



Magento[®]

eCommerce Platform for Growth

PayPal Integration in Magento

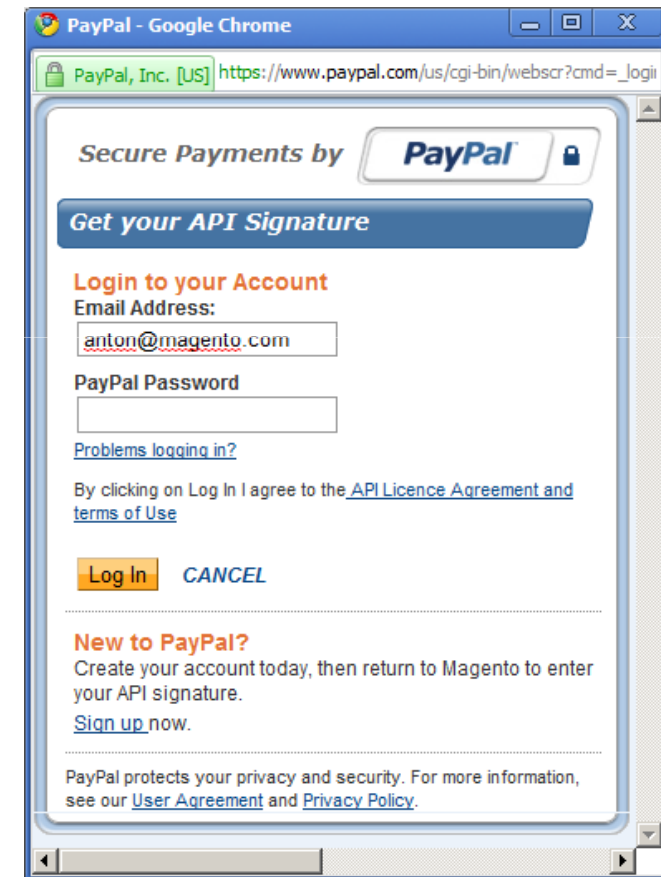
1. What is new in 1.4.1
2. PayPal business logic overview
3. Application integration overview
4. Debugging and troubleshooting



1. New PayPal Features in 1.4.1

Custom Configuration UI

- Configuration section with custom interface
- Merchant country and account selection
- Dynamic selection of PayPal solutions
- Various helper links, API wizard popup





 Save Config

Merchant Account ▲

Merchant Country [WEBSITE]
▲ If not specified, Default Country from General Config will be used


Email Associated with PayPal Merchant Account [WEBSITE]
▲ [Start accepting payments via PayPal!](#)

Select a PayPal Solution

[Help](#)


- Express Checkout** – Add an Express Checkout button to your existing shopping cart for quick and easy credit card payments. PayPal handles all payment processing. [View Demo](#) | [Learn More](#)
- Website Payments Standard** – PayPal processes all of your orders, and you get paid. [View Demo](#) | [Learn More](#)
- Website Payments Pro** – Process credit cards directly on your website with PayPal’s all-in-one online payment processing solution. [View Demo](#) | [Learn More](#)
- Website Payments Pro Payflow Edition (includes Express Checkout)** – Accept PayPal payments in your shopping cart. PayPal will process your credit card payments through the Payflow Pro Gateway.
- Payflow Pro Gateway** – Don’t have a PayPal merchant account? You can still accept credit card payments through the Payflow Pro Gateway. [Learn More](#)
- Express Checkout** – Accept payments without customers leaving your website. Many popular web-hosting services and shopping carts come with the Payflow payment gateways built in, so they are easy to set up.

Customer Experience



Sort By

Show per page




The Only Children: Paisley T-Shirt

€80.92
As low as: €64.74

Community Poll

What is your favorite Magento feature?

- Layered Navigation
- Price Rules
- Category Management
- Compare Products



NOW ACCEPTING
PayPal

Coalesce: Functioning On Impatience T-Shirt

[Be the first to review this product](#)

[Sign up for price alert](#)

Availability: In stock

€12.14

* Shirt Size

Qty:

 [Add to Wishlist](#)
[Add to Compare](#)

-OR-

PayPal

The safer, easier way to pay

* Required Fields

Customer Experience

The screenshot shows a Magento checkout page with a sidebar on the left and a main content area. The sidebar contains navigation tabs: BILLING INFORMATION, SHIPPING INFORMATION, SHIPPING METHOD, Payment Information (highlighted in red), and ORDER REVIEW. Under the 'Payment Information' tab, there are several payment options: 'Use my reward points, 885 reward points (€85.45)' (unchecked), 'PayPal What is PayPal?' (selected with a radio button), 'Credit Card (Authorize.net)', 'Check / Money order', and 'Credit Card (saved)'. Below these options is a link to 'click here' to add or remove gift cards, and a 'Back' link.

Overlaid on the right side of the checkout page is a browser window titled 'What is PayPal? - PayPal - Google Chrome'. The browser address bar shows 'PayPal, Inc. [US] https://www.paypal.com/us/cgi-bin/webscr?cmd=xpt/Mark'. The browser content displays the PayPal logo, a photo of a smiling couple, and the text 'WHAT IS PayPal?'. Below the photo, it says 'The world's most-loved way to pay and get paid.' and provides a brief description of PayPal's benefits: 'With PayPal, you'll check out lightning-fast and easily without sharing your financial info with the merchant. Link your bank account, credit card, and debit card to your PayPal wallet, then pay however you choose.' At the bottom of the browser window, it states 'Every day, in 190 regions, and in 24 currencies, millions of people (84'.

Review your information



If the information below is correct, click **Continue**. You will confirm your payment on the next page.

[View PayPal policies](#) and your payment source rights.

Description		Unit Price	Quantity	Amount	
Ipod Nano 4G It...	Details	\$119.00	1	\$119.00	
USB 2.0 Cable I...	Details	\$3.39	1	\$3.39	
Add special instructions to merchant				Item total:	\$122.39
				Shipping and handling:	\$10.00
				<input type="text" value="Flat Rate - Fixed: \$10.00 USD"/>	
				Updated total:	\$132.39 USD

Payment Method PayPal Balance
 If funds are added to your PayPal balance before this transaction completes, the additional balance may be used for this transaction. [Learn more](#)
[Change](#)

Ship to Test User
 1 Main St
 San Jose, CA 95131
 United States
[Change](#)

Customer Experience

- Configurable logos and buttons
- Custom payment selection
- Cart line items transferring
- EC shipping options transferring

Settlement Reports Fetching

- Multiple merchants report grid
- Fetching reports from admin
- Scheduled fetching

Settlement Reports Fetching

SFTP Credentials		
Login	<input type="password" value="....."/>	[WEBSITE]
Password	<input type="password" value="....."/>	[WEBSITE]
Sandbox Mode	<input type="text" value="No"/>	[WEBSITE]
Custom Endpoint Hostname or IP-Address	<input type="text"/>	[WEBSITE]
	<small>▲ By default it is "reports.paypal.com".</small>	
Custom Path	<input type="text"/>	[WEBSITE]
	<small>▲ By default it is "/ppreports/outgoing".</small>	
Scheduled Fetching		
Enable Automatic Fetching	<input type="text" value="No"/>	[WEBSITE]
Schedule	<input type="text" value="Daily"/>	[GLOBAL]
	<small>▲ PayPal retains reports for 45 days.</small>	
Time of Day	<input type="text" value="00"/> : <input type="text" value="00"/> : <input type="text" value="00"/>	[GLOBAL]

Billing Agreements

- Billing agreement wizard for customers
- Billing agreement creation in EC
- Payment method on the frontend and admin

Billing Agreements

Billing Agreements

Reference ID	Status	Created At
B-1JX87054BH119542R	Canceled	6/8/10 10:02 PM
B-28472826AP762170S	Canceled	6/7/10 1:47 PM
B-8N2467571W153120C	Canceled	6/7/10 4:43 AM
B-1KT260382K360660L	Canceled	6/7/10 4:34 AM
B-9CE74054SP717091K	Canceled	6/7/10 4:31 AM
B-8R266206SP2228625	Canceled	6/7/10 4:00 AM

New Billing Agreement
 You will be redirected to the payment system website.

-OR-

The safer, easier way to pay

The page at sparta.varien.com says:


Would you like to sign a billing agreement to streamline further purchases with PayPal?


Billing Agreements

Payment Information

PayPal Direct Payment

PayPal Billing Agreement

* Billing Agreement 

 [What is PayPal?](#)

Check / Money order

Credit Card (saved)

To add or remove gift cards, [click here](#).

[Back](#) CONTINUE

* Required Fields

Recurring Profiles

- Recurring profile option for simple and virtual products
- Nominal items concept
- Checkout with recurring profiles
- Viewing and processing recurring profiles

DI.fm premium 1 year service

[Be the first to review this product](#)

[Sign up for price alert](#)

Availability: In stock

\$4.95

[Add to Wishlist](#)

[Add to Compare](#)



Details

Additional Information

Recurring Profile


Billing Period
1 Month cycle.
Repeats 12 time(s).

Recurring Profiles

	Product Name	Unit Price	Qty	Subtotal	
	DI.fm premium 1 year service	\$6.45	<input type="text" value="1"/>	\$6.45	
	Your pet's name Julio				
	Start Date 10/26/10 3:36 PM				
	Billing Period 1 Month cycle. Repeats 12 time(s).				
	Continue Shopping	Update Shopping Cart			

*** DISCOUNT CODES**
Enter your coupon code if you have one.

[Apply Coupon](#)

Subtotal	\$0.00
Grand Total	<u>\$0.00</u>
Nominal Items	
Regular Payment	\$6.45
 DI.fm premium 1 year service	\$6.45

Recurring Profiles

Recurring Profile # I-JWXLAAPC25XT

Cancel
Suspend
Get Update

About This Profile:
[Profile Information](#)
[Related Orders](#)

Reference

Payment Method: PayPal Express Checkout

Payment Reference ID: I-JWXLAAPC25XT

Schedule Description: DI.fm premium 1 year service

Profile State: Active

Purchased Item

Product Name: DI.fm premium 1 year service

SKU: di.fm premium 1

Quantity: 1

Profile Schedule

Start Date: 7/31/10 3:12 PM

Maximum Payment Failures:

Billing Period: 1 Month cycle. Repeats 12 time(s).

Profile Payments

Currency: USD

Billing Amount: \$6.45

PayPal Recurring Profiles

- Recurring profiles creation in EC
- Improved IPN listener

~~<http://magento.example.com/paypal/ipn/express/>~~

~~<http://magento.example.com/paypal/ipn/standard/>~~

~~<http://magento.example.com/paypal/ipn/direct/>~~

<http://magento.example.com/paypal/ipn/>

Payment Review and FMF

- IPR integration
- FMF integration
- Unilateral payments
- New order state: Pending Review







Merchant and Buyer Countries

PayPal Localized Sites - Your Customized Total Payment Solution

 Argentina	 France	 Poland
 Australia	 Germany	 Singapore
 Austria	 Hong Kong	 Spain
 Belgium	 Italy	 Switzerland
 Brazil	 Japan	 United Kingdom
 Canada	 Mexico	 United States
 China	 Netherlands	

Send. Receive. Withdraw.

Send. Receive. Withdraw to a Local or U.S. Bank Account or a card.
 Send and receive payments in these countries. Withdraw from your PayPal account to your in-country bank account or to a U.S. bank account. In addition, withdraw to a credit, debit, or prepaid card in countries marked with a (*).

 Czech Republic	 Ireland	 Reunion
 Denmark	 Israel	 Slovakia

<https://www.paypal.com/worldwide/>

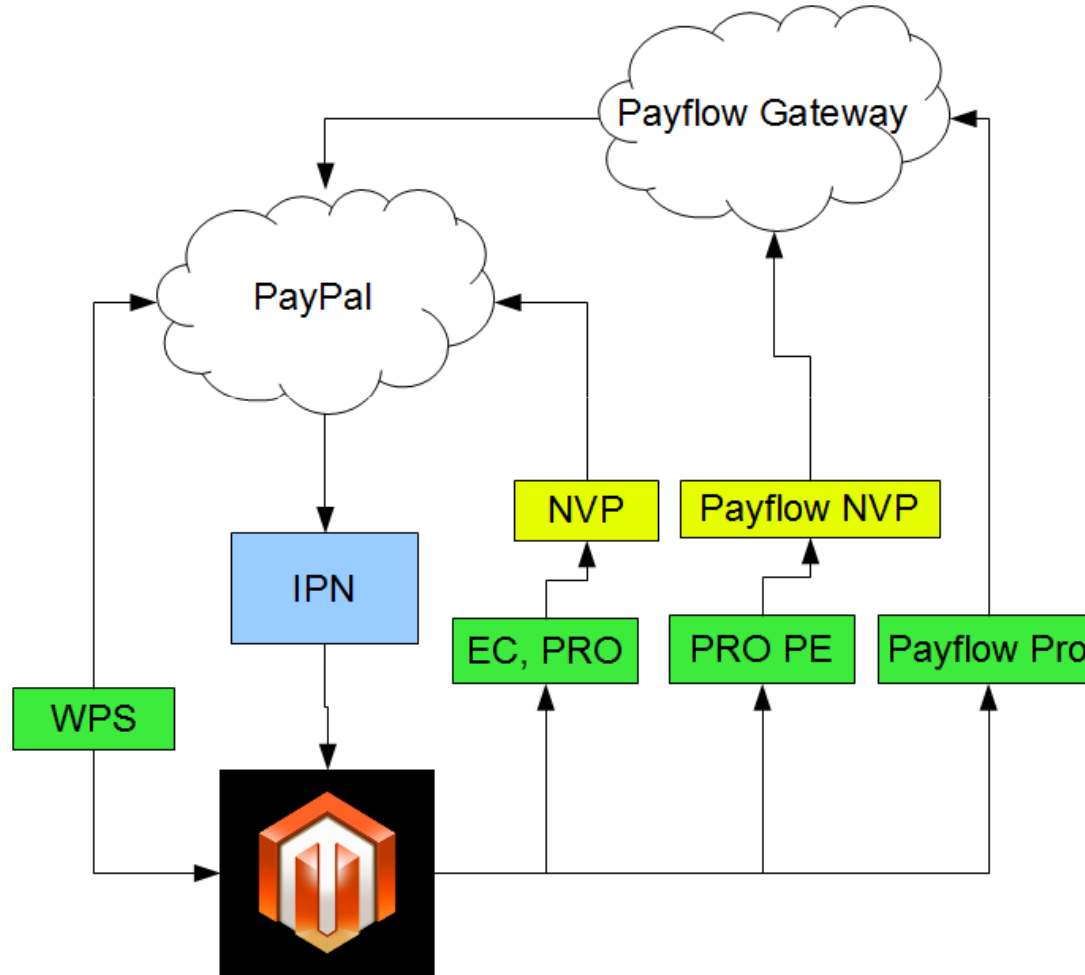
Country-Specific Features

Product	United States	Canada	United Kingdom	Australia New Zealand	Germany	Rest of World
Website Payments Standard (WPS)	✓	✓	✓	✓	✓	✓
Express Checkout (EC) + Billing Agreement (PBA) + Recurring Payment (PRP)	✓	✓	✓	✓	✓	✓
Website Payments Pro (DP)	✓	✓	✓			
Website Payments Pro Payflow Edition (DP PE) + Express Checkout Payflow Edition (EC PE)	✓		✓			
Payflow Pro (Verisign)	✓	✓		✓		

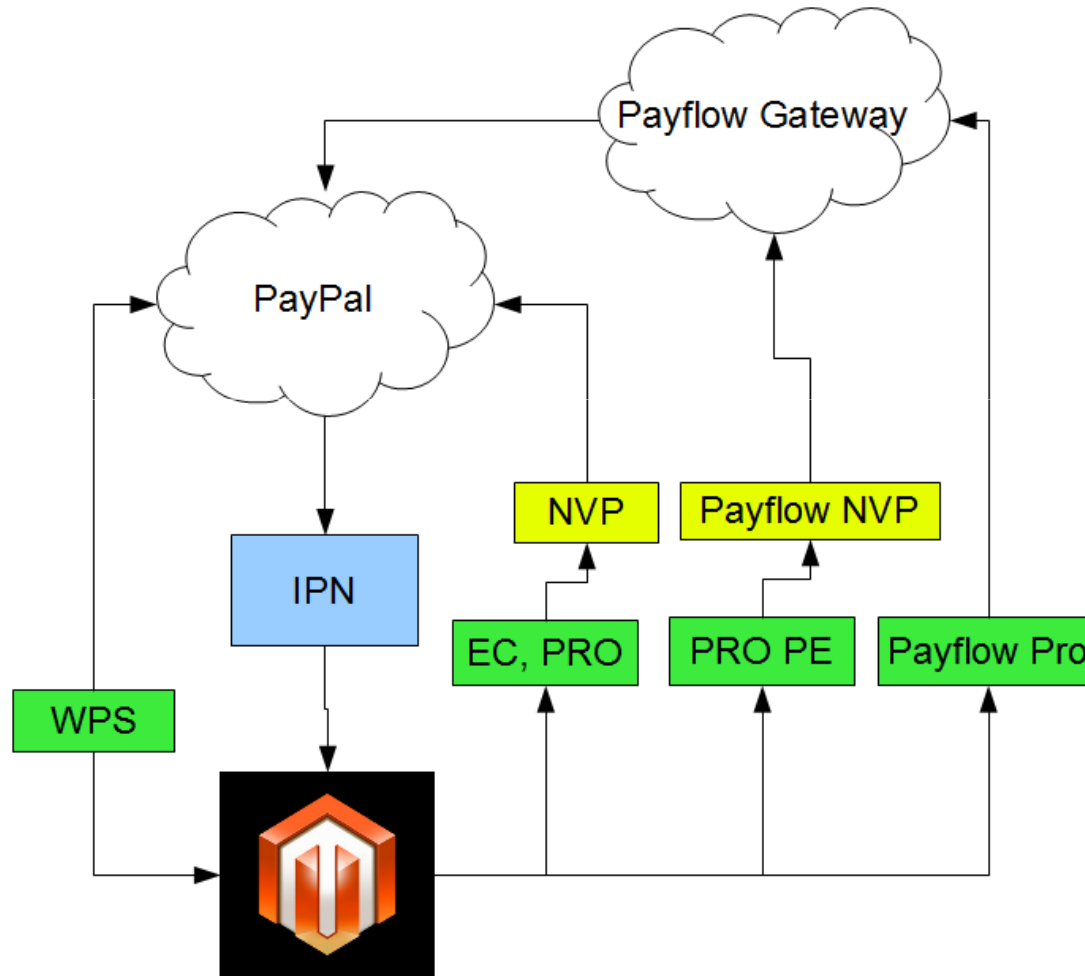
Feature limitations on **merchant country**:

- EC – Recurring Payments: not available for german merchants
- DP – 3D-secure: available only for US and UK merchants

Solution Dependencies























Solution Dependencies



Customer Experience Guidelines

- Hotlinking to PayPal content
- EC payment selection experience
- Shortcuts, solution logos on the frontend

Settlement Reports

/ppreports/outgoing					
Name	Ext ^	Size	Changed	Rights	Owner
..			2008-06-13 11:...	rw-rw-r-x	949
 STL-20100826.01.002	.CSV	1 926	2010-08-27 16:...	rw-r--r--	949
 STL-20100827.01.002	.CSV	1 926	2010-08-28 15:...	rw-r--r--	949
 STL-20100828.01.002	.CSV	1 926	2010-08-29 15:...	rw-r--r--	949
 STL-20100829.01.002	.CSV	1 926	2010-08-30 15:...	rw-r--r--	949
 STL-20100830.01.002	.CSV	1 926	2010-08-31 15:...	rw-r--r--	949
 STL-20100831.01.002	.CSV	1 926	2010-09-01 15:...	rw-r--r--	949
 STL-20100901.01.002	.CSV	1 926	2010-09-02 15:...	rw-r--r--	949
 STL-20100902.01.002	.CSV	1 926	2010-09-03 15:...	rw-r--r--	949
 STL-20100903.01.002	.CSV	1 926	2010-09-04 15:...	rw-r--r--	949
 STL-20100904.01.002	.CSV	1 926	2010-09-05 15:...	rw-r--r--	949
 STL-20100905.01.002	.CSV	1 926	2010-09-06 15:...	rw-r--r--	949
 STL-20100906.01.002	.CSV	1 926	2010-09-07 15:...	rw-r--r--	949
 STL-20100907.01.002	.CSV	1 926	2010-09-08 15:...	rw-r--r--	949
 STL-20100908.01.002	.CSV	1 926	2010-09-09 15:...	rw-r--r--	949
 STL-20100909.01.002	.CSV	1 926	2010-09-10 15:...	rw-r--r--	949
 STL-20100910.01.002	.CSV	1 926	2010-09-11 15:...	rw-r--r--	949
 STL-20100911.01.002	.CSV	1 926	2010-09-12 15:...	rw-r--r--	949
 STL-20100912.01.002	.CSV	1 926	2010-09-13 15:...	rw-r--r--	949
 STL-20100913.01.002	.CSV	1 926	2010-09-14 15:...	rw-r--r--	949
 STL-20100914.01.002	.CSV	1 926	2010-09-15 15:...	rw-r--r--	949

Billing Agreements

Payment Action	Authorization	[WEBSITE]
Payment Applicable From	All Allowed Countries	[WEBSITE]
Debug Mode	Yes	[WEBSITE]
Transfer Cart Line Items	Yes	[WEBSITE]
Transfer Shipping Options	Yes	[WEBSITE]
	▲ Does not work if there are more than 10 shipping options available.	
Shortcut on Shopping Cart	Yes	[STORE VIEW]
	▲ Also affects mini-shopping cart.	
Shortcut on Product View	Yes	[STORE VIEW]
Shortcut Buttons Flavor	Dynamic	[STORE VIEW]
Enable PayPal Guest Checkout	No	[WEBSITE]
	▲ Ability for buyer to purchase without PayPal account.	
Billing Agreement Signup	Ask Customer	[WEBSITE]
	▲ Whether to create a billing agreement, if there are no active billing agreements available.	

Payment Review

- PayPal IPR:
 - Triggered automatically by PayPal
 - Can be controlled from merchant account only
- PayPal FMF:
 - Managed by the merchant
 - Can also be controlled from Magento admin







































































































3. Implementation in Magento

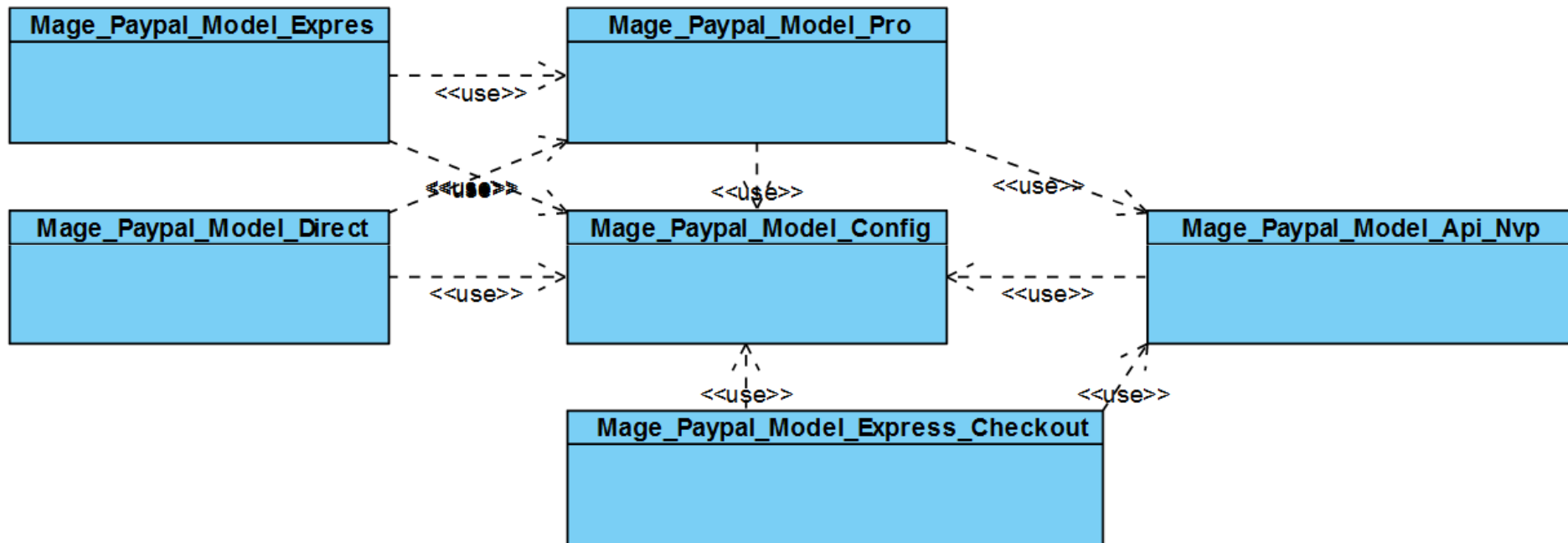
Controller Level

- Mage_Paypal_ExpressController
- Mage_Paypal_StandardController
- Mage_Paypal_IpnController
- Mage_Paypal_Adminhtml_Paypal_ReportsController

Mage_Paypal_Model_Config

-   _mapMethodFieldset(\$fieldName):null|string
-   _mapStandardFieldset(\$fieldName):null|string
-   _mapWppFieldset(\$fieldName):null|string
-   _mapWpukFieldset(\$fieldName):null|string
-   _matchBnCountryCode(\$code):null|string
-   _methodCode:string
-   _prepareValue(\$key, \$value):string
-   _storeId:int
-   _supportedBuyerCountryCodes:array
-   _supportedCountryCodes:array
-   _supportedCurrencyCodes:array
-   _supportedImageLocales:array
-   areButtonsDynamic():bool
-   **centinelDefaultApiUrl:string**
-   DEFAULT_LOGO_TYPE:string
-   EC_BA_SIGNUP_ASK:string
-   EC_BA_SIGNUP_AUTO:string
-   EC_BA_SIGNUP_NEVER:string
-   EC_BUTTON_TYPE_MARK:string
-   EC_BUTTON_TYPE_SHORTCUT:string
-   EC_FLAVOR_DYNAMIC:string
-   EC_FLAVOR_STATIC:string
-   EC_SOLUTION_TYPE_MARK:string
-   EC_SOLUTION_TYPE_SOLE:string
-   exportExpressCheckoutStyleSettings(\$to):void
-   getPaymentMarkImageUrl(\$localeCode, \$orderTotal, \$pal, \$staticSize)::
-   getPaymentMarkWhatIsPaypalUrl(\$locale):string
-   getPaypalUrl(\$params):string
-   getSolutionImageUrl(\$localeCode, \$isVertical, \$isEcheck):string
-   getStartBillingAgreementUrl(\$token):string
-   getSupportedBuyerCountryCodes():array
-   getSupportedMerchantCountryCodes():array
-   getWppCcTypesAsOptionArray():array
-   getWppPeCcTypesAsOptionArray():array
-   getWpsPaymentDeliveryMethods():array
-   isCurrencyCodeSupported(\$code):bool
-   isMethodActive(\$method):bool
-   isMethodAvailable(\$methodCode):bool
-   **isMethodSupportedForCountry(\$method, \$countryCode):bool**
-   isWppApiAvailabe():bool
-   METHOD_BILLING_AGREEMENT:string
-   METHOD_PAYFLOWPRO:string
-   METHOD_WPP_DIRECT:string
-   METHOD_WPP_EXPRESS:string
-   METHOD_WPP_PE_DIRECT:string
-   METHOD_WPP_PE_EXPRESS:string
-   METHOD_WPS:string
-   PAYMENT_ACTION_AUTH:string
-   PAYMENT_ACTION_ORDER:string
-   PAYMENT_ACTION_SALE:string

Payment Methods



Mage_Paypal_Model_Express_Checkout

- Requires config and quote instances
- Key methods:
 - start()
 - getShippingOptionsCallbackResponse()
 - returnFromPaypal()
 - updateShippingMethod()
 - place()
- Invoked by EC controller
- Invokes API, Pro, sales order/quote payments

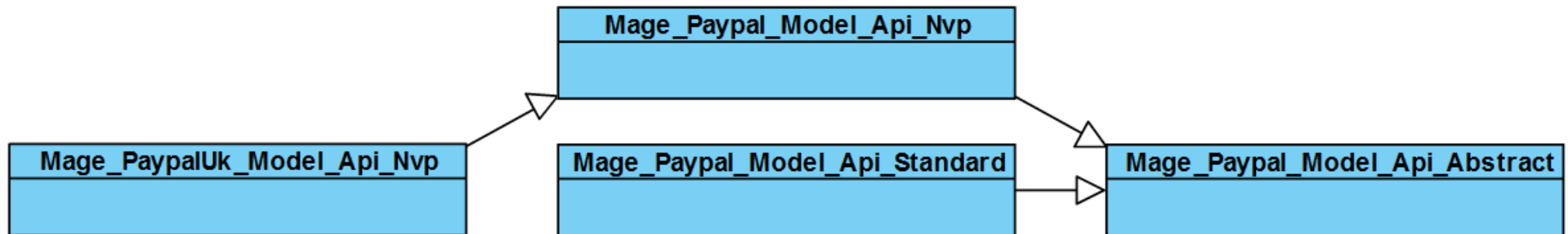
Mage_Paypal_Model_Ipn

- POST back, validate request
- Identify and validate order
- Process the payment notification: a bit of imperative role
- Debugging and logging

“Knowledge” Models

- Mage_Paypal_Model_Cart: transforms Magento sales entity into a PayPal-valid shopping cart with totals
- Mage_Paypal_Model_Info:
 - Mapping payment info fields, advanced payment state determination
 - Reference information: codes, labels

API Models



- NVP models – Website Payments Pro implementation through HTTP-API
- WPS model – not actually an API, just composes an order placement request form variables

Settlement Report Models

- `Mage_Paypal_Model_Report_Settlement`
 - Entity model
 - Fetching and parsing reports
 - Report parameter labels
- `Mage_Paypal_Model_Report_Settlement_Row`
 - Also an entity model
 - Event labels
 - Casting amounts



4. Debugging and Maintaining

Debugging PayPal Methods

- No more logging to database!
- `var/log/payment_<code>.log`
- sensitive information is omitted from log
- send “correlation ID” to MTS

IPN Debug

- Significant order processing events – to the order comments
- `var/log/payment_<code>.log`
- `var/log/paypal_ipn_unknown.log`
- PayPal > History > IPN History

Express Checkout Known Issues

- No billing address transferring back
- Shipping options with no address yet
- Line items with crazy taxes/discounts

Recurring Payment and Billing Agreement Known Issues

- Status unsynchronization
- RP relies on IPN only
- Not yet full integration of RP

Payflow Pro and FPS

- Merchant will stuck with order processing 😊

Questions?

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