final payment execution happens on the merchant side.

Please note:

PayPal PLUS requires a vetting process. To apply for PayPal PLUS go to this link:

www.paypal.de/paypal-plus

PayPal PLUS requires a fully verified PayPal merchant account

Pay upon invoice may not be available for all merchants.

PayPal PLUS is by default enabled for all German Sandbox accounts.

01.1. Change History

This version replaces all previous PayPal PLUS integration guides (Vers. 1.x) rendering them obsolete!

Date	Version	Author	Description
10/12/2015	2	Kristian Büsch	Initial draft based on October 2015 integration standards
10/30/2015	2.1	Kristian Büsch	Added Customization of the payment selection page PSP Invoice legal note
01/14/2016	2.2	Kristian Büsch	Loading Indicator, requireJS

02. Using the PayPal API

02.1. Architecture

PayPal PLUS utilizes PayPal's RESTful API.

<https://developer.paypal.com/webapps/developer/docs/api/>

02.2. PayPal Sandbox

The PayPal test environment "Sandbox" is a mirror of the PayPal live system. Any part of the PayPal integration can be tested in this environment without "real" funds being moved.

PayPal recommends using the Sandbox for integration and switching to the live system once the integration has been finished. Therefore you can create preconfigured buyer and seller account within the developer platform of PayPal at

https://developer.paypal.com/docs/classic/lifecycle/sb_create-accounts/

02.3. API Endpoints

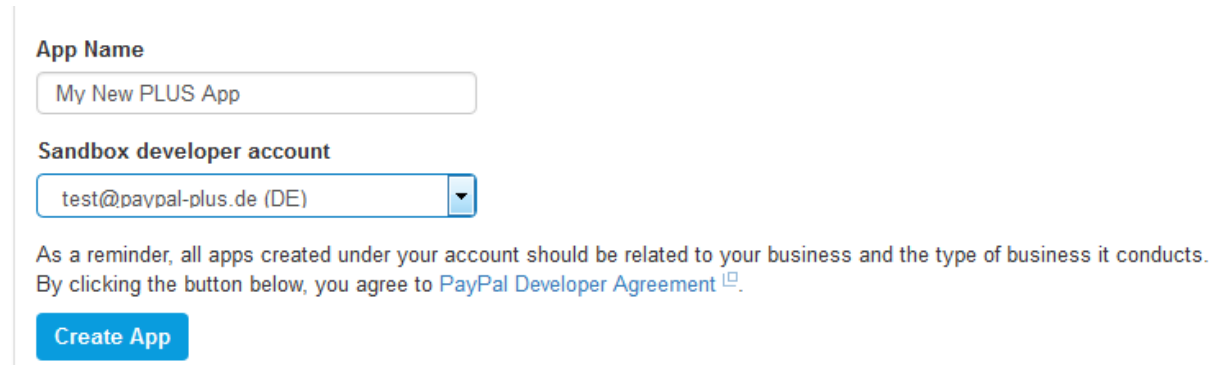
The PayPal REST APIs are supported in the Sandbox environment for testing purposes. Use your Test credentials to generate an access token for making calls with the Sandbox endpoints. When you're set to go live, get your credentials for the Live environment and generate a new access token that you can use with the Live endpoints.

The following URIs form the base for the endpoints in the supported environments:

- Sandbox, base URI: <https://api.sandbox.paypal.com>
- Live, base URI : <https://api.paypal.com>

02.4. Creating client_ID and secret

PayPal automatically provides Sandbox OAuth keys (a client_id and secret) for each application you create. You can then go to "[Manage your applications](#)" for details on creating and managing your PayPal applications. When selecting the facilitator please make sure to pick a DE account.



The screenshot shows the 'Create App' form in the PayPal Developer portal. It includes a text input for 'App Name' with the value 'My New PLUS App'. Below it is a dropdown menu for 'Sandbox developer account' with 'test@paypal-plus.de (DE)' selected. A disclaimer states: 'As a reminder, all apps created under your account should be related to your business and the type of business it conducts. By clicking the button below, you agree to [PayPal Developer Agreement](#).' A blue 'Create App' button is at the bottom.

If you create Sandbox Test accounts prior to creating the APP they will be listed in the dropdown menu there

Direct Link: <https://developer.paypal.com/webapps/developer/applications/myapps>

To create a new PayPal app log in to the Developer portal with your PayPal account and navigate to the My REST apps page. Click Create App to begin the application-creation process.

Direct link: <https://developer.paypal.com/webapps/developer/applications/createapp>

02.5. Authentication & Headers

With each API call a request headers needs to be set including an OAuth 2.0 access token. An access token can be requested by using the OAuth 2.0 `client_credentials` token grant type with your `clientId:secret` as your Basic Auth credentials.

Access tokens should not be created on a transactional basis. When an access token is generated PayPal returns the lifespan as `"expires_in": 32187` in seconds. There is no refresh token so the remaining time should be tracked and/or a new access token generated once PayPal returns error response `401 unauthorized` when a token is expired.

For more information, see [Make your first call](#). You can use your Sandbox access token to try any of the code in this reference.

03. Checkout Experience

Endpoint `POST /v1/payment-experience/webprofiles`

The Checkout experience allows a merchant to create a profile where default parameters can be set and it allows designing the overall experience for a consumer during checkout.

These global parameters are to be set only once and the referenced in create payment via the `experience_profile_id` that was returned upon submitting a successful request. Localized or sub shops should be referenced with individual profiles.

By default address override is set when a shipping address is submitted and disabled when no address submitted in the createPayment request. If you do not pass the shipping address in the createPayment but in the update (PATCH) payment you have to specify `address_override` in the experience profile.

Experience profiles must not be generated with each transaction. They should be set once and then referenced.

Recommended parameters:

- `brand_name` => My Shop Name
- `logo_image` => <https://www.myshop.de/logo.gif>
- `locale_code` => DE
- `allow_note` => false
- `no_shipping` => 0
- `address_override` => 1

Please note: Please do not specify a dedicated `landing_page_type` for PayPal PLUS!

04. Payments

URI: <https://api.paypal.com/v1/payments/payment>

PayPal provides various payment related operations using the /payment resource and related sub-resources. Use payment for direct credit card payments and PayPal account payments. You can also use sub-resources to get payment related details.

04.1. Create a payment

Endpoint `POST /v1/payments/payment`

Depending on the `payment_method` and the `funding_instrument`, you can use a number of payment resources. For PayPal PLUS the only valid payment resource is [PayPal account payments](#).

In the response PayPal returns a payment object along with the state of the payment and sale. The response includes a payment ID that uniquely identifies the transaction. Also included is an `approval_url` that is required to render the PayPal PLUS payment wall. Since Create Payment is called prior to the actual payment selection you may want to exclude user specific data. The payment resource can be updated with this data at a later stage.

Recommended parameters:

- For PayPal PLUS line items must be submitted
- Shipping / billing address as a best practice should not be submitted here but later by using PATCH Payment

Please note:

Including / excluding VAT

To avoid rounding errors we recommend not submitting tax amounts on line item basis. Calculated tax amounts for the entire shopping basket may be submitted in the amount objects. In this case the item amounts will be treated as amounts excluding tax. In a B2C scenario, where taxes are included, no taxes should be submitted to PayPal.

[Developer documentation](#)

04.2. Update a payment resource (Patch payment) - Optional

Endpoint PATCH /v1/payments/payment/<Payment-Id>

Use this call to partially update the Payment resource for the given identifier. Only the transaction amount object, invoice_number, billing and shipping address can be updated.

Please note:

- Lines items cannot be update at any stage.
- Billing address can only be added/updated prior to the PayPal hosted pages.
- Shipping costs, discounts and other fees can be updated as part of the amount object

Please note: Only add and replace are valid operations. All other operations will fail.

Please note: Patch can only be utilized prior to Execute Payment. Once Execute Payment has been successfully completed, PATCH will no longer work.

Recommended parameters:

- Amount (/transactions/0/amount) including all sub parameters including subtotal. Please note: The entire amount object is replaced when updated
- Invoice / Order number (/transactions/0/invoice_number). **Must be unique**
- Shipping Address (/transactions/0/item_list/shipping_address)
- Billing Address (/potential_payer_info/billing_address) **Only prior to PayPal hosted pages!** (PayPal hosted pages are all pages the consumer is redirected to from the shop pages. They are hosted on paypal.com and include the PayPal login page, credit card and direct debit details pages and / or invoice details)

[Developer documentation](#)

04.3. Look up a payment resource – Optional

Endpoint GET /v1/payments/payment/{paymentId}

Use this call to get details about payments that have not completed, such as payments that are created and approved, or if a payment has failed.

[Developer documentation](#)

04.4. Execute an approved PayPal payment

Endpoint `POST /v1/payments/payment/{paymentId}/execute`

Use this call to execute (complete) a PayPal payment that has been approved by the payer. Execute should only submit the Payer ID. All transaction related updates (shipping address, charges that are part of the amount object, invoice_number should be updated by using PATCH payment.

Important: This call only works after a buyer has approved the payment using the provided PayPal approval URL.

[Developer documentation](#)

05. Refunds

Before initiating a refund it is recommended getting the details about completed payments (sale transaction) created by a payment request or to refund a direct sale transaction, PayPal provides the /sale resource and related sub-resources. You can find the sale transactions in the payment resource within `related_resources`.

URI <https://api.paypal.com/v1/payments/sale>

05.1. Look up a sale

Endpoint `GET /v1/payments/sale/{transactionId}`

Use this call to get details about a sale transaction.

Note: This call returns only the sales that were created via the REST API.

[Developer documentation](#)

05.2. Refund a sale

Endpoint `POST /v1/payments/sale/{id}/refund`

Use this call to refund a completed payment. Provide the `sale_id` in the URI and an empty JSON payload for a full refund. For partial refunds, you can include an amount.

[Developer documentation](#)

06. Payment Notifications

Instant Payment Notification is no longer supported in PayPal REST Payment. Existing integrations with IPN will continue to work but the listener script can no longer be referenced in the API calls. Notifications are sent only to the notifyURL set in the merchant account (https://www.paypal.com/de/cgi-bin/webscr?cmd=_profile-ipn-notify).

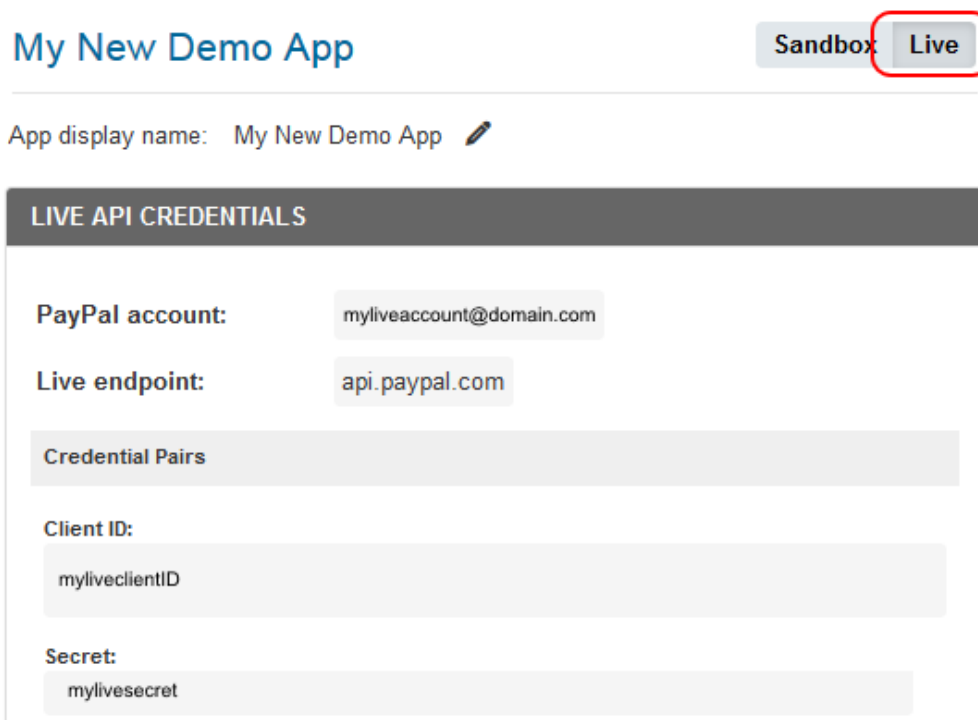
Payment notifications are managed via webhooks.

Please note: Webhooks require https!


07. Switching from Sandbox to Live environment

When testing is complete and you are ready for switch to live there are three touch points.

1. Change the API endpoint from <https://api.sandbox.paypal.com> to <https://api.paypal.com>
2. Change the Environment in the configuration element of the PLUS library by commenting out "mode": "sandbox", or replace sandbox with live.
3. Update the Sandbox REST credentials (Client / secret) with the live credentials from your REST APP. You can either generate a new REST APP or simply switch to Live within the credentials view of your APP.



My New Demo App Sandbox **Live**

App display name: My New Demo App 

LIVE API CREDENTIALS

PayPal account: myliveaccount@domain.com

Live endpoint: api.paypal.com

Credential Pairs

Client ID: myliveclientID

Secret: mylivesecret

4. Make sure your live account is enabled for PayPal PLUS.

08. Integrating PayPal PLUS


With PayPal PLUS your payment selection page is replaced by the PayPal hosted payment wall. Up to 5 non PayPal payment methods can be hosted within this payment wall.

Without PayPal PLUS:

Zahlungsart

- ☐ PayPal
- ☐ Vorkasse
- ☒ Nachnahme
(7,50 €) Nachnahmegebühr

With PayPal PLUS:



Ihr erstes Mal PayPal? Jetzt einfach kostenloses Konto während der Zahlung eröffnen und von [Käuferschutz](#) profitieren.

✓

Lastschrift

Kreditkarte

Vorkasse

Nachnahme

PayPal PLUS requires a PayPal Integration based on [PayPal's REST payment API](#).

Prior to rendering the payment wall a payment resource must be created. The corresponding API call is "create payment". When creating the payment resource amount, currency and items details must be submitted.

Depending on the individual checkout configuration the create payment call may also contain the buyer billing/shipping address but we recommend updating the payment resource after the user selected the payment method. (Patch Payment)

In the next step the actual PayPal payment wall is rendered. Each instance is rendered on demand. Unique identifier is the `approvalURL` as returned in the Create payment call. Depending on the configuration of this payment wall different scenarios may occur.

As default a payment button will be displayed within the payment wall and displayed when a user selects a payment method. It is also possible to use an existing button outside of the payment wall. To implement this use case, please refer to the chapter:

Integrating the external "continue button"

When a user is clicking the "checkout now" a `"DoCheckout"` function is invoked and the user is redirected to a PayPal hosted pages. Based on the selected method PayPal will direct the user to either the PayPal login - , credit card - or bank details page. All fields where information previously submitted will appear prepopulated.

It is possible to implement an extended flow where the `"DoCheckout function"` is executed on a subsequent page. For details on how to integrate please refer to the chapter:

Integrating the external "continue button"

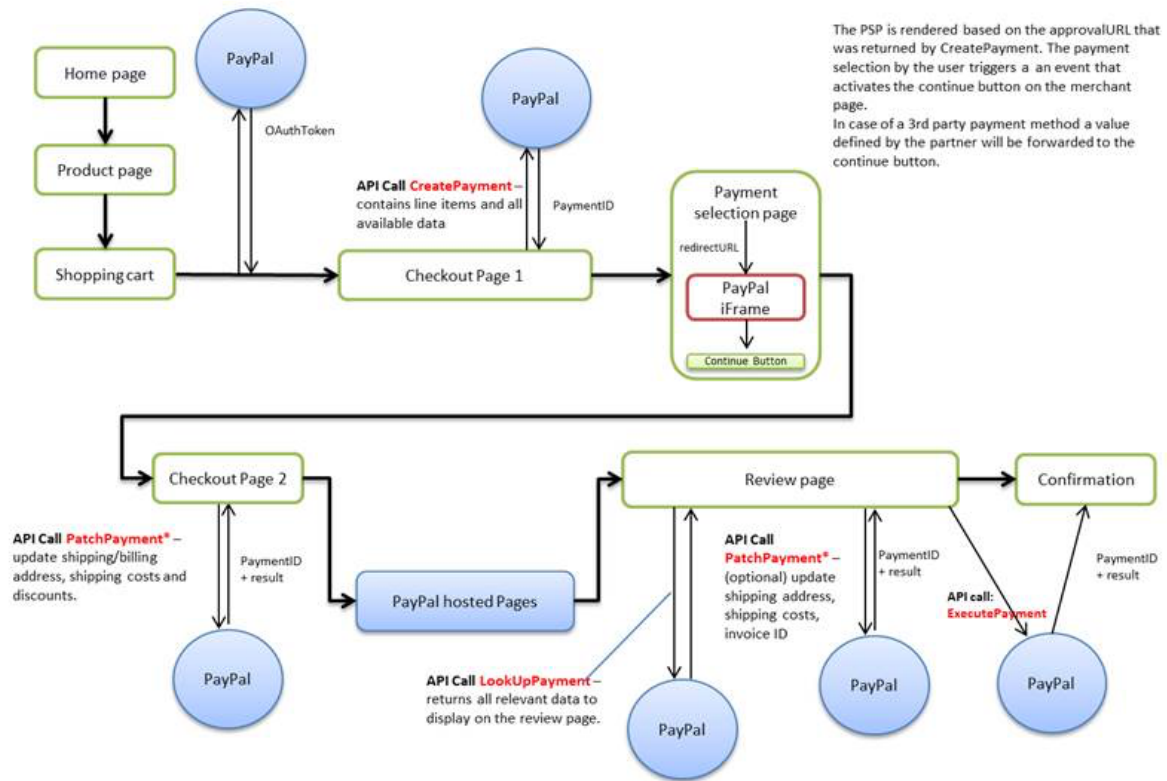
When hosting 3rd party methods in the paymentwall the `"DoCheckout function"` will redirect the user to the `redirectURL` as defined in the config element of the payment wall.

Once the user completed the required steps he will be redirect to the `returnURL`. From there the transaction should be handled like any standard PayPal transaction.

Please note:

PayPal PLUS only supports transaction type "Sale" (instant settlement).

PayPal Plus



PayPal PLUS Flow

08.1. Integrating the payment wall:

The payment wall is the actual payment selection frame. It is rendered on demand and based on the approvalURL as received in the `related_resources` object of the *Create Payment* response.

```
[related_resources] => Array
(
...

  [1] => Array
    (
      [href] => https://www.sandbox.paypal.com/cgi-bin/webscr?cmd=_express-checkout&token=EC-31737613MN931841V
      [rel] => approval_url
      [method] => REDIRECT
    )
...

```

Depending on the Billing address country a buyer will see all available funding sources for his country of origin.

1) Include JS library:

```
<script src="https://www.paypalobjects.com/webstatic/ppplus/ppplus.min.js"
type="text/javascript"></script>
```

2) Define a placeholder DIV:

```
<div id="ppplus"> </div>
```

3) Render Payment wall:

```
<script type="application/javascript">
  var ppp = PAYPAL.apps.PPP({
    "approvalUrl": "'.$approval_url.'",
    "placeholder": "ppplus",
    "mode": "sandbox",
    "country": "DE"
  });
</script>
```

4) (Optional) Configure the "Continue Button" ([see Integrating the external "continue button"](#)).

08.2. pppluslibrary

Provides a JavaScript library for including the PayPal PLUS Payment Selection Page (PSP) in a merchants website. When loaded, the library will attach itself as an object to PAYPAL.apps as PAYPAL.apps.PPP. The PPP object defines the following API:

08.3. API

```
var ppp = PAYPAL.apps.PPP(config)
```

Creates an instance of the PSP. It requires as only parameter a configuration object (described below). It returns the instance object.

```
ppp.doContinue()
```

This function should be invoked by the outside continue button when it is being clicked.

```
PAYPAL.apps.PPP.doCheckout()
```

This function should be invoked by the elsewhere continue button or when the checkout event is handled by the library.

08.4. Configuration object

The configuration object takes the following parameters:

Required parameters

```
approvalUrl : string
```

(required) The approvalUrl that is returned by the `create payment` call.

```
placeholder : string
```

(required) The id of a DOM object where the PSP will be mounted in the page. The PSP will adapt the width of that object.

```
country : ISO 3166-1 alpha-2, (e.g. FR, GB, DE, default US)
```

Country in which the PayPal PLUS service will be deployed.

Please note: The country code must be taken from the billing address a buyer entered during checkout.

Optional parameters

`mode` : "live" or "sandbox" (defaults to "live")

Depending on the mode, the library will load the PSP from different locations. `live` will load it from `paypal.com` whereas `sandbox` will load it from `sandbox.paypal.com`. The library will also emit warning to the console if the mode is `sandbox` (in `live` mode it will do so only for required parameters).

`buttonLocation` : "inside" or "outside" (defaults to "inside")

Determines the location of the Continue button. Don't forget to set the `onContinue` parameter.

`preselection` : "none", "paypal", "Vorkasse" synonyms (defaults to "paypal")

- Determines if one of the following should be preselected:
 - ✓ nothing (="none"),
 - ✓ PayPal Wallet (="paypal") or
 - ✓ thirdparty method with methodName "Vorkasse" (or one of its synonyms).
- "Vorkasse" synonyms: "Vorkasse", "Überweisung", "Vorauszahlung", "Vorausbezahlung", "Vorauskasse", "Vorabzahlung", "prepayment", "advance payment", "payment in advance" and "pay in advance"

`language` : Language: [ll]_[CC], e.g "en_US", "de_DE" (defaults to "en_US")

[ll] = language (ISO_639-1)

[CC] = country (ISO_3166-1_alpha-2)

[all supported locale codes](#)

Language in which to render PayPal PLUS PSP. This should be the language of the merchant shop to keep the content for the buyer consistent.

Please note: The language code should be dynamically filled according to the language displayed in the shop frontend. Currently unsupported languages will default to English but may be added at a later stage.

`onContinue` : callback or string

If a string is given that string will be interpreted as ID of a form in the document which will be submitted when the inside continue button is clicked. If a callback is given that callback will be invoked when the inside continue button is clicked.

`onLoad` : callback

A function that should be called when the iframe loaded successfully.

`enableContinue : callback or string`

If a string is given that string will be interpreted as ID of the outside continue button (may be any element) which will be enabled when a payment selection is made. In case of a callback that callback will be invoked then.

`disableContinue : callback or string`

If a string is given that string will be interpreted as ID of the outside continue button (may be any element) which will be disabled if no payment method is selected. In case of a callback that callback will be invoked then.

`deselectPaymentMethod`

Emitted when the action for deselecting all payment methods is being called.

`useraction: "commit"`

Checkout flow to be implemented by the Merchant. If not set, the default will be set to the "Continue" flow. The checkout flow selected determines whether the merchant explicitly requires that the buyer reviews and confirms the payment on a review page ("Continue" Flow) or if he/she can confirm payment on PayPal ("Commit" Flow).

`surcharging: "true" (defaults to false)`

If set to "true" it will activate a message that indicates that surcharges will be applied.

`showLoadingIndicator: true or false (defaults to false)`

If set to "true" it will show a loading spinner until the PSP is completely rendered.

`showPuiOnSandbox: true or false (defaults to false)`

If set to "true" PUI is shown in sandbox mode (NOTE: this parameter is ignored in production mode!)

`onThirdPartyPaymentMethodSelected : callback`

The callback will be invoked when a thirdPartyMethod is selected. Along with it you receive the method name.

`onThirdPartyPaymentMethodDeselected : callback`

The callback will be invoked when a thirdPartyMethod loses selection state through the selection of another paymentMethod

Example:

```
onThirdPartyPaymentMethodSelected: function (data) {
    /* for example:
    switch(data.thirdPartyPaymentMethod) {
    case x: ...
    case y: ...
    } */

    var output = "onThirdPartyPaymentMethodSelected callback, returned
data: " + JSON.stringify(data);
    console.log(output);
},
onThirdPartyPaymentMethodDeselected: function (data) {
    var output = "onThirdPartyPaymentMethodDeselected callback, returned
data: " + JSON.stringify(data);
    console.log(output);
},
```

Integrating third party payment methods in to the payment selection page

`thirdPartyPaymentMethods` : JSON Array

The user may configure up to 5 additional payment methods within the PSP. If more payment methods are defined, only the first 5 will be taken into account. If third party payment methods are specified, the user will be not be redirected to the PayPal checkout but to the given redirect URL directly (doCheckout function). The following is the structure of the JSON Object:

```
thirdPartyPaymentMethods:
[{"redirectUrl": "http://myshop.com/vorkasse.php",
"methodName": "Bank transfer",
"imageUrl": "https://myshop.com/logo.png",
"description": "my description"}]
```

The following validations will be performed on the JSON Array:

- If any of the Payment methods defined has errors, all the methods will be discarded.
- Parameters redirectURL and methodName are mandatory.
- The imageUrl must be a secure (https) URL.
- The image size must be maximum 100 x 25 px.
- methodName can contain maximum 25 Characters, additional characters will be truncated.

Customization

The following are the customization whitelists currently supported by the PSP:

Only whitelisted attributes and selectors may be defined. Additional attributes and selectors will be discarded. Take into account that not all attributes are available to all selectors.

URL's and URI's are not allowed.

CSS attributes

font-family (only for psp) (Default value: Arial)

Allowed values: "Arial", "Helvetica", "Times New Roman", "Times", "Courier New", "Courier", "Sans Serif". Webfonts are currently not supported.

font-size (only for psp) Default value: 12px

Sizes should be defined in Pixels (px) and/or EMs (em) with no space between value and unit.

range for em: 0.75 - 1.0

range for px: 12 - 16

font-style (only for psp) : Default value: "normal"

Allowed values: "normal", "italic"

color

Allowed formats: "#f0f0f0", "rgb(100,100,100)", "red"

text_decoration (only for link, visited, hover and active)

Allowed values: "none", "underline"

CSS selectors

Psp

link (a)

visited (a:visited)

hover (a:hover)

active (a:active)

styles object example

```
{
  "psp": {
    "font-family": "Times New Roman",
    "color": "green",
    "font-size": "14px",
    "font-style": "italic"
  },
  "link": {
    "color": "red",
    "text-decoration": "underline"
  },
  "visited": {
    "color": "green",
    "text-decoration": "underline"
  },
  "active": {
    "color": "yellow",
    "text-decoration": "underline"
  },
  "hover": {
    "color": "rgb(100,66,200)",
    "text-decoration": "underline"
  }
}
```

08.5. Integrating the external "continue button"

If configured in the JS library a continue button will appear next to the selected payment method. In most scenarios an external button will be used though. Please follow these simple steps to configure an external button.

In the JS library use the following setup:

```
buttonLocation: "outside",  
disableContinue: "continueButton",  
enableContinue: "continueButton",
```

PayPal recommends disabling the button if there is no payment method selected but it is not required. Replace "continueButton" with your button ID.

Example button:

```
<button  
  type="submit"  
  id="continueButton"  
  onclick="PAYPAL.apps.PPP.doCheckout();">  
  Checkout Now  
</button>
```

In this scenario a click on the button will directly lead to the hosted PayPal pages.

If there is an additional page prior to the redirect, please add the onContinue function to the configuration object of the PayPal PLUS library.

```
onContinue: function () {  
  window.location = "nextpage.php";  
},
```

Add this to the continue button

```
<button  
  type="submit"  
  id="continueButton"  
  onclick="ppp.doContinue(); return false;">  
  Checkout  
</button>
```

On this nextpage.php the PayPal PLUS library needs to be loaded and the checkout function added to the button.

```
<button  
  type="button"  
  onclick="PAYPAL.apps.PPP.doCheckout();">  
  PayPal PLUS Checkout Now  
</button>
```

08.6. Update (Patch) payment

In a best practice integration billing and shipping address are not submitted prior to the user selecting a PayPal payment method. Once the buyer indicates that he wants to use one of the payment methods provided by PayPal the payment resource should be updated with user specific data.

In addition the amount object can be updated. When replacing values within the object make sure to submit all properties you wish to keep. Patch replaces the entire object and not just the individual value.

Please note: The line items are fixed at this stage and must not be updated.

Method: PATCH

Resource: <https://api.sandbox.paypal.com/v1/payments/payment/PAY-3GA34907N1379922SKYN25II>

Sample PATCH Request

```
[0] => Array
(
    [op] => replace
    [path] => /transactions/0/amount
    [value] => Array
        (
            [total] => 0.01
            [currency] => EUR
            [details] => Array
                (
                    [subtotal] => 4.99
                    [shipping] => 1.00
                    [shipping_discount] => -5.98
                )
        )

[1] => Array
(
    [op] => add
    [path] => /potential_payer_info/billing_address
    [value] => Array
        (
            [line1] => Rechnungs Str. 41
            [city] => Berlin
            [country_code] => DE
            [postal_code] => 12345
        )

[2] => Array
(
    [op] => add
    [path] => /transactions/0/item_list/shipping_address
    [value] => Array
```



```
(  
  [recipient_name] => Max Mustermann  
  [line1] => Lieferstr. 1  
  [city] => Berlin  
  [country_code] => DE  
  [postal_code] => 12345  
)
```

In the response the updated Resource is returned.

08.7. Redirect to authorize payment

Depending on the selected payment method the user will be directed to the correct landing page. (Either PayPal Login, Credit Card Credentials, ELV details or invoice). This redirect is initiated by either the inside button or – if you integrated the “continue button” – by the `PAYPAL.apps.PPP.doCheckout` function.

🛒 €5,00

Mit Kreditkarte zahlen

Wir geben Ihre Zahlungsdaten nicht an den Händler weiter.

Deutschland

VISA

MARCA

AMEX

EURO

Kreditkartennummer

Gültig bis

MM

JJ

Prüfnr.

3-stellig

Max

Mustermann

E-Mail

Handy

Telefonnummer

Rechnungsadresse

Lieferstr. 1

Adresszusatz

14532

Kleinmachnow

PayPal-Konto eröffnen (optional)

Sie können auch ohne PayPal-Konto fortfahren. Wenn Sie jedoch ein Konto eröffnen, können Sie bei Problemen auf den PayPal-Käuferschutz zählen. Und Sie können in Zukunft bequem mit E-Mail-Adresse und Passwort zahlen.

PayPal-Konto eröffnen? (Es dauert nur einen Moment.)


☐ Ja, kostenloses PayPal-Konto eröffnen.

☒ Nein danke

☐ Ich bin volljährig, habe die Bedingungen und Datenschutzgrundsätze für Zahlungen ohne PayPal-Konto (inklusive Datenverarbeitung und -weitergabe) gelesen und stimme diesen zu. Weitere Informationen über PayPal finde ich unter Wesentliche Hinweise zu unserem Service.

Zurück

Jetzt zahlen



Datenschutz ist uns wichtig

Ihre Zahlungsdaten werden verschlüsselt, um sie vor Missbrauch zu schützen, sodass Sie unbesorgt einkaufen können.

After completion the user is returned to the `returnURL` as defined in Create Payment.

08.8. Look Up Payment

Please use the GET URL as returned in the Create Payment

Method: GET

Resource: <https://api.sandbox.paypal.com/v1/payments/payment/PAY-3GA34907N1379922SKYN25II>

Look up payment is by definition optional but we recommend using it on return to the final review page. The data returned should be used to populate the shipping address. The user must not be allowed to change order details but can edit the shipping address, as long as the latter is submitted in a subsequent PATCH Payment call. An invoice number, shipping and handling charges as part of the amount object can be added as well.

The payment method should be referenced as "processed by PayPal".

08.9. Update (Patch) payment

After a buyer has approved a transaction on the PayPal hosted pages the *billing address* may no longer be updated.

A typical use case would be adding the shipping address and an invoice number

```
[0] => Array
(
    [op] => add
    [path] => /transactions/0/invoice_number
    [value] => My unique Invoice ID 12345678ABCD
)

[1] => Array
(
    [op] => add
    [path] => /transactions/0/item_list/shipping_address
    [value] => Array
        (
            [recipient_name] => Erika Mustermann
            [line1] => Neue Lieferstr. 7
            [city] => Berlin
            [country_code] => DE
            [postal_code] => 12345
        )
    )
)
```

08.10. Execute Payment

Execute payment completes the transaction. It can either be initiated from the final review page or in the background upon return from the hosted pages when there is no final review page (commit flow). Any updates and changes to shipping address, shipping and handling charges must prior be submitted to PayPal via PATCH.

Please note: The actual PayPal transaction ID and the status of the PayPal transaction are returned in the `related_resources` array as:

```
[id] => 0XK08547HM111121A
[state] => completed
```

Sample Request:

Method: POST
Resource: <https://api.sandbox.paypal.com/v1/payments/payment/PAY-3GA34907N1379922SKYN25II/execute>

```
Data: {
  "payer_id": "HE4WLMC3N3AWN"
}
```

09. Integrating manual Bank Transfer (mEFT)

As part of PayPal's funding mix a buyer may select manual bank transfer as funding instrument for a PayPal payment. In this case the transaction will be non-instant and the payment status returned "pending" until the buyer settles the amount with PayPal.

In this scenario PayPal will return the following in the execute payment response:

```
"reason_code": "ECHECK",
"state": "pending",

"payment_instruction": {
  "reference_number": "C12W2P058PNFV5V",
  "recipient_banking_instruction": {
    "routing_number": "501 108 00",
    "bank_name": "J.P. Morgan AG, Frankfurt",
    "bank_identifier_code": "CHASDEFX",
    "account_holder_name": "PayPal Pte. Ltd",
    "account_number": "6161604670",
    "international_bank_account_number": "DE86 5011 0800 6161 6046 70"}
```

To accommodate this scenario, at least two steps are required:

- define a `bankpending_url` in the experience profile and / or
- capture the reason code `"echeck"` and when returned display the bank details on the success page with instruction to wire the due amount to bank account shown.
- In order to receive the status updates for this pending transaction, webhooks should be integrated. The transaction will also appear in the settlement files once it is completed and can be queried via look up.

10. Additional Steps to Integrate Pay upon Invoice

10.1. Before you start:

Invoice requires a valid billing address. For the best user experience both – billing and shipping address – should be submitted to PayPal prior to redirecting the user to the PayPal hosted pages.

Pay upon Invoice is enabled on account level. There are no additional steps required to trigger invoice in the PayPal PLUS payment selection page. Invoice transactions will be marked as such and they return a payment instructions object in the execute payment response. Other than this they are treated like any other PayPal transaction.

As per default Pay upon Invoice is offered for total amounts between 1,50 and 1470 EUR.

10.2. Enabling Pay upon Invoice in Sandbox

To test pay upon invoice in Sandbox you can enable the payment method in PLUS by adding the following parameter to the configuration object:

```
showPuiOnSandbox: "true",
```

10.3. Step 1: Retrieving Payment Instructions:

When a user selects Pay upon Invoice (PuI) the following parameters are returned in a Payment Instruction Object as part of the response to a successful Execute Payment Request.

reference_number	string ID of payment instruction
instruction_type	string Type of payment instruction
recipient_banking_instruction	object Recipient bank Details.
amount	object Base object for all financial value related fields (balance, payment due, etc.)
payment_due_date	string Date by which payment should be received

An addition a HATEAOS link to retrieve payment instructions is returned.

Payment instructions and HATEAOS link to retrieve payment instructions must be stored in a database table where it can later be retrieved for the invoice print.

Sample response Execute Payment Response:

```
[payment_instruction] => Array
(
    [reference_number] => 7FC35911MD7697828
    [instruction_type] => PAY_UPON_INVOICE
    [recipient_banking_instruction] => Array
        (
            [bank_name] => Deutsche Bank
            [account_holder_name] => PayPal Europe
            [international_bank_account_number] => DE07120700888000XXXXXX
            [bank_identifier_code] => DEUTDEDBPAL
        )

    [amount] => Array
        (
            [value] => 4.99
            [currency] => EUR
        )

    [payment_due_date] => 2015-09-24

    [links] => Array
        (
            [0] => Array
                (
                    [href] =>
https://api.paypal.com/v1/payments/payment/PAY-
1VG08356YH269600PKXOBRAY/payment-instruction
                    [rel] => self
                    [method] => GET
                )
        )
    )
```

Payment instructions may also be retrieved at any later stage by calling the Lookup Payment Instructions for a payment resource.

Sample response GET Payment Instructions:

```
lookup payment instructions] => Array
(
    [reference_number] => 7FC35911MD7697828
    [instruction_type] => PAY_UPON_INVOICE
    [recipient_banking_instruction] => Array
        (
            [bank_name] => Deutsche Bank
            [account_holder_name] => PayPal Europe
            [international_bank_account_number] => DE07120700888000XXXXXX
            [bank_identifier_code] => DEUTDEDBPAL
        )

    [amount] => Array
        (
            [value] => 4.99
            [currency] => EUR
        )

    [payment_due_date] => 2015-09-24
    [links] => Array
        (
            [0] => Array
                (
                    [href] => https://api.paypal.com/v1/payments/payment/PAY-1VG08356YH269600PKXOBRAY/payment-instruction
                    [rel] => self
                    [method] => GET
                )
            )
        )
    )
```

10.4. Presentation on the Success Page

On successful completion of a transaction the buyer is redirected to a Success Page. On this page a buyer should be advised that the amount is to be settled with PayPal and the Payment Instructions as returned by PayPal should be displayed.

10.5. Step 2: Managing invoice transactions

Transactions flagged as pay upon invoice are regular PayPal transactions so they are handled in the same way as any other PLUS transaction. There is one significant difference though: The payment instruction returned by PayPal must be displayed on the printed invoice that is generated in the administration panel of the shop. This invoice should only contain the PayPal bank details as returned in the GET call. The merchant bank details must not be shown.

The invoice details must contain (taken from the example above):

Bank name:	"Deutsche Bank",
Account holder name	"PayPal Europe",
IBAN	"DE07120700888000XXXXXX",
BIC	"DEUTDEDBPAL"
Amount due / currency	"4.99 EUR"
Payment due date	"2015-09-24"
Reference	"7FC35911MD7697828"

The payment instructions must always be taken from the values as in returned in the instruction. None of the values from the payment instruction object may be hard coded including bank, recipient and IBAN. These details may be retrieved from the database table or looked up by executing another GET call for the payment resource ID in question.

A legal note must be added to the invoice:

„[Händlername] hat die Forderung gegen Sie im Rahmen eines laufenden Factoringvertrages an die PayPal (Europe) S.àr.l. et Cie, S.C.A. abgetreten. Zahlungen mit schuldbefreiender Wirkung können nur an die PayPal (Europe) S.àr.l. et Cie, S.C.A. geleistet werden.“

Please Note: IBAN is not a static value and must not be saved for future reference.

If prior to the invoice print a partial refund was initiated these changes must be reflected in the payment instructions.

11. Integration using requires

Example for mostly integrated use case: immediate checkout with outside button

checkout.html (excerpt):

```
<button
id="outsideButton"
type="submit"
onClick="require(['OutsideButton']); return false;">
<your button title>
</button>
...
<script src="static/require.js"></script>
...
<script type="text/javascript">
<!-- kick off PP+ -->
require(["main"], function onConfigLoaded() {
require(['CheckoutStart']);
});
</script>
```

main.js:

```
require.config({
paths: {
"PPP": "https://www.paypalobjects.com/webstatic/ppplus/ppplus.min"
}
});
```

CheckoutStart.js:

```
define("CheckoutStart", ["PPP"], function (PPP) {
"use strict";
return PPP(<your-configuration-object>);
});
```

OutsideButton.js:

```
define("OutsideButton", ["CheckoutStart"], function (configuredPPP) {
"use strict";
// if onContinue callback is given this will be executed, take the user to
another page
// if no onContinue callback given this will execute doCheckout internally
and
redirect
// the user to the selected payment method checkout page
configuredPPP.doContinue();
});
```

If you choose the elsewhere button experience you also need to call `doCheckout()`:

elsewhere.html (excerpt):

```
<button
id="elsewhereButton"
type="submit"
onClick="require(['ElsewhereButton']); return false;">
<your button title>
</button>
...
<script data-main="main" src="static/require.js"></script>
...
<script type="text/javascript">
<!-- NO kick off needed here for PP+ since the payment selection page was
rendered
in checkout.html -->
</script>
```

ElsewhereButton.js:

```
define("ElsewhereButton", ["PPP"], function (PPP) {
"use strict";
PPP.doCheckout();
});
```

12. PayPal PLUS Walk Through

12.1. Checkout with ELV

PayPal Plus Sample Shop

[Sample Shop Home](#) / [goshopping](#) / [showcart](#) / [checkout](#)

How do you want to pay?

Choose your favorite way to spend some money:



Lastschrift

Kreditkarte

Shipping Details

Shopping Cart

Item	Quantity	Price	Subtotal
Rugby Ball, Size 5	1	€ 25.00	€ 25.00

Total: €25.00

Shipping Address:

recipient name:	Max Mustermann
street:	Mehringdamm 82
postal code:	10965
city:	Berlin
country code:	DE

Shipping Options:

express shipping:	on
-------------------	----

The outside continue button:

Checkout

PayPal Plus Sample Shop

[Sample Shop Home](#) / [goshopping](#) / [showcart](#) / [checkout](#)

How do you want to pay?

Choose your favorite way to spend some money:



Lastschrift

In unserem Auftrag sicher von PayPal durchgeführt.



Kreditkarte

Shipping Details

Shopping Cart

Item	Quantity	Price	Subtotal
Rugby Ball, Size 5	1	€ 25.00	€ 25.00

Total: €25.00

Shipping Address:

recipient name:	Max Mustermann
street:	Mehringdamm 82
postal code:	10965
city:	Berlin
country code:	DE

Shipping Options:

express shipping:	on
-------------------	----

The outside continue button:

Checkout

€25,00

Per Lastschrift bezahlen

Wir geben Ihre Zahlungsdaten nicht an den Händler weiter.

Deutschland

Max

Mustermann

Bankverbindung

IBAN eingeben?

1- bis 10-stellig

8-stellig

Geburtsdatum

TT

MM

JJJJ

E-Mail-Adresse

Handy

Telefonnummer

Rechnungsadresse

Mehringdamm 82

10965

Berlin

☒ An meine Rechnungsadresse liefern

PayPal-Konto eröffnen (optional)

Sie können auch ohne PayPal-Konto fortfahren. Wenn Sie jedoch ein Konto eröffnen, können Sie bei Problemen auf den PayPal-Kauferschutz zählen. Und Sie können in Zukunft bequem mit E-Mail-Adresse und Passwort zahlen.

PayPal-Konto eröffnen? (Es dauert nur einen Moment.)

☐ Ja, kostenloses PayPal-Konto eröffnen.

☒ Nein danke

☐ Ich bin volljährig, habe die Bedingungen für Zahlungen ohne PayPal-Konto und die Datenschutzgrundsätze (einschließlich Datenverarbeitung und -weitergabe) gelesen, gespeichert und stimme diesen sowie einer Bonitätsprüfung zu. Weitere Informationen über PayPal finde ich unter [Wesentliche Hinweise zu unserem Service](#).
 ☐ Ich erteile PayPal ein SEPA-Lastschriftmandat und ermächtige PayPal, Zahlungen von meinem Bankkonto mittels Lastschrift einzuziehen. Zugleich weise ich mein Kreditinstitut an, die von PayPal gezogenen Lastschriften einzulösen. Ich kann innerhalb von acht Wochen, beginnend mit dem Belastungsdatum, die Erstattung des belasteten Betrags verlangen.

Zurück

Jetzt zahlen

Datenschutz ist uns wichtig

Ihre Zahlungsdaten werden verschlüsselt, um sie vor Missbrauch zu schützen, sodass Sie unbesorgt einkaufen können.

[Abbrechen und zurück zu PPPlusTestShop2.](#)

[Impressum](#) [AGB](#) [Datenschutz](#) [Wesentliche Hinweise zu unserem Service](#) [Feedback](#)

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PayPal Plus Sample Shop

[Sample Shop Home](#) / [commit](#)

Please confirm your purchase!

Buy now

12.2. Checkout with Credit Card

PayPal Plus Sample Shop ([debug UI](#), [config](#), [clear](#))

[Sample Shop Home](#) / [goshopping](#) / [showcart](#) / [checkout](#)

How do you want to pay?

Choose your favorite way to spend some money:



Lastschrift

Kreditkarte

In unserem Auftrag sicher von PayPal durchgeführt.



Shipping Details

Shopping Cart

Item	Quantity	Price	Subtotal
Rugby Ball, Size 5	1	€ 25.00	€ 25.00

Total: €25.00

Shipping Address:

recipient name:	Max Mustermann
street:	Mehringdamm 82
postal code:	10965
city:	Berlin
country code:	DE

Shipping Options:

express shipping:	off
-------------------	-----

The outside continue button:

Checkout

€25,00

Mit Kreditkarte zahlen

Wir geben Ihre Zahlungsdaten nicht an den Händler weiter.

Deutschland

VISA

MasterCard

AMEX

DISCOVER

Kreditkartennummer

Gültig bis

MM JJ

Kartenprüfnr.

3-stellig

Max

Mustermann

E-Mail-Adresse

Handy

Telefonnummer

Rechnungsadresse

Mehringdamm 82

10965

Berlin

☒ An meine Rechnungsadresse liefern

PayPal-Konto eröffnen (optional)

Sie können auch ohne PayPal-Konto fortfahren. Wenn Sie jedoch ein Konto eröffnen, können Sie bei Problemen auf den PayPal-Käuferschutz zählen. Und Sie können in Zukunft bequem mit E-Mail-Adresse und Passwort zahlen.

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☐ Ja, kostenloses PayPal-Konto eröffnen.

☒ Nein danke

☐ Ich bin volljährig, habe die [Bedingungen und Datenschutzgrundsätze](#) für Zahlungen ohne PayPal-Konto (inklusive Datenverarbeitung und -weitergabe) gelesen, gespeichert und stimme diesen zu. Weitere Informationen über PayPal finde ich unter [Wesentliche Hinweise zu unserem Service](#).

Zurück

Jetzt zahlen

Datenschutz ist uns wichtig

Ihre Zahlungsdaten werden verschlüsselt, um sie vor Missbrauch zu schützen, sodass Sie unbesorgt einkaufen können.

[Abbrechen und zurück zu PPPlusTestShop2.](#)

[Impressum](#) [AGB](#) [Datenschutz](#) [Wesentliche Hinweise zu unserem Service](#) [Feedback](#)

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PayPal Plus Sample Shop

[Sample Shop Home](#) / [commit](#)

Please confirm your purchase!


Buy now

PayPal Plus Sample Shop (debug UI, config, clear)

[Sample Shop Home](#) / [goshopping](#) / [showcart](#) / [checkout](#)

How do you want to pay?

Choose your favorite way to spend some money:



☒ **Kauf auf Rechnung** Ein PayPal-Servicio. Sie benötigen kein PayPal-Konto.

Shipping Details

Shopping Cart

Item	Quantity	Price	Subtotal
Rugby Ball, Size 5	1	€ 25.00	€ 25.00

Total: €25.00

Shipping Address:

recipient name:	Max Mustermann
street:	Mehringdamm 82
postal code:	10965
city:	Berlin
country code:	DE

Shipping Options:

express shipping:	off
-------------------	-----

The outside continue button:

Checkout

Evans Unlimited

Kauf auf Rechnung

 25,00 EUR ▾

Durchgeführt von PayPal

Ihre persönlichen Daten

Ihre Adresse

[Ändern](#)

Max Mustermann
Mehringdamm 82
10965 Berlin

E-Mail

Geburtsdatum

TT ▾ MM ▾ JJJJ ▾

☐ Ich habe die [Bedingungen](#) und [Datenschutzgrundsätze](#) für Zahlungen ohne PayPal-Konto (inklusive Datenverarbeitung und -weitergabe) gelesen, gespeichert und stimme diesen sowie einer [Bonitätsprüfung](#) zu.

Zurück

Zustimmen und fortfahren

[Abbrechen und zurück zu Julian Fieischer's Test Store.](#)

[Impressum](#) [AGB](#) [Datenschutz](#) [Wesentliche Hinweise zu unserem Service](#) [Feedback](#)

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13. Appendix

13.1. Technical Documentation

Account set up and configuration

Sandbox and User Guide

The PayPal Sandbox self-service testing environment

<https://developer.paypal.com/>

https://developer.paypal.com/webapps/developer/docs/classic/lifecycle/ug_sandbox/

13.2. API Documentation

PayPal API Reference

<https://developer.paypal.com/webapps/developer/docs/api/>

PayPal REST SDK:

<https://github.com/paypal/PayPal-PHP-SDK/releases/tag/v1.2.1>

13.3. Reporting

Settlement Report Specification (STL v7)

Detailed information about the structure of the daily Settlement Report

https://cms.paypal.com/cms_content/US/en_US/files/developer/PP_LRD_Gen_SettlementReport.pdf

Transaction Details Report (TRR v10)

Detailed information about the structure of the daily Transaction Details Report

https://cms.paypal.com/cms_content/US/en_US/files/developer/PP_LRD_Gen_TransactionDetailReport.pdf

Downloadable Dispute Report (DDR v7)

Detailed information about the structure of the daily Dispute Report

https://cms.paypal.com/cms_content/US/en_US/files/developer/PP_LRD_GenDisputeReport.pdf