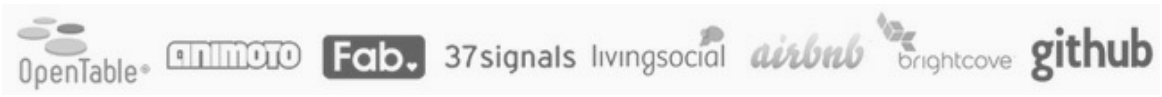
How Braintree Builds a Platform for Developers

Braintree

Braintree is a payment gateway

A payment gateway is software that allows merchants to process credit card payments from your website and/or application

Our Merchants



Our Merchants

We love technically savvy companies

We target developers

Developers

We love developers

We target our product at developers

"We want to be the undisputed, #1 preferred payments provider for developers"

Why?

Developers are often the people choosing payment gateways

Developers are vocal - Meetups, Conferences, Twitter, Google+

Developers help make our products better - Open source, 3rd party products

How We Target Developers

Make it easy for developers

Build developer specific features

Build and foster 3rd party tools

Engage the developer community

Make it Easy for Developers

Client Libraries

API Docs - Languages

API Docs - Mobile Platforms

Client-side Encryption

Handle the Annoying Stuff For Developers

SSL verification

Request timeouts

Building request XML

Parsing responses

Error code constants

Follow Local Idioms

```
# ruby
result = Braintree::Transaction.sale(
  :amount => "100.00",
  :credit_card => {
    :number => "5105105105105100",
    :expiration_date => "05/12"
  }
)

// java
TransactionRequest request =
  new TransactionRequest().
    amount(new BigDecimal("1000.00")).
    creditCard().
      number("4111111111111111").
      expirationDate("05/2009").
      done();

Result<Transaction> result =
    gateway.transaction().sale(request);
```

Backwards Compatibility

Once a developer integrates, we don't want them to have to change

We constantly release, but we always ensure backwards compatibility

Builds

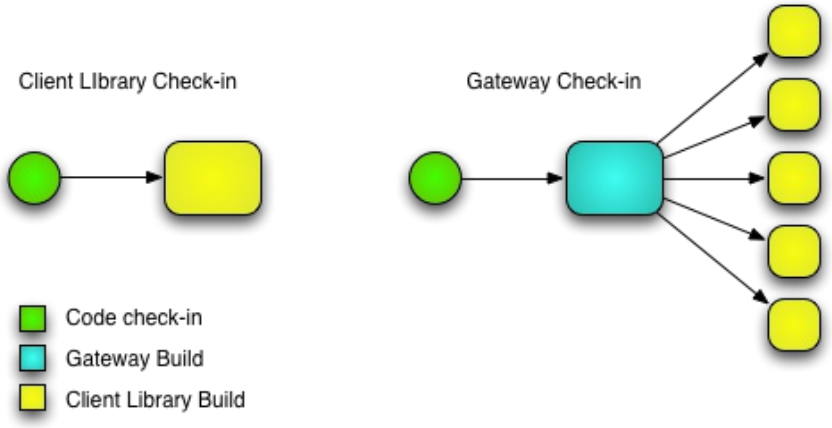
Each client library has a build

This build runs the tests on the master branch of the client library against the master branch of our gateway code

Triggers

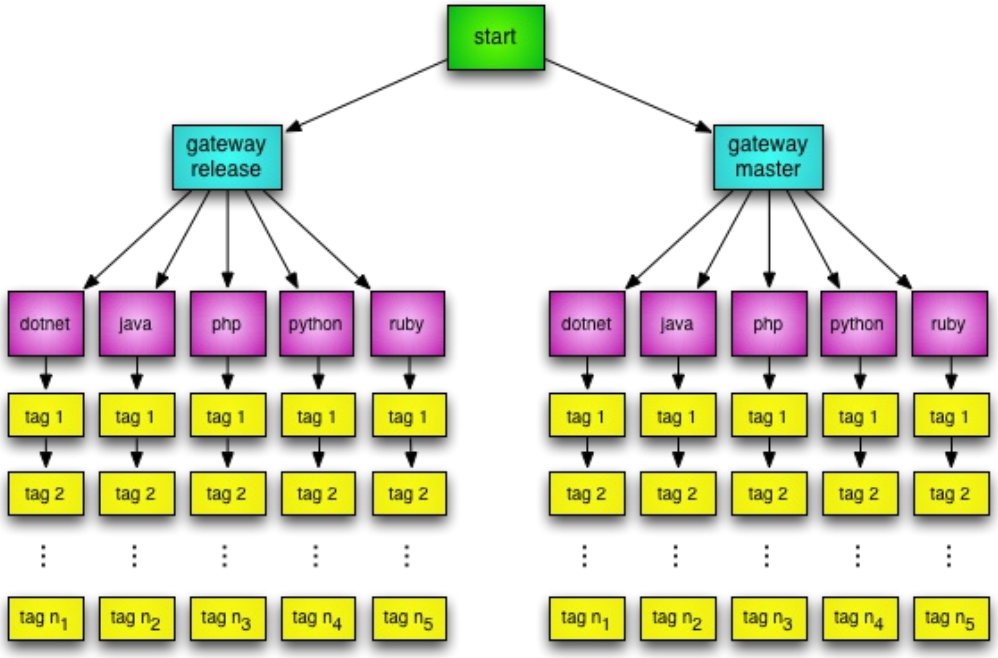
Code is pushed to the master branch of a client library

Code is pushed to the master branch of the gateway



Backwards Compatibility

We test every released version of every client library each night



Developer Specific Features

Client-side encryption

Webhooks

Advanced Search API

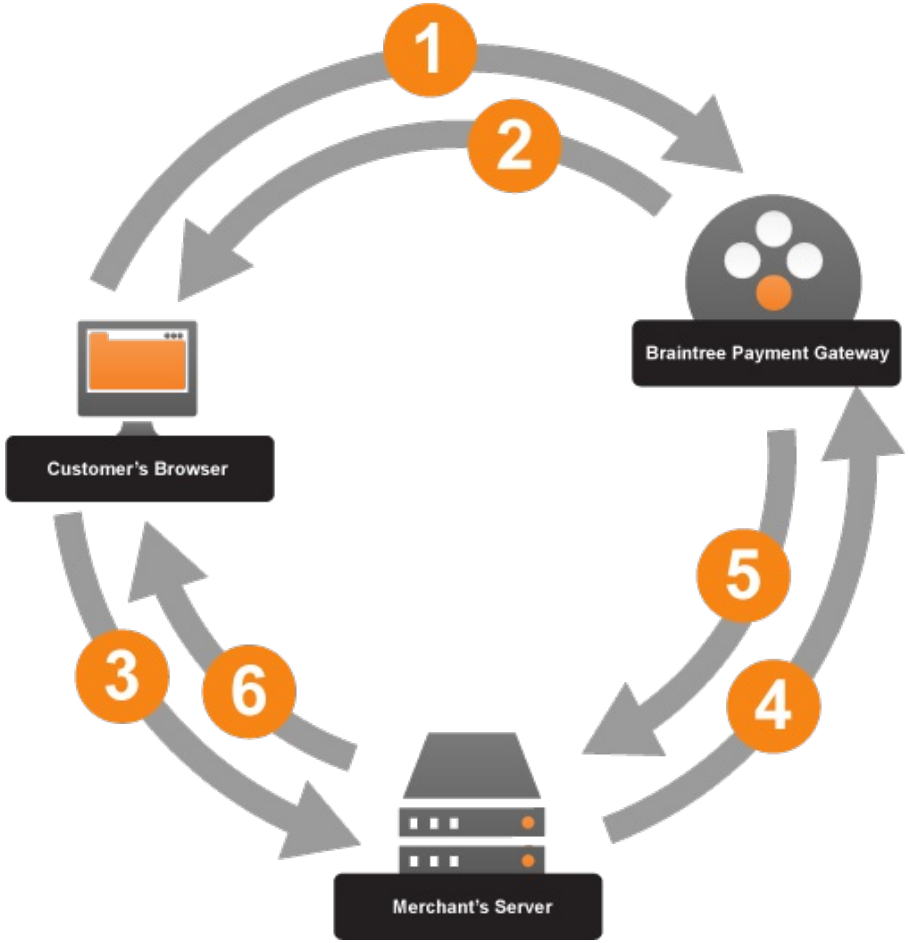
The Problem

Merchants don't want credit card data passing through their servers

Traditional solution is Transparent Redirect

Credit card data is sent directly to Braintree, not to the merchant

Transparent Redirect



Transparent Redirect Problems

The entire form is POSTed to Braintree

Difficult to do custom validations

Hard to do one page signup forms

Client-side Encryption

Encrypt the data in the browser with javascript and asymmetric encryption

POST the form to the merchant

Pass along required fields to Braintree

Example

```
// javascript
var braintree = Braintree.create("encryption-key");
var encNum = braintree.encrypt("4111111111111111");
var encExpiration = braintree.encrypt("01/2014");

# ruby
result = Braintree::Transaction.sale(
  :amount => "100.00",
  :credit_card => {
    :number => encrypted_credit_card_number,
    :expiration_date => encrypted_expiration_date
  }
)
```

Webhooks

Software as a service companies need to suspend service when billing fails

One method is to poll our system to find state of subscription

Requires a background job or real time querying

Webhooks

Webhooks notify merchants when something happens to the subscription

Developers give us a webservice endpoint, and we call it

Simpler and less work for developers

Advanced Search API

Traditionally, someone would have to log into our control panel for advanced searching

We give developers an easy way to integrate advanced searching into their applications

```ruby
# ruby
results = Braintree::Transaction.search do |search|
  search.order_id.is "myorder"
  search.customer_first_name.starts_with "Tim"
  search.shipping_street_address.contains "Main St"
end

// java
TransactionSearchRequest request =
  new TransactionSearchRequest().
    orderId().is("myorder").
    customerFirstName().startsWith("Tim").
    shippingStreetAddress().contains("Main St");

ResourceCollection<Transaction> collection =
  gateway.transaction().search(request);
```

3rd Party Tools

Not everyone writes their system from scratch

Many developers start with a shopping cart system

We've already integrated with many of these so developers don't have to

3rd Party Tools

We Engage the Developer Community

Open source

Conferences

Meetups

Open Source

We use a lot of open source software

We contribute back

We release software that we wrote

Curator

Model and repository framework for Ruby (not ActiveRecord)

github.com/braintree/curator

Supply Drop

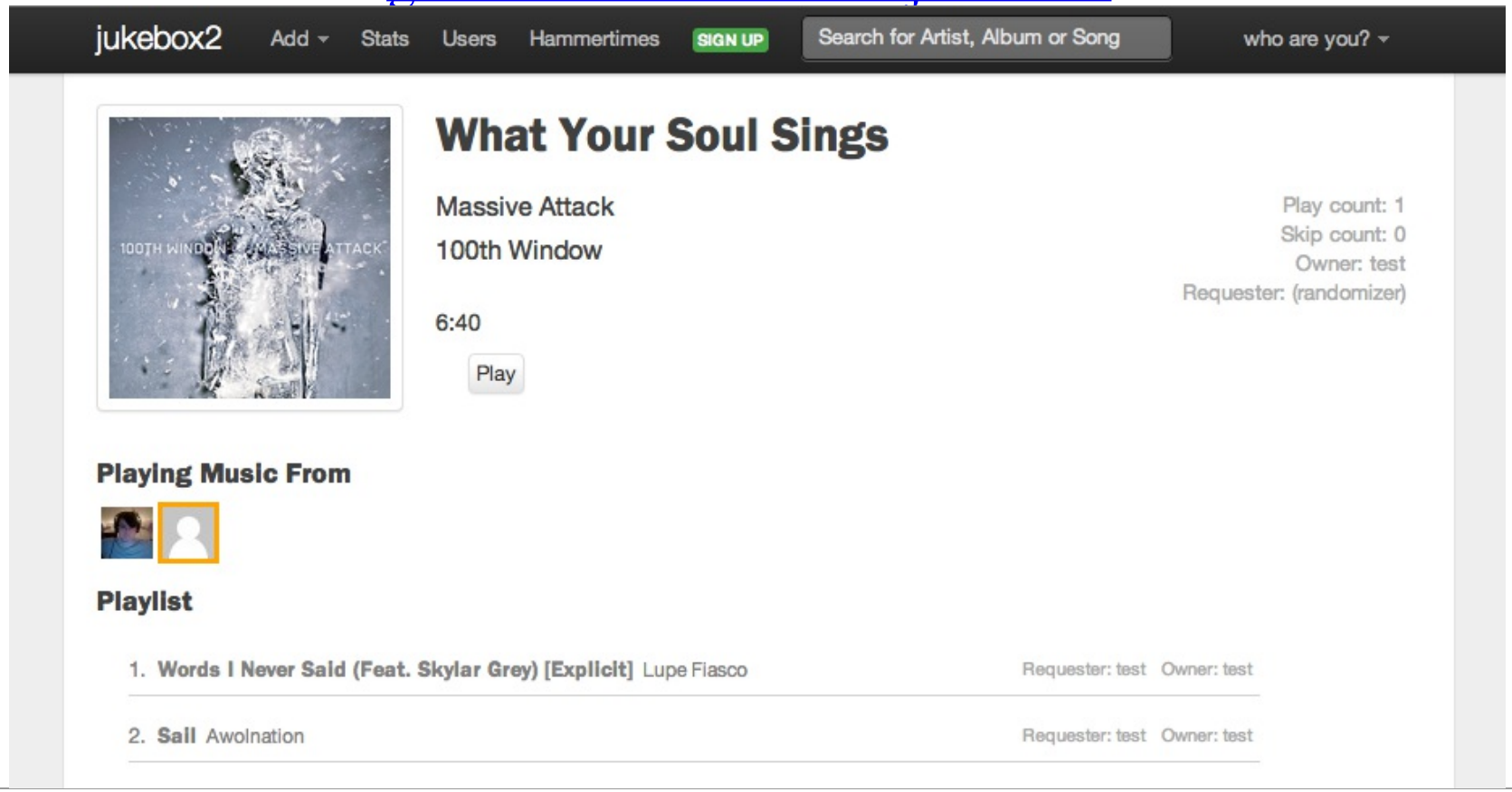
Automation for server setup with puppet and capistrano

github.com/pitluga/supply_drop

Jukebox2

Communal music player for team environments

github.com/thehammer/jukebox2



vim dotfiles

All of our vim settings

github.com/braintreeps/vim_dotfiles

Conclusion

We love developers

We try to make their lives easier

We engage in the community

They advocate for us

Questions?