# Notifications in Rails
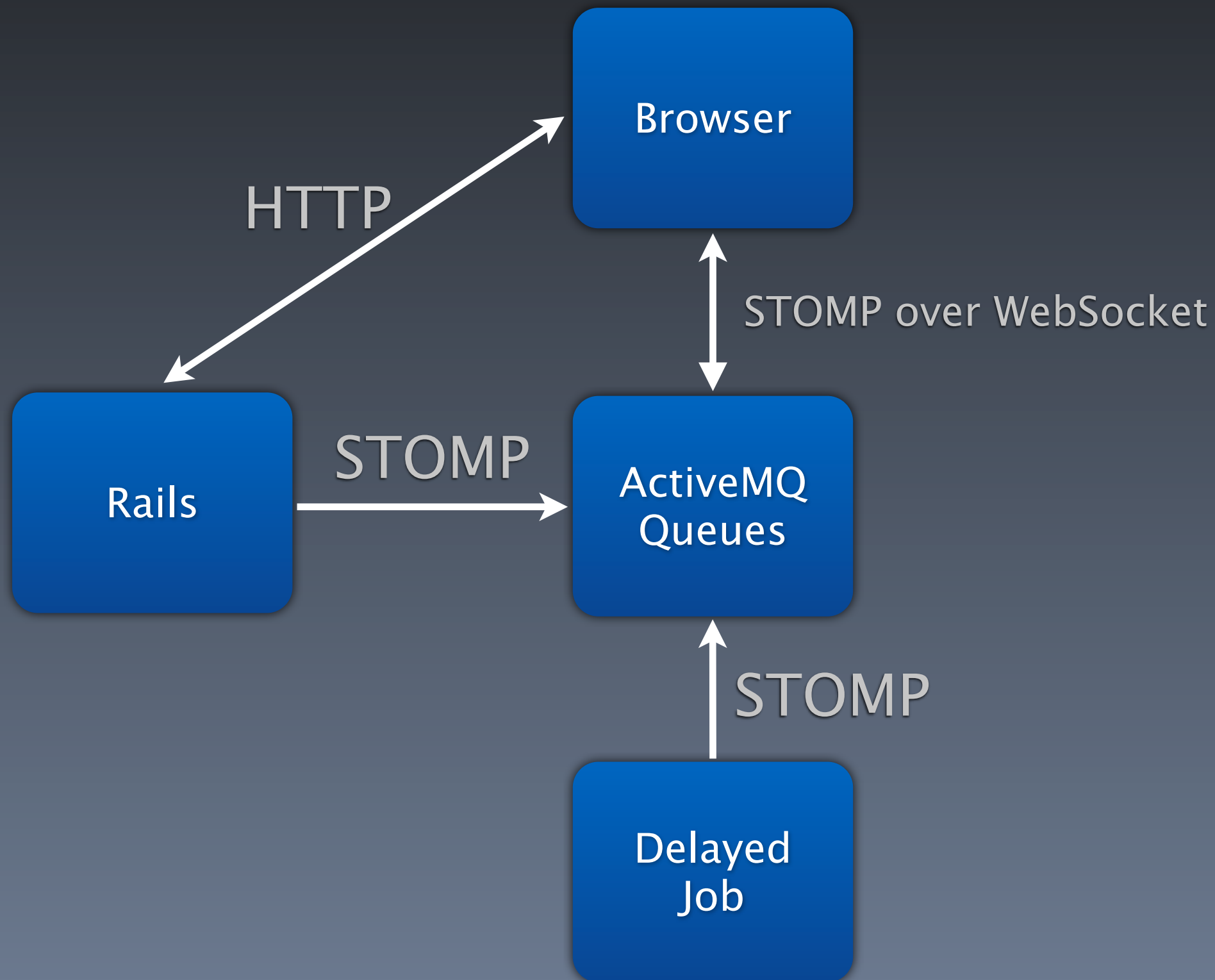
Stomp
WebSockets
ActiveMQ

# Architecture

# STOMP

```
SEND
destination:/queue/a
content-type:text/plain

hello queue a
^@
```

# Connecting with Ruby

```ruby
hash = {
  hosts: [
    {
      login: "system",
      passcode: "manager",
      host: "localhost",
      port: 61612, ssl: false},
    ],
  }
  client = Stomp::Client.new(hash)
  client.publish(user.queue,
    "Welcome")
```

# WebSocket

Looks like HTTP but isn't.

Client and Server (duplex) can send data or text back and forth.
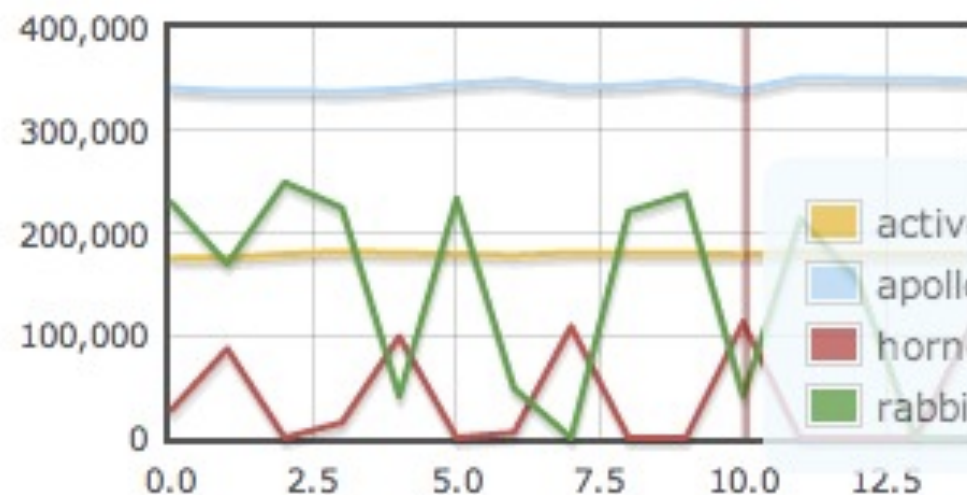
Messages can be split across several frames.

# Connecting with JavaScript

```javascript
var url = "ws://localhost:61614/stomp";
var login = "";
var passcode = "";
var destination = "test_...";
var client = Stomp.client(url);
var onconnect = function(frame) {
  client.subscribe(destination, function(message) {
    $("#messages").
      append("<p>" + message.body + "</p>\n");
  }
});
client.connect(login, passcode, onconnect);
```
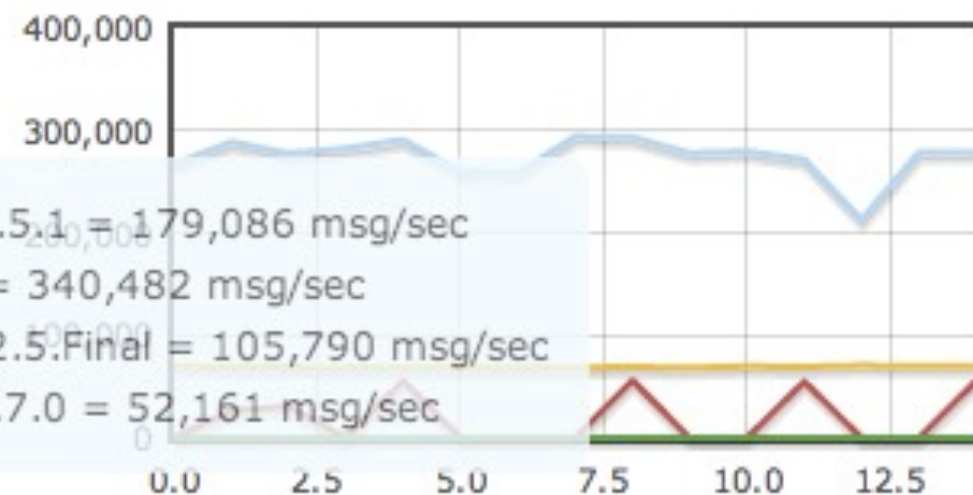
# ApacheMQ

Java based, Messaging Middleware, SSL, Fast

Automatic removal of Queues

10,000s of Queues



With a 20 b Playload / With a 1 k Playload

activemq-5.5.1 = 179,086 msg/sec
apollo-1.0 = 340,482 msg/sec
hornetq-2.2.5.Final = 105,790 msg/sec
rabbitmq-2.7.0 = 52,161 msg/sec

# WebSockets and STOMP

```xml
<transportConnectors>
  <transportConnector
    name="stomp"
    uri="stomp://0.0.0.0:61612"/>
  <transportConnector
    name="websocket"
    uri="ws://0.0.0.0:61614"/>
</transportConnectors>
```

# Queue Setup

```
<plugins>
...
  <authorizationPlugin>
    <map>
      <authorizationMap>
        <authorizationEntries>
          <authorizationEntry queue=">"
            read="admins,users" write="admins,users"
            admin="admins"/>
          <authorizationEntry topic="ActiveMQ.Advisory.>"
            read="users" write="users" admin="users"/>
          <authorizationEntry topic="*.reply.>"
            read="users" write="users" admin="users"/>
        </authorizationEntries>
...
</plugins>
```

# Some Alternatives

Rails 4.0 ActionController::Live

- Server-Sent Events

- Limited to Server Threads and DB Connections

PrivatePub/Faye

- Private by Default

- Node.js and Rails versions

- Limited to Event Driven Servers (Thin, etc)

Pusher

- SaaS solution

# But wait...

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## NGINX Announces Support for WebSocket Protocol

*San Francisco, California—February 19, 2013*

**Latest Version of NGINX Facilitates Real-Time Web Applications with WebSocket**

Nginx, Inc., the high performance web company, today announced support for the WebSocket Protocol in the latest iteration of NGINX version 1.3. Available immediately, the functionality of the WebSocket Protocol is accessible within the core product. WebSocket provides exciting capabilities for web developers and service providers offering platforms as a service (PaaS), who are challenged by an ever increasing demand for high performance and low latency communications.

Makes Rails Solution feasible with SSL, nginx and Thin, Goliath, or Unicorn.

# Links

JS Library

https://github.com/jmesnil/stomp-websocket

Ruby Library

https://github.com/stompgem/stomp

ActiveMQ

http://activemq.apache.org/