



PayPal Integration Guide

FOR SALESFORCE COMMERCE CLOUD



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1 Summary

This Implementation Guide describes how to integrate `int_paypal` and `bm_paypal` cartridges version 20.1.0 into Commerce Cloud reference application Store Front Reference Architecture (SFRA).

The `int_paypal` and `bm_paypal` includes:

- PayPal Checkout from cart and payment pages
- Billing Agreement creation in the checkout process
- Review and post-process PayPal transactions in the Business Manager

PayPal integration uses PayPal REST Order API for checkout and Payment API for transaction post processing in Business Manager.

For more information, contact your PayPal support manager.

2 Component Overview

2.1 Supported Features

2.1.1 Smart Payment Button

PayPal Checkout with Smart Payment Buttons gives your buyers a simplified and secure checkout experience. PayPal intelligently presents the most relevant payment types to your shoppers, automatically, making it easier for them to complete their purchase using methods like Pay with Venmo, PayPal Credit, credit card payments.

[Button Demo](#)

2.1.2 Billing Agreement and Reference Transactions

The PayPal Billing Agreement (Reference Transactions) feature helps customers to pay more quickly. If a buyer accepts Billing Agreements with your site, they can check out without redirection to PayPal, both from the Cart and Billing page.

To learn more, see [Reference transactions overview](#).

NOTE: Reference transaction needs to be enabled in a merchant account setting.
Please contact your PayPal support manager enable this feature on your account

2.1.3 Alternative Payment Methods

Alternative payment methods allow customers across the globe to pay with their bank accounts, wallets, and other local payment methods. Relevant alternative payment methods are automatically presented with Smart Payment Buttons.

To learn more, see [Alternative Payment Methods overview](#).

2.1.4 Transactions post processing

Orders paid with integration can be post-processed from separate Business Manager module. Post-processing includes transaction capture, refund and void. Also, you can create a new transaction using existed billing agreement id.

Check [Business Manager](#) chapter for more details.

2.1.5 PayPal-provided Billing Address and Phone Number

To retrieve a buyer's billing address and phone number from the PayPal Checkout flow, please contact your PayPal representative or PayPal Support to enable them.

Important: Retrieve billing address and phone number should be enabled in merchant account before PayPal button will be enabled on a cart page.

2.2 Privacy and Payment

This integration requires access to the following customer data elements: Shipping Address, Order Details, Customer Profile.

3 Implementation Guide

3.1 Overview

Two cartridges support this integration:

1. **int_paypal** - Commerce Cloud storefront extension cartridge
1. **bm_paypal** - Business Manager extension “PayPal Transactions” cartridge

The following sub-sections describe the entry points for the integration.

3.2 Installation

3.2.1 Import metadata archive

1. Upload and import meta.zip from the metadata folder. To do so, go to **Business Manager > Administration > Site Development > Site Import & Export**. Upload archive using Local option in the Upload Archive section. After upload choose metadata.zip in the list and click on import button.

Site Import & Export

This page allows you to export the current configuration of your organization including all of its sites. To download an archive, just click its file name.

Import

Upload Archive:

Local Remote

Browse... No file selected.

Select	Name	Location	File Size	Last Modified
<input type="radio"/>	metadata.zip	local	6.08 KB	8/27/20 11:26:08 am
<input type="radio"/>	SiteGenesis Demo Site			
<input type="radio"/>	Storefront Reference Architecture Demo Sites			

Figure 1. metadata.zip archive import

3.2.2 Add cartridge to cartridge path

Add `int_paypal` into the cartridge path of a target site. To do so, go to **Business Manager > Administration > Sites > Manage Sites > Your Target Site > Settings** and insert `int_paypal` before your cartridges record, as shown in Figure 2.

RefArch - Settings

Click **Apply** to save the details. Click **Reset** to revert to the last saved state.

Instance Type: Sandbox/Development

Deprecated. The preferred way of configuring HTTP and HTTPS hostnames is by using new features of the site aliases configuration ("SEO > Aliases Configuration"). The HTTP/HTTPS hostname configuration are intended only to support an older configuration style.

HTTP Hostname:

HTTPS Hostname:

Instance Type: All

Cartridges:

Effective Cartridge Path:

- int_paypal
- app_storefront_base
- plugin_apple_pay
- plugin_facebook
- plugin_pinterest_commerce
- plugin_web_payments
- bc_content
- core

Figure 2. Storefront cartridge path

3.2.3 Adding API Credentials

Go to **Business Manager > Administration > Operations > Services > Credentials** and click on `Paypal_Sandbox_Credentials`. Enter Client Id as **User** and Secret as **Password**. Client Id and Secret can be obtained in the app details at the PayPal developer portal.

For more details about REST apps and credentials please visit [Get credentials](#) page at the PayPal Developer Portal.

For Production change URL to <https://api.paypal.com/>. Credentials Name could be changed to match credentials type, for example `PayPal_Production_Credential` but it is not required.

NOTE: Current integration supports only one credentials usage at a time. If you wish to use multiple credentials at one sandbox you should customize cartridge at `PaypalRestService.js` file

(Optional) For non-production activities we recommend to enable communication log for the `int_paypal.http.rest` service. The communication log will log every request and response to the log files. To do this navigate to the **Business Manager > Administration > Operations > Services** and click on `int_paypal.http.rest`. Check Communication Log Enabled checkbox (Figure 4)

PLEASE NOTE: By enabling the communication log, some details such as customer's personal information including address, phone, and email will be logged in cleartext. This should only be used for debugging purposes. We recommend, if possible, only use this in a sandbox; however, when used in production, ensure you are disabling / unchecking the communication log box immediately after you are done with your debugging. Further, some credentials will also be saved in cleartext.

[Administration > Operations > Services](#) > `int_paypal.http.rest` - Details

int_paypal.http.rest[?]

Fields with a red asterisk (*) are mandatory. Click **Apply** to save the details. Click **Reset** to revert to the last saved state.

The screenshot shows the configuration page for the `int_paypal.http.rest` service. The form fields are as follows:

- Name: `int_paypal.http.rest`
- Type: `HTTP`
- Enabled:
- Service Mode: `Live`
- Log Name Prefix: `PayPalRest`
- Communication Log Enabled: (This field is highlighted with a red rectangular box.)
- Force PRD Behavior in Non-PRD Environments:
- Profile: `PayPal_Profile`
- Credentials: `Paypal_Sandbox_Credentials`

Figure 3. Service Example

3.2.4 Papal Transaction Business Manager module installation

Add `bm_paypal` into the record of the Business Manager cartridge path. Go to **Business Manager > Administration > Sites > Manage Sites > Manage the Business Manager Site > Settings** and add `bm_paypal` to the input as shown in Figure 4.

Business Manager - Settings

Click **Apply** to save the details. Click **Reset** to revert to the last saved state.

Instance Type:

Deprecated. Up to two instance specific hostname aliases for Business Manager can be configured here.

HTTP Hostname:

HTTPS Hostname:

Instance Type: All

Cartridges:

Effective Cartridge Path: app_business_manager:plugin_apple_pay:plugin_facebook:plugin_pinterest_commerce:plugin_web_...

Figure 4. Business Manager Cartridge Path

Grant access to PayPal Transactions (the BM Extension feature) to the target roles (and optionally, for the Business Manager “PayPal Transactions” extension). Here’s how:

- a. Go to **Business Manager** > **Administration** > **Organization** > **Roles & Permissions** and select the target role that needs to have access to PayPal Transaction management.
- b. Select the **Business Manager Modules** tab in the drop-down list on top. You must select your target site as the active context. (See **Error! Reference source not found..**)
- c. Scroll to the **PayPal Transactions** module. Grant access to it by selecting the checkbox and clicking **Update**.

Once you do this, every Business Manager user with that role can manage PayPal Transactions by selecting **Business Manager** > **Merchant Tools**> **Ordering** > **PayPal Transactions**.

3.2.5 Custom cache configuration

Custom cache required for fast and stable work on the integration. Navigate to **Business Manager** > **Administration** > **Operations** > **Custom Caches** and check checkbox **Enable Caching**.

There are 2 custom cache objects used by the integration

1. paypalPreferences - custom site preferences cached. Out of the box, the integration supports single site usage and custom preferences are cached. For multiple sites we recommend removing cache definition from caches.json file in the cartridge.
2. paypalRestOauthToken - OAUTH token for communication with PayPal REST API. Out of the box, the integration supports single site usage and token retrieved from

PayPal is cached. For multiple credentials usage we recommend removing cache definition from caches.json file in the cartridge.

NOTE: Custom Cache could be disabled for developing or testing purposes. But we don't recommend disabling it on production and staging to avoid performance issue and http calls quota violation.

3.3 Configuration

3.3.1 Updating Cartridge Custom Site Preferences

Go to **Business Manager > Merchant Tools > Site Preferences > Custom Site Preferences**. You'll see new Custom Site Preference Group called PayPal Configuration (Figure 7)

ID	Name	Description	Preferences	View Across Sites
Storefront Configs	Storefront Configurations		5	View
Paypal_Express_Checkout	Paypal Configuration		6	View

Figure 5. PayPal Custom Site Preferences

Click **View** for PayPal Express Checkout. Detailed description about each option is available under preference name on the page.

List of preferences:

- Transaction intent type
- Show PayPal button on the cart page
- Billing Agreement Enabled
- Brand Name
- Billing Agreement Description
- Merchant ID

NOTE: *Show PayPal button on the cart page* requires customer shipping address. Review [PayPal-provided Billing Address and Phone Number](#) before enabling this preference.

NOTE: Review section [Billing Agreement and Reference Transactions](#) section before enable Billing Agreement feature.

3.3.2 Job configuration for removal outdated transaction

To record transaction created from Business Manager cartridge use custom object feature. After the year transaction became outdated and to remove it job with recurring interval was imported with metadata.

Job has site context and default site id is RefArch. If you have different site id, navigate to **Business Manager > Administration > Operations > Jobs >**

RemoveOutdatedPayPalTransaction > Job Steps and click on RefArch mark near Scope and select new site to run.

By default, job will run every 2 months. If you don't create transaction from Business Manager or you want to change a job interval, navigate to **Business Manager** > **Administration** > **Operations** > **Jobs** > **RemoveOutdatedPayPalTransaction** > **Schedule and History**. Uncheck Enable checkbox if you want to disable the job or change an internal in the menu below.

3.3.3 Static values configuration

All configuration option available in `cartridge/config/sdkConfig.js` file. You could change

1. Smart button style options. Change variables `paypalBillingButtonConfig` (affect button on billing page) or `paypalCartButtonConfig` (affect button on cart page). More details [Customize the PayPal Buttons](#).
2. Allowed currencies. By default, all currencies are allowed. Currency list available under `allowedCurrencies` variable. More details [Currency](#)
3. Disable funds. By default, only alternative payment methods are disabled. More details [Disable funding](#) and [Alternative Payment Methods](#)
4. Static image for PayPal button. Will be rendered on a page in use cases where quick checkout is available, and load of the Smart Payment Button is not required. List of images for usage - [Available images](#)

3.3.4 Alternative Payment Methods Configuration

By default, all payment methods are disabled for Smart Button. To enable payment method, navigate to **Business Manager** > **Merchant Tools** > **Site Preferences** > **Custom Site Preferences** -> **PayPal Configuration**. Add payment method id to the list and click Add (Figure 6).

List of IDs can be found [here](#).

Will be displayed on the PayPal page if billing agreement feature is enabled. ...

The screenshot shows the 'Custom Site Preferences' section of the Business Manager. Under 'PayPal Configuration', there is a 'Available Alternative Payment Methods' section. A red box highlights this section. It contains a table with one row for 'mybank'. The 'mybank' row has a 'Delete' button next to it. Below the table, a note says 'List of IDs of the enabled alternative payment methods.' To the left of the table, there is a note: 'The merchant for whom you are facilitating a transaction.' and a placeholder for 'Merchant ID' which is '(PP_API_Merchant_Id) (String)'.

Available Alternative Payment Methods
mybank

Merchant ID
(PP_API_Merchant_Id)
(String)

The merchant for whom you are facilitating a transaction.

Available Alternative Payment Methods

mybank

List of IDs of the enabled alternative payment methods.

Figure 6. Alternative Payment Methods configuration

NOTE: Alternative Payment Methods are available only on the billing page and will appear only if *Capture funds immediately* preference set to Yes. For registered user also required to disable *Billing Agreement Enabled* preference.

4 Operations and Maintenance

4.1 Data Storage

The int_paypal integration requires System Objects Extension to store payment-related information.

OrderPaymentInstrument custom properties:

- **paypalOrderId** - Result of a payment action (Auth, Order, Sale).
- **currentPaypalEmail** - The reference ID for PayPal API calls.
- **PP_API_ActiveBillingAgreement** - The PayPal Payer ID in the PayPal service.

Profile custom properties:

- **PP_API_billingAgreement** - Array of saved billing agreements. Each billing agreement is an object with bald, email, default keys

Order custom properties:

- **paypalPaymentMethod** - Property to differentiate PayPal related orders.

4.2 Logs

This integration introduces three new custom logs:

1. **PayPal Storefront Custom logs** - starts with prefix custom-PayPal-blade2-2-appserver-20150722.log. This Log file contains all errors related information in the int_paypal cartridge.
2. **PayPal Business manager custom logs** - starts with prefix custom- PayPal-BM-blade. This Log file contains all errors related information in the bm_paypal cartridge.
3. **Service communication logs** - starts with service-PayPalRest. These logs contain every request and response to the PayPal endpoint. To enable these logs, check [Adding API Credentials Optional](#) section.

4.3 HTTP Service Availability

You can track availability and downtime by service status in the Commerce Cloud Business Manager. Go to **Administration > Operations > Service Status > int_paypal.http.rest**.

You can configure options for HTTP calls to REST API related to this PayPal integration via the Commerce Cloud Service Profile Interface. To do this, go to **Administration > Operations > Services > Service Profiles -> PayPal_Default_Profile**. You can set a timeout for all requests, enable the Circuit Breaker mechanism, and adjust the Rate Limit.

PayPal_Default_Profile

Fields with a red asterisk (*) are mandatory. Click **Apply** to save the details. Click **Reset** to revert to the last saved state.

This profile is used by 1.00 service.

Name:*	PayPal_Default_Profile
Timeout (ms):	60,000
Enable Circuit Breaker:	<input type="checkbox"/>
Max Circuit Breaker Calls:	0
Circuit Breaker Interval (ms):	0
Enable Rate Limit:	<input type="checkbox"/>
Max Rate Limit Calls:	0
Rate Limit Interval (ms):	0

Figure 7. PayPal Service Profile Settings

4.4 Testing

You must obtain your own test account on the [PayPal Developer Portal](#). If you can't create your own PayPal Sandbox account, contact PayPal support.

4.5 SFRA core templates overlay list

The following templates from app_storefront_base cartridges been overlay by int_paypal

cart/cart.isml

account/dashboardProfileCards.isml

checkout/billing/paymentOptions/paymentOptionsContent.isml

checkout/billing/paymentOptions/paymentOptionsSummary.isml

checkout/billing/paymentOptions/paymentOptionsTabs.isml

common/scripts.isml

Templates are up to date with SFRA 4.4.1

4.6 Support

To get help and support from PayPal:

- **PayPal Business support** – Go to PayPal's [Contact Us](#) and log in to your PayPal account.
- **Technical Support** – Go to the [Merchant Technical Support Help Center](#).

5 User Guide

5.1 Business Manager

This integration introduces a new Business Manager function, PayPal Transactions. See [Paypal Transaction Business Manager module configuration](#) for a detailed description of how to grant access to the PayPal Transactions page.

The PayPal Transactions extension allows you to manage PayPal transactions assigned to Commerce Cloud Orders by the Commerce Cloud Business manager. PayPal Transactions module supports reauthorization (after 3 days), capture and partial capture, void, refund.

The main PayPal Transactions page displays all orders in a site that were paid or partially paid by PayPal. You can access this page in the Ordering menu by selecting **Business Manager > Merchant Tools > Ordering > PayPal Transactions**.

This page displays various information from the order record:

Number	Order Date	Created By	Registration Status	Customer	Email	Order Total	PayPal Amount	Paypal Payment Status
00001905	7/23/15 10:15 am	Customer	Unregistered	Guest	I.VinogradovVN@gmail.com	\$104.99	\$104.99	Pending Change
00001904	7/23/15 10:13 am	Customer	Unregistered	Guest	I.VinogradovVN@gmail.com	\$104.99	\$104.99	Pending Change
00001903	7/23/15 9:16 am	Customer	Unregistered	Guest	I.VinogradovVN@gmail.com	\$377.99	\$377.99	Pending Change
00001805	7/22/15 1:15 pm	Customer	Registered	Dmitry Vigranovsky	dmitry_vigranovsky@epam.com	\$971.24	\$621.24	Completed Change
00001804	7/22/15 12:13 pm	Customer	Registered	Dmitry Vigranovsky	dmitry_vigranovsky@epam.com	\$278.77	\$202.77	Completed Change
00001803	7/22/15 12:10 pm	Customer	Unregistered	Guest	I.VinogradovVN@gmail.com	\$3,045.85	\$3,045.85	Completed Change
00001802	7/22/15 12:07 pm	Customer	Unregistered	Guest	Denys_Lieukhyn-buyer@epam.com	\$76.00	\$76.00	Completed Change
00001801	7/22/15 12:06 pm	Customer	Unregistered	Guest	I.VinogradovVN@gmail.com	\$963.88	\$963.88	Completed Change
00001701	7/22/15 8:31 am	Customer	Registered	Dmitry Vigranovsky	dmitry_vigranovsky@epam.com	\$1,189.07	\$1,189.07	Pending Change
00001601	7/16/15 9:41 am	Customer	Registered	Dmitry Vigranovsky	dmitry_vigranovsky@epam.com	\$56.69	\$56.69	Pending Change

Figure 8. PayPal Transactions Business Manager Main Page Interface

You can search Orders placed within PayPal order number (as shown in Figure 9) or by PayPal Transaction ID (as shown in Figure 10).

The screenshot shows the Commerce Cloud interface for PayPal Transactions. At the top, there's a navigation bar with tabs for Sandbox - Instance SiteGenesis, Merchant Tools, Administration, and Storefront. A user profile for Vigranovsky is visible on the right. Below the navigation, the URL Ordering > PayPal Transactions is shown. The main title is "PayPal Transactions". A sub-instruction says, "This page allows you to search for orders which have PayPal transactions by order number. Also there is possibility to search PayPal transaction by id." A search bar is present with the placeholder "Search Order" and a field containing "00001803". To the right of the search bar are two buttons: "By Order Number" and "By Transaction ID". Below the search bar is a table with columns: Number, Order Date, Created By, Registration Status, Customer, Email, Order Total, PayPal Amount, and Paypal Payment Status. One row is shown with the following data: Number 00001803, Order Date 7/22/15 12:10 pm, Created By Customer, Registration Status Unregistered, Customer Guest, Email I.VinogradovVN@gmail.com, Order Total \$3,045.85, PayPal Amount \$3,045.85, and Paypal Payment Status Completed. There's also a "Change" link next to the payment status. A message below the table says "Showing 1 - 1 of 1 items." and a "Print" icon is on the right.

Figure 9. Search Orders with PayPal Transaction by Commerce Cloud Order Number

This screenshot is identical to Figure 9, but the search bar contains a different value: "18550924TK545642L". The rest of the interface, including the table data and footer, remains the same.

Figure 10. Search Orders with PayPal Transaction by Transaction ID

You can see Transaction Details from the PayPal Payment Transaction of the actual order by clicking **Order Number** or the **Change** link on the right. If an order has more than one related transaction, you'll see a selection box with all the transactions that are related to the current order (as shown in Figure 11).

ons by order number. Also there is possibility to search PayPal transaction by id.

The screenshot shows a modal dialog titled "Transactions of order: 00015207". Inside, a specific transaction is highlighted with a blue border. The transaction details are as follows:

- Transaction ID:** 7AE52170XT8052505
- Name:** Ivan C Vinogradov
- Transaction Email:** I.VinogradovVN@gmail.com
- Amount:** 244.63 USD **Captured:** 244.63 **Refunded:** 243.63
- Shipping:** 0.00 USD
- Invoice ID:** 00015207
- Order Date:** 7/22/20 1:45 pm
- Payment Status:** CAPTURED
- Shipping Address:** Ezio Auditore
Rome, Rome
Rome, US 12345
DE

Other transactions listed in the background table include:

Total	PayPal Amc
29	\$153.29
03	\$778.03
6.90	\$2,066.90
	\$1.00
3.04	\$1,093.04
34	\$218.34
3.03	\$2,143.03
63	\$244.63
63	\$244.63
63	\$244.63

Figure 11. Transaction Details Popup

The screenshot shows a modal dialog titled "Transactions of order: 00015207". Inside, a specific transaction is highlighted with a blue border. The transaction details are as follows:

- Transaction ID:** 7AE52170XT8052505
- Name:** Ivan C Vinogradov
- Transaction Email:** I.VinogradovVN@gmail.com
- Amount:** 244.63 USD **Captured:** 244.63 **Refunded:** 243.63
- Shipping:** 0.00 USD
- Invoice ID:** 00015207
- Order Date:** 7/22/20 1:45 pm
- Payment Status:** CAPTURED
- Shipping Address:** Ezio Auditore
Rome, Rome
Rome, US 12345
DE

A red box highlights the "Other transactions:" dropdown menu, which lists:

- ✓ 7AE52170XT8052505
- Captured: 7GX80784LM544511C
- Captured: 3D495099BU1827429

Other transactions listed in the background table include:

Total	PayPal Amc
29	\$153.29
03	\$778.03
6.90	\$2,066.90
	\$1.00
3.04	\$1,093.04
34	\$218.34
3.03	\$2,143.03
63	\$244.63
63	\$244.63
63	\$244.63

Figure 12. PayPal Transactions Selected for Their Relationships to Commerce Cloud Order Transactions

Depending on the transaction type and status, the order may have the following action buttons

- Capture (Figure 13)
- Void (Figure 13 and Figure 14)
- Issue Refund (Figure 15)
- Reauthorize (Figure 14)

After click on a button pop-up with details will appear

- Capture Form (Figure 17)
- Void Form (Figure 16)
- Issue Refund From (Figure 18)
- Reauthorize From (Figure 18)

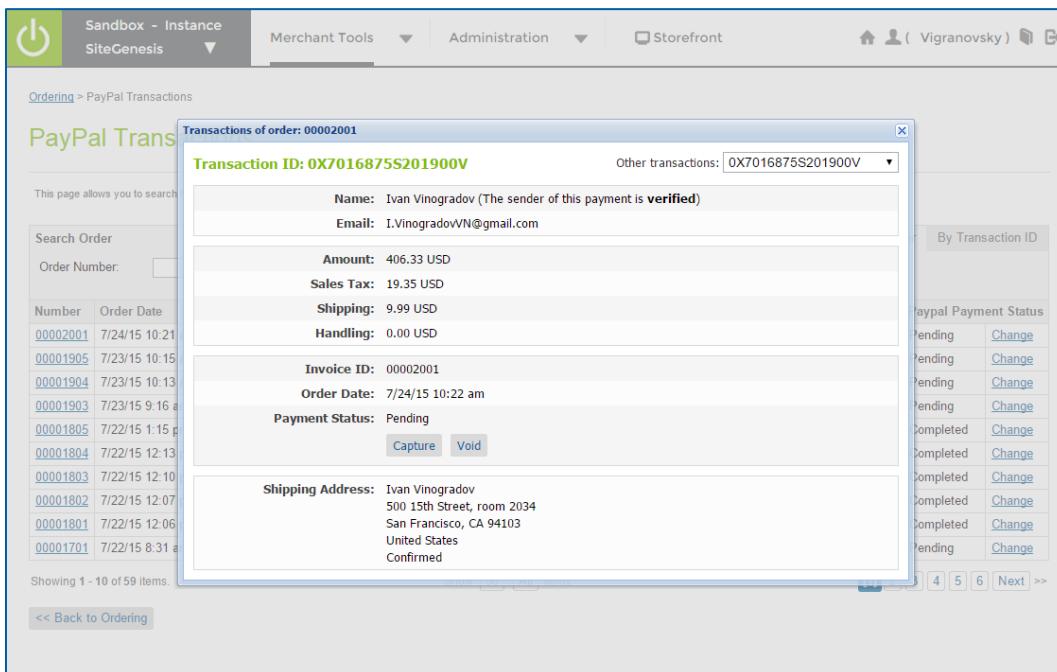


Figure 13. Authorized transaction payment actions

The screenshot shows a list of transactions on the left and a detailed view of a specific transaction on the right.

Left Panel (Transactions):

Order Date	Created By
7/08/20 1:25 pm	Customer
7/08/20 1:14 pm	Customer
7/08/20 12:53 pm	Customer
7/08/20 12:47 pm	Merchant
7/08/20 12:35 pm	Customer
7/04/20 12:08 am	Customer
7/02/20 4:34 pm	Customer
7/02/20 4:32 pm	Customer
7/02/20 4:31 pm	Customer
7/02/20 4:29 pm	Customer

Right Panel (Transaction Details):

Transaction ID: 7AE52170XT8052505
Other transactions: 7AE52170XT8052505

Total	PayPal Amount	PayPal F
29	\$153.29	In-Progr
03	\$778.03	Comple
6.90	\$2,066.90	Comple
	\$1.00	CREATE
3.04	\$1,093.04	COMPLE
34	\$218.34	CREATEI
3.03	\$2,143.03	CREATEI
83	\$244.63	CREATEI
63	\$244.63	CREATEI
63	\$244.63	CREATEI

Shipping Address: Ezio Auditore
Rome, Rome
Rome, US 12345
DE

Buttons: Reauthorize, Capture, Void

Figure 14. Authorized transaction payment actions (after 3 days)

The screenshot shows a list of transactions on the left and a detailed view of a specific transaction on the right.

Left Panel (Transactions):

This panel shows a search interface for orders and a list of order numbers:

- Search Order: Order Number:
- Number Order Date
- 00002001 7/24/15 10:21
- 00001905 7/23/15 10:15
- 00001904 7/23/15 10:13
- 00001903 7/23/15 9:16 a
- 00001805 7/22/15 1:15 p
- 00001804 7/22/15 12:13
- 00001803 7/22/15 12:10
- 00001802 7/22/15 12:07
- 00001801 7/22/15 12:06
- 00001701 7/22/15 8:31 a

Showing 1 - 10 of 59 items.

Right Panel (Transaction Details):

Transaction ID: 90348064AS593644R
Other transactions: 90348064AS593644R

By Transaction ID	Paypal Payment Status	Change
Pending	Change	
Completed	Change	
Pending	Change	

Shipping Address: Ivan Vinogradov
500 15th Street, room 2034
San Francisco, CA 94103
United States
Confirmed

Buttons: Issue Refund

Figure 15. Captured transaction payment actions

Sandbox - Instance SiteGenesis

Merchant Tools Administration Storefront

Vigranovsky

Ordering > PayPal Transactions

Transactions of order: 00002001

Void Authorization 0X70168755201900V Other transactions: 0X70168755201900C

Void Authorization

Authorization ID: 0X70168755201900V
Name: Ivan Vinogradov
Email: I.VinogradovVN@gmail.com
Amount to Void: 406.33 USD
Note to Buyer: lorem ipsum lor....
236 characters left

San Francisco, CA 94103 United States

Submit Cancel

By Transaction ID

Paypal Payment Status

- Pending Change
- Pending Change
- Pending Change
- Pending Change
- Completed Change
- Completed Change
- Completed Change
- Completed Change
- Pending Change

4 5 6 Next >>

Figure 16. Void Authorization Form

Sandbox - Instance SiteGenesis

Merchant Tools Administration Storefront

Vigranovsky

Ordering > PayPal Transactions

Transactions of order: 00002001

Capture Funds

Capture Funds

Authorization ID: 0X70168755201900V
Name: Ivan Vinogradov
Email: I.VinogradovVN@gmail.com
Authorization Amount: 406.33 USD
Capture Amount: 406.33 USD

Note to merchant: Your buyer Ivan Vinogradov authorized a payment of 406.33 USD. If you capture an amount different than this, you should notify your buyer of this change.
PayPal strongly recommends that you explain any unique circumstances (e.g. multiple captures, changes in item availability) to your buyer in detail below. Your buyer will see this note in the Transaction Details.

Note to Buyer: (optional)

255 characters left

Submit Cancel

By Transaction ID

Paypal Payment Status

- Pending Change
- Pending Change
- Pending Change
- Pending Change
- Completed Change
- Completed Change
- Completed Change
- Completed Change
- Pending Change

3 4 5 6 Next >>

Figure 17. Capture Form

Figure 18. Issue Refund Form

Figure 19 Reauthorize form

5.2 Storefront Functionality

Integration has 3 types of checkout with PayPal. All of them are available from payment page or cart page.

NOTE: Checkout from cart requires customer data from PayPal. Review [PayPal-provided Billing Address and Phone Number](#) before enable PayPal button on a cart page.

1. Basic checkout without billing agreement. Available for both guest and registered user types.

2. Checkout with billing agreement creation. Available for registered user and could be enabled in custom preferences.
3. Checkout using saved billing agreement. Available for registered user who already path checkout once with billing agreement and saved it.

NOTE: Reference transaction feature must be enabled at the merchant account setting to activate flow 2 and 3. Review [Billing Agreement and Reference Transactions](#) for more details.

5.2.1 Email, Phone, Shipping and Billing Address behavior

When customer process with checkout using PayPal button on the cart page, phone, email, shipping and billing address will be taken from customer's PayPal account.

For checkout with saved account default account values will be taken as shipping address and phone.

When customer proceed with checkout using PayPal button on the billing page or with saved PayPal account, the shipping address will be taken from storefront and billing address with a phone will be taken from PayPal account according to the chosen payment option. If a customer enters email it won't be changed.

If a customer left the email field empty during checkout from payment page, last used email from the session will be automatically set in form or PayPal account email, in case if session value is empty.

5.2.2 Basic checkout (non-billing agreement)

Basic checkout is available from payment page (Figure 23) and from cart page (**Error! Reference source not found.**) (if custom preferences **Show PayPal button on the cart** page values if Yes).

After click on available payment method from Smart Payment Button customer will proceed through checkout on PayPal side (Figure 22) and return to the storefront to the order review page (Figure 25).

After checkout on PayPal side customer can update any basket info without needs to login to checkout for the second time. In this case on the cart page PayPal will be represented by static image on a cart page (Figure 21) and on a payment page user can choose previously used account or login into new PayPal account (Figure 24). Customer can have only one account active during checkout session. Login to the new PayPal

account will replace previous account in the session. Review [Basic Integration](#) for more details.

Your Cart

[Continue Shopping](#)

1 Items

Need Help? Call 1-800-555-0199

Sony Bravia® XBR® 70" LCD High Definition TelevisionExtended Warranty: None
In Stock
Sun May 31 2009Each
\$14,999.99Quantity
1Total
\$14,999.99[Edit](#)

Enter Promo Code

 Promo Code[Submit](#)

Shipping

 Ground (7-10 Business Days)

Shipping cost \$15.99

Sales Tax \$750.80

Estimated Total \$15,766.78

Оформить покупку

Дебетовая или кредитная карта

Обработано

[Checkout](#)

Figure 20 Checkout from the cart page using Smart Button

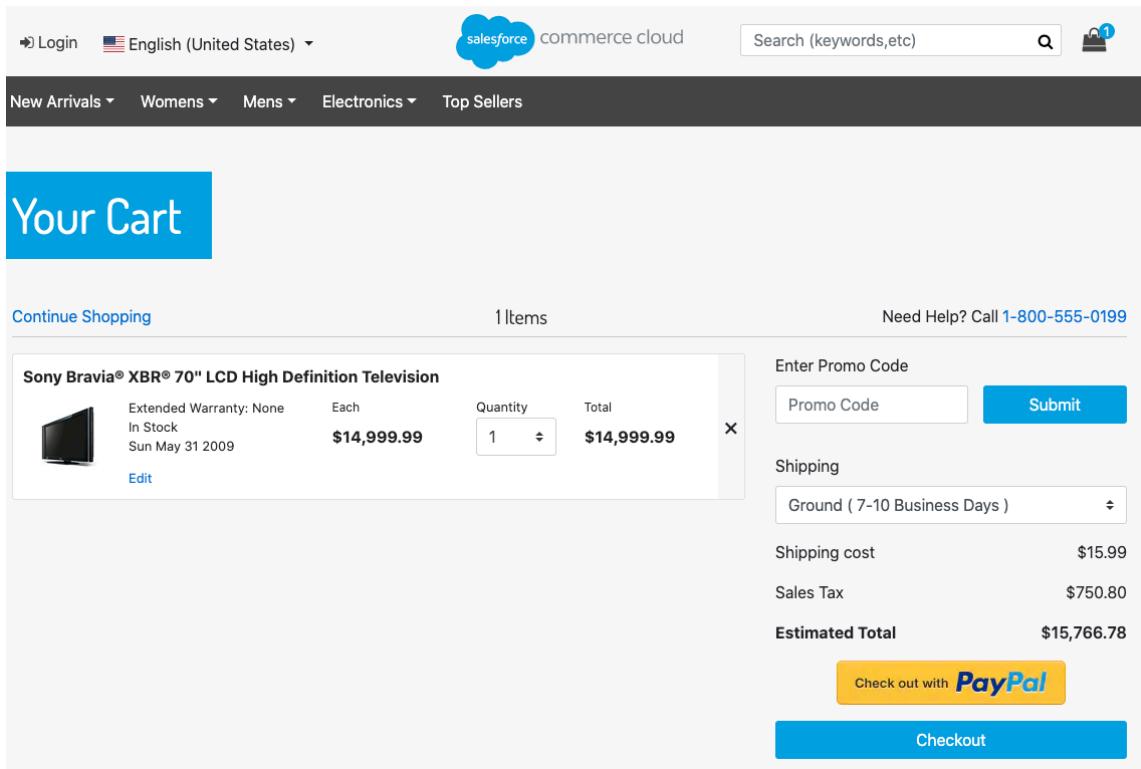


Figure 21. Checkout from the cart page using static image

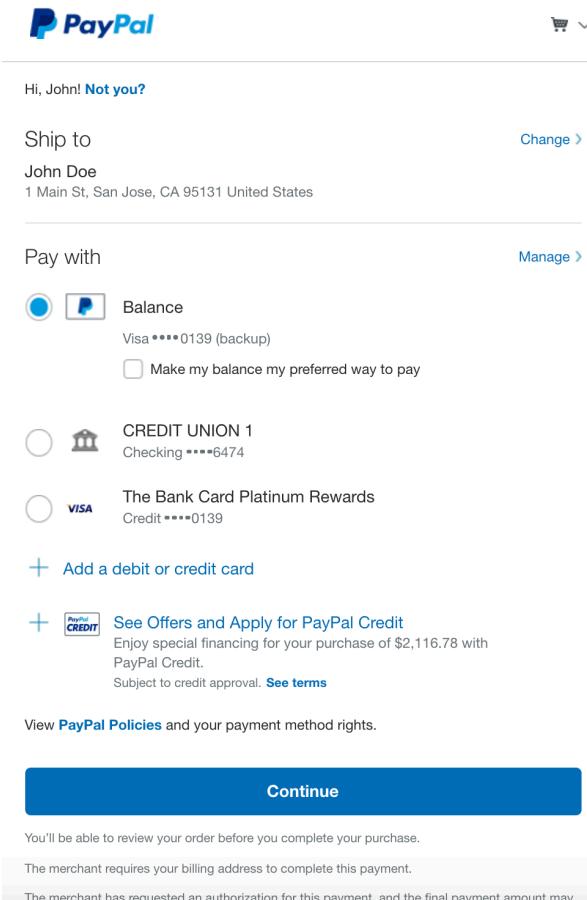


Figure 22. Basic checkout pop-up example

Need Help? Call 1-800-333-0199

Shipping

Shipping Address:
Rick Flores
2253 Hudson Street
Denver CO 80207
9739747269

Shipping Method:
Ground (7-10 Business Days) **\$15.99**

Order Summary

Subtotal	\$14,999.99
Shipping	\$15.99
Sales Tax	\$750.80
Total	\$15,766.78

Payment

Billing Address

Rick Flores 2253 Hudson Street Denver CO 80207

[Update Address](#) [Add New](#)

*Email [i](#) *Phone Number [i](#)

3cd3ldtkdii@iffymedia.com 9739747269

Your billing address and phone number will be changed according to the chosen payment method on PayPal side

PayPal

Дебетовая или кредитная карта

Обработано **PayPal**

1 Items \$14,999.99

Sony Bravia® XBR® 70" LCD High Definition Televi...

Extended Warranty: None
In Stock
Sun May 31 2009

Each	Quantity	Total
\$14,999.99	1	\$14,999.99

Figure 23. Checkout from the payment page using Smart Button

Payment

Billing Address

Ivan C Vinogradov 1 Main St San Jose CA 95131

[Update Address](#) [Add New](#)

*Email [i](#) *Phone Number [i](#)

3cd3ldtkdii@iffymedia.com 4084607119

Your billing address and phone number will be changed according to the chosen payment method on PayPal side

Select a PayPal account:
 New PayPal account
 I.VinogradovVN@gmail.com

Next: Place Order

Figure 24. Checkout from the payment page with already chosen account

Shipping		Edit	Order Summary		
Shipping Address: Joy Gray 473 Wiseman Street Sevierville, TN 37862 4084607119					Subtotal \$899.99
Shipping Method: Ground (7-10 Business Days) \$15.99					Shipping \$15.99
					Sales Tax \$45.80
					Total \$961.78
 Payment		Edit	 1 Items \$899.99		
Billing Address: Ivan C Vinogradov 1 Main St San Jose, CA 95131 I.VinogradovVN@gmail.com 4084607119					Sony Bravia® N-Series 26" LCD High Definition Te...
Payment: I.VinogradovVN@gmail.com PayPal/\$961.78					In Stock 
					Each Quantity Total \$899.99 1 \$899.99
Place Order					

Figure 25. Order review page

5.2.3 Checkout with billing agreement creation

For registered used integration provide an ability to create billing agreement and store it to a customer profile. This would allow user to go through checkout with PayPal faster.

To enable billing agreement creation in Business Manager, navigate to **Merchant Tools -> Site Preferences -> PayPal Configuration** and set **Billing Agreement Enabled** preference value as **Yes**

Visually checkout with billing agreement like [Basic checkout \(non-billing agreement\)](#) with 2 exceptions

- 1) On payment page customer has additional checkbox **Save PayPal account** (Figure 26). On the cart page checkbox value will be set to true automatically.
- 2) On PayPal side after login customer will see **Save and Continue** instead of Save and no shipping address option (Figure 27). Check [Email, Phone, Shipping and Billing Address behavior](#) for more details.

If customer had **Save PayPal account** checkbox checked after order was placed successfully customer can review saved PayPal account in **My Account** section. (Figure 28). First customer account is always default.

Review [Billing agreement](#) and [Reference Transaction](#) section on PayPal developer portal for more details about billing agreement creation.

Payment

Billing Address

Rick Flores 2253 Hudson Street Denver CO 80207

[Update Address](#)

[Add New](#)

*Email [i](#)

3cd3ldtkdii@iffymedia.com

*Phone Number [i](#)

9739747269

CREDIT

PayPal

Your billing address and phone number will be changed according to the chosen payment method on PayPal side

 **PayPal**

 Дебетовая или кредитная карта

Обработано **PayPal**

Save PayPal account

Figure 26. Smart Button for billing agreement creation on the payment page

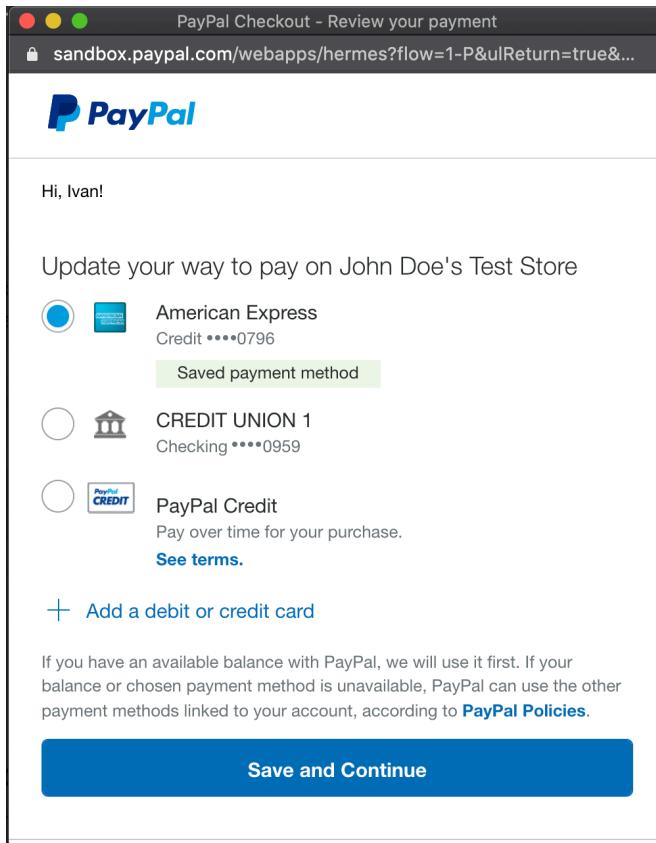


Figure 27. Billing Agreement creation on the PayPal page

A screenshot of the "My Account" section of a website. It includes three main sections: "Order History" (with a "View" link), "Payment" (with an "Add New" link), and "PayPal" (listing "I.VinogradovVN@gmail.com (Default)").

Order History [View](#)

Most Recent Order

Order Number: pp_00185506
Date Ordered: 6/17/20
Order Status: NEW
Shipped to: Rick Flores

Total items 1 Total \$15,766.78

Payment [Add New](#)

PayPal

I.VinogradovVN@gmail.com (Default)

Figure 28. My Account section with saved PayPal account

5.2.4 Checkout using saved billing agreement

After customer created billing agreement and store it (Figure 28) customer can proceed through the checkout without Smart Button loading.

Saved account will appear in dropdown on the payment page (Figure 29) and will be represented by static image on the cart page (Figure 21).

Review [Email, Phone, Shipping and Billing Address behavior](#) for more information about addresses behavior for saved account.

The screenshot shows a payment interface with the following elements:

- Payment** header at the top.
- Billing Address** section with a dropdown menu showing "Ivan C Vinogradov 1 Main St San Jose CA 95131".
- Update Address** and **Add New** buttons next to the address dropdown.
- Email** field containing "I.VinogradovVN@gmail.com" with an info icon.
- Phone Number** field containing "9739747269" with an info icon.
- CREDIT** and **PayPal** payment method logos.
- A note in a blue box: "Your billing address and phone number will be changed according to the chosen payment method on PayPal side".
- Select a PayPal account** dropdown menu showing "I.VinogradovVN@gmail.com (Default)".

Figure 29. Saved PayPal account on the payment page

5.2.5 Checkout with multiple saved PayPal accounts

Customer can have up to 3 saved PayPal account one on them is always default.

Customer can add new account from billing page. In a dropdown with saved account customer must choose **New PayPal** account option and load Smart Button (Figure 30). In this case experience in like [Checkout with billing agreement creation](#) except **Make Default** checkbox. Customer could make new account the default one or leave existed account as default.

After order was placed customer can observe new account in **My Account** section (Figure 31) and in dropdown on payment page (Figure 32).

Cart page will always use default saved account for checkout. Review [Checkout using saved billing agreement](#) for more details.

NOTE: Billing agreement type is MERCHANT_INITIATED_BILLING_SINGLE AGREEMENT (More details about Billing Agreement types [here](#)). Customer can't have multiple billing agreements created for one PayPal account. If user try to do so, his existed billing agreement for this account will be updated.

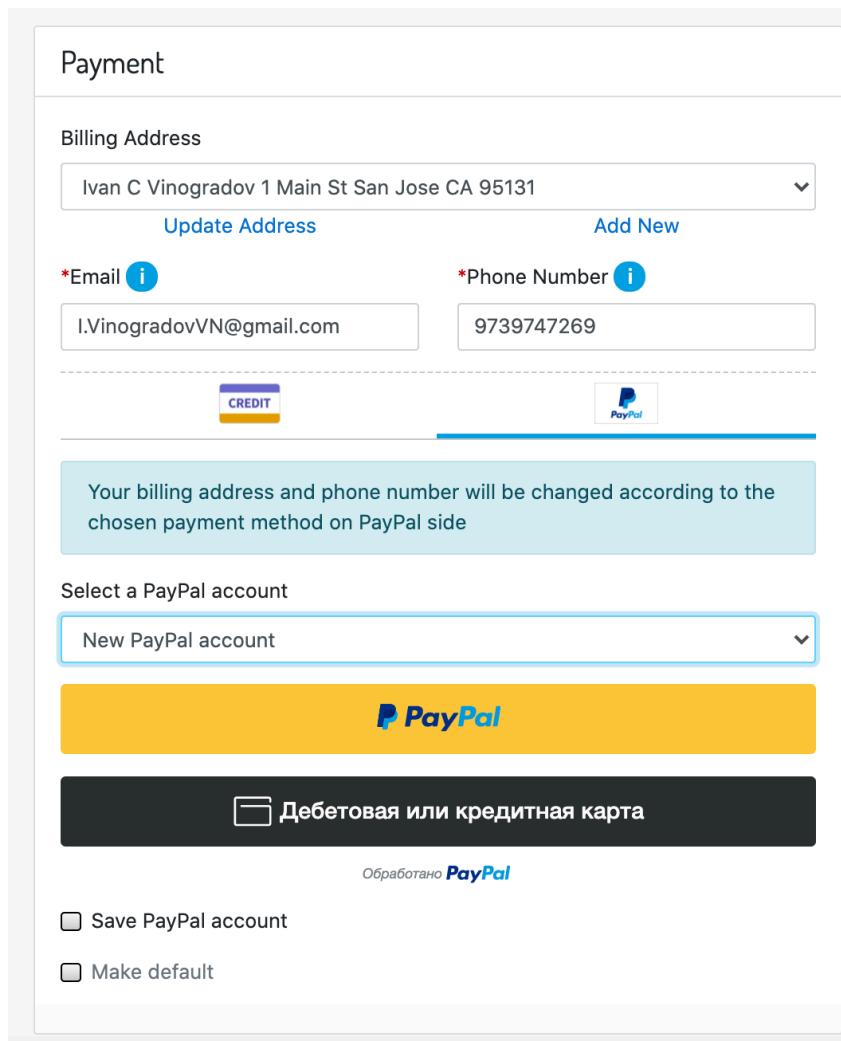


Figure 30. New PayPal account option on payment page

Order History [View](#)

Most Recent Order



Order Number: pp_00185507
Date Ordered: 6/17/20
Order Status: NEW
Shipped to: Rick Flores

Total items	Total
1	\$2,773.03

Payment [Add New](#)

PayPal

I.VinogradovVN@gmail.com
p.lorenstest@gmail.com (Default)

Figure 31. Multiple saved accounts in My Account section

Payment

Billing Address

Rick Flores 2253 Hudson Street Denver CO 80207 [Update Address](#) [Add New](#)

*Email [i](#) *Phone Number [i](#)

9739747269

Your billing address and phone number will be changed according to the chosen payment method on PayPal side

New PayPal account
I.VinogradovVN@gmail.com
✓ p.lorenstest@gmail.com (Default)

Figure 32. Multiple account view on payment page

5.2.6 Alternative Payment Methods

Alternative payment methods allow customers across the globe to pay with their bank accounts, wallets, and other local payment methods. Relevant alternative payment methods are automatically presented with Smart Payment Buttons.

For example, a customer in the Netherlands might want to pay using iDEAL, which is used by more than half of consumers in the Netherlands for online purchases, whereas a customer in Belgium on the same website might want to pay using Bancontact, a popular payment method there.

Alternative Payment Methods available on the billing page only. Shipping address and phone always provided by customer. Email will be pulled from billing page, if it was provided by a customer, if email was empty customer will enter email on the PayPal side.

The transaction will be completed only when a customer returns to the storefront. If a transaction wasn't confirmed or the customer didn't finish checkout on the PayPal side customer's basket still will be available.

Important: after the customer will confirm the transaction and returns to the storefront, the order will be placed immediately, skipping the Order Review page.

NOTE: Alternative Payment Methods appearances based on customer's locale, not on storefront locale.

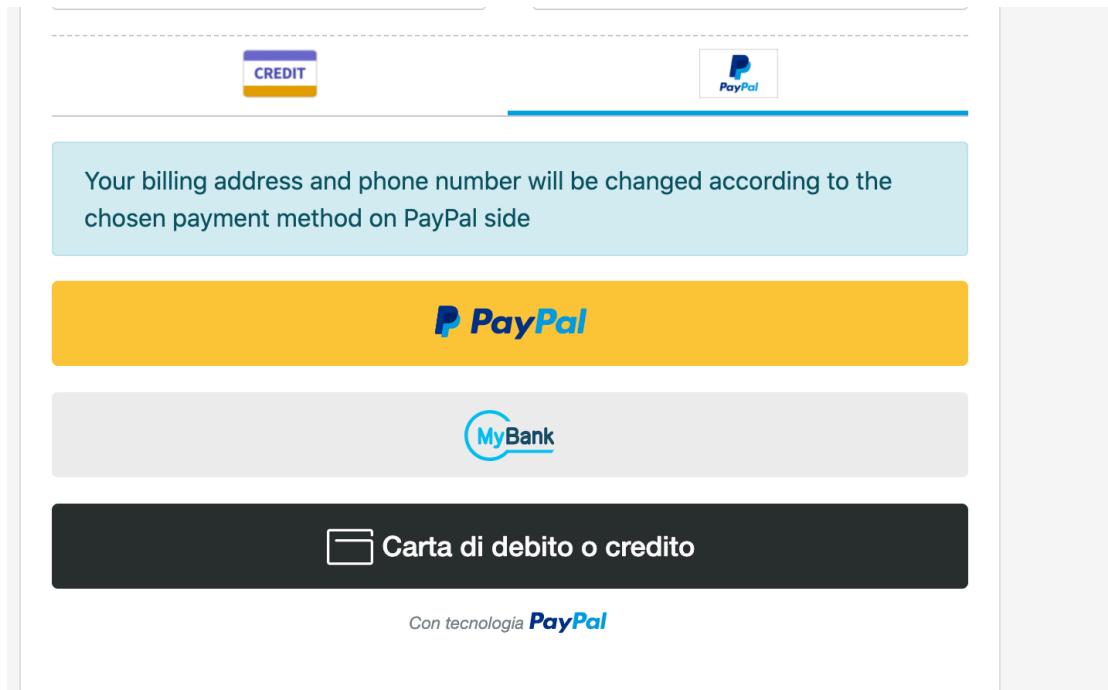


Figure 33. Alternative Payment Methods appearances in Smart Button



Figure 34. Alternative Payment Method transaction confirmation

6 Locales and addresses

6.1 General info

Out of the box PayPal using build in SFRA locations for checkout from billing or cart page.

Checkout available only with one locale, multi shipping and multi locales are not supported.

For checkout from cart using cartridge doesn't provide any validation for addresses that was received form PayPal. Addresses will be mapped to Shipping or Billing address in Order automatically.

Example: After login to PayPal customer chooses Canada address while storefront locale is USA. Canadian address will be returned from PayPal and will be accepted by the cartridge.

7 Multi-site and multi-credential support

7.1 General info

PayPal cartridges doesn't come with multi-site or multi-credential support out of the box.

On service level build in logic will use only `int_paypal.http.rest` service and credential attached to the service to communicate PayPal REST API.

8 Version and SFRA Support Info

8.1 JavaScript Files and Cartridge Version Location

The JavaScript files to be added to your page are located at:

`cartridges/int_paypal/cartridge/templates/default/paypal/cart/paypalButton.isml`

`cartridges/int_paypal/cartridge/templates/default/paypal/checkout/paypalContent.isml`

The file with the current version of the PayPal cartridge is located at:

`int_paypal/cartridge/templates/resources/paypal_version.properties`

The file with the current version of the SFRA cartridge is located at:

`app_storefront_base/cartridge/templates/resources/version.properties`

8.2 SFRA Version Support

PayPal cartridge version 20.1.0 supports SFRA 4.4.1 only.

8.3 Compatibility Mode

Cartridge tested with Compatibility Mode 18.10

9 Service Errors Handling

9.1 Service Timeout Handle

If a PayPal service becomes unavailable, error details can be found in the following logs:

- Error details can be found in the log with the **custom-PayPal** prefix.
- Service request/response details can be found in the log with the **service-PayPalRest** prefix.

On the storefront, the customer will see a PayPal button, but the pop-up will close instantly.

For more details about logs, see [Logs](#) section.

For more information about how to track service downtime and about possible options for configuration in situation when PayPal API is unavailable or throws an error review [HTTP Service Availability](#) section.

9.2 Fallback/Recovery

If you continue to see issues where the PayPal button and/or experience is not rendering, or if you are seeing 500 or 400 errors in the logs, please contact your PayPal representative or file a Merchant Technical Support case so that we may investigate this

further. These orders will not be able to proceed with the PayPal payment option, and you may need to disable PayPal until the issue is resolved.

Please be aware that when contacting PayPal, we will ask for details that may need to be extracted from the logs as well as assistance with reproducing the issue step by step.

9.3 Handle Error Response

Error handling in the integration based on SFRA build in error logic. If it's possible detailed error will be shown to a customer (Figure 35). In cases where customization isn't possible customer will see SFRA system error (Figure 36). In this case detailed error from PayPal can be found at custom-PayPal log. Review [Logs](#) section for more details.

All errors text located at

```
int_paypal/cartridge/templates/resources/paypalerrors.properties.
```

You can add your own text for errors from REST API, using format: paypal.error + error code from paypal or error name in lower case. For example

```
paypal.error.transaction_refused=Transaction was refused by merchant
```

```
paypal.error.unprocessable_entity=Please check billing address
```

NOTE: Custom errors text won't appear on order review page due to build in SFRA logic. System message will always appear (Figure 36).

Order total 0 is not allowed for PayPal

Shipping

Edit

Shipping Address:

Rick Flores
2253 Hudson Street
Denver CO 80207
9739747269

Shipping Method:

Ground (7-10 Business Days) \$0.00

Payment

Billing Address

Rick Flores 2253 Hudson Street Denver CO 80207

[Update Address](#)

[Add New](#)

*Email 

3cd3ldtkdii@iffymedia.com

*Phone Number 

9739747269



Your billing address and phone number will be changed according to the chosen payment method on PayPal side

 **PayPal**

 Debit or Credit Card

Powered by **PayPal**

Figure 35. Custom error message example

We're sorry that your order could not be placed. This probably happened due to a high order volume or temporary connection errors. Please wait a few minutes and resubmit your order. We won't process your payment until you successfully place your order. If you have further questions, please contact us.

Shipping [Edit](#)

Shipping Address:
Rick Flores
2253 Hudson Street
Denver CO 80207
9739747269

Shipping Method:
Ground (7-10 Business Days) **\$0.00**

Payment [Edit](#)

Billing Address:
Dmitry Vigranovsky
1 Main St
San Jose CA 95131
3cd3ldtkdii@iffymedia.com
9739747269

Payment:
dmitry_vigranovsky-facilitator@epam.om
PayPal / \$944.99

Place Order

Figure 36. SFRA standard error message example

10 Automated Testing

The cartridge has unit, integration, and function tests included in the repository.

Please use the instructions described in the `test/unit/README.md`, `test/integration/README.md`, and `test/acceptance/README.md` files in the repository to configure and run tests.

11 Known Issues

No reported issues so far.