

# DevOps to NoOps

10 cloud services you should be using

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# About Me



TM

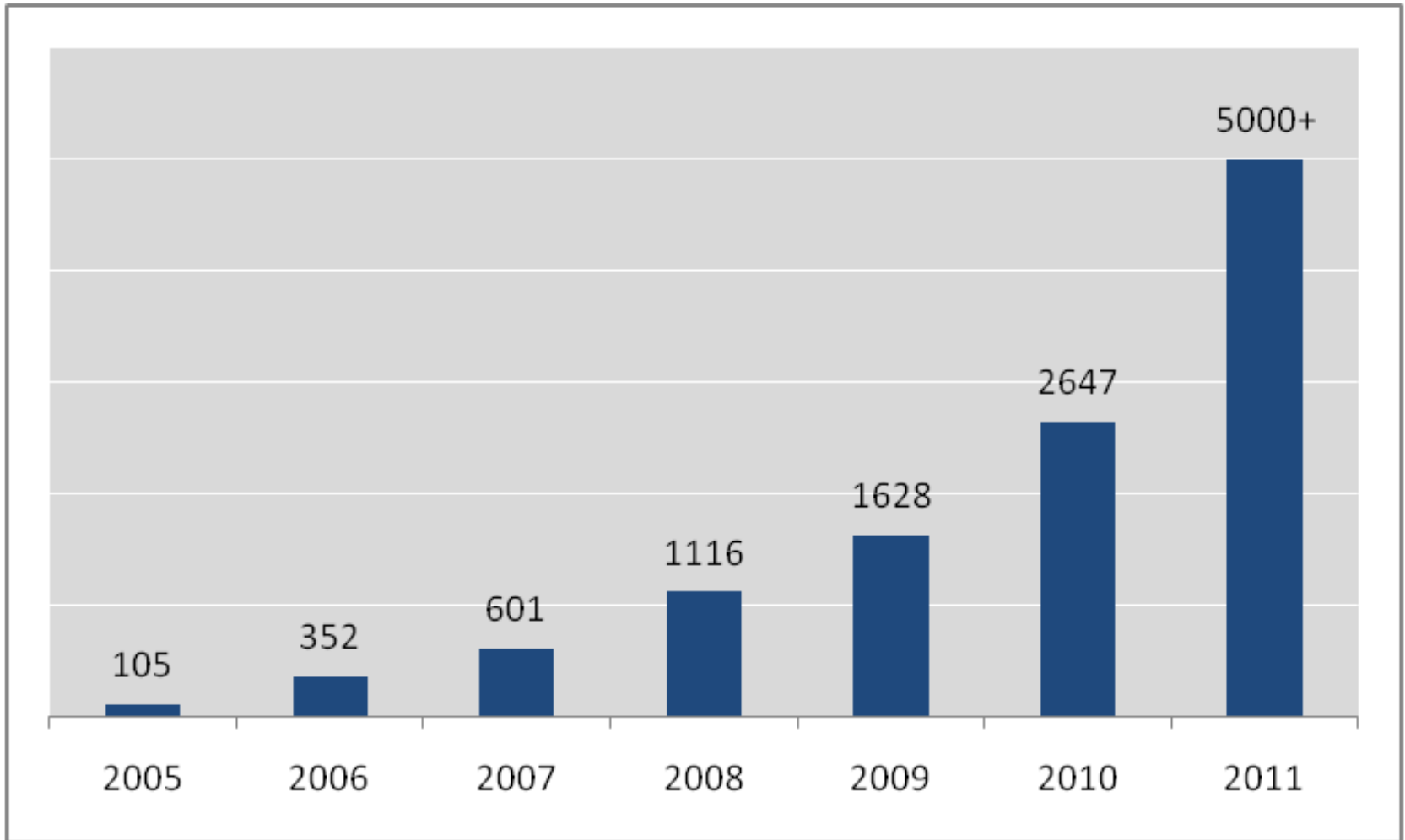


# Agenda

- Impact of APIs
- Top 10 you should be looking at
- Integrating with APIs

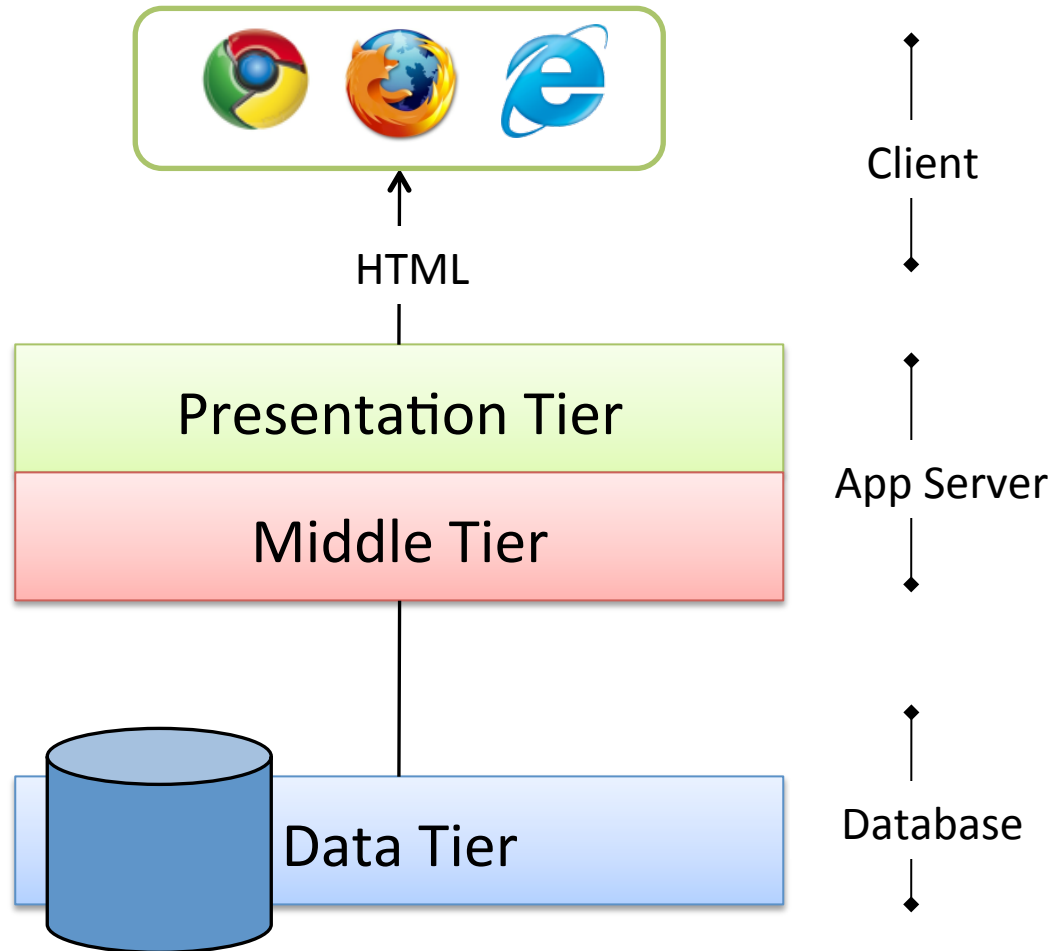
# The Impact of APIs

# API Proliferation

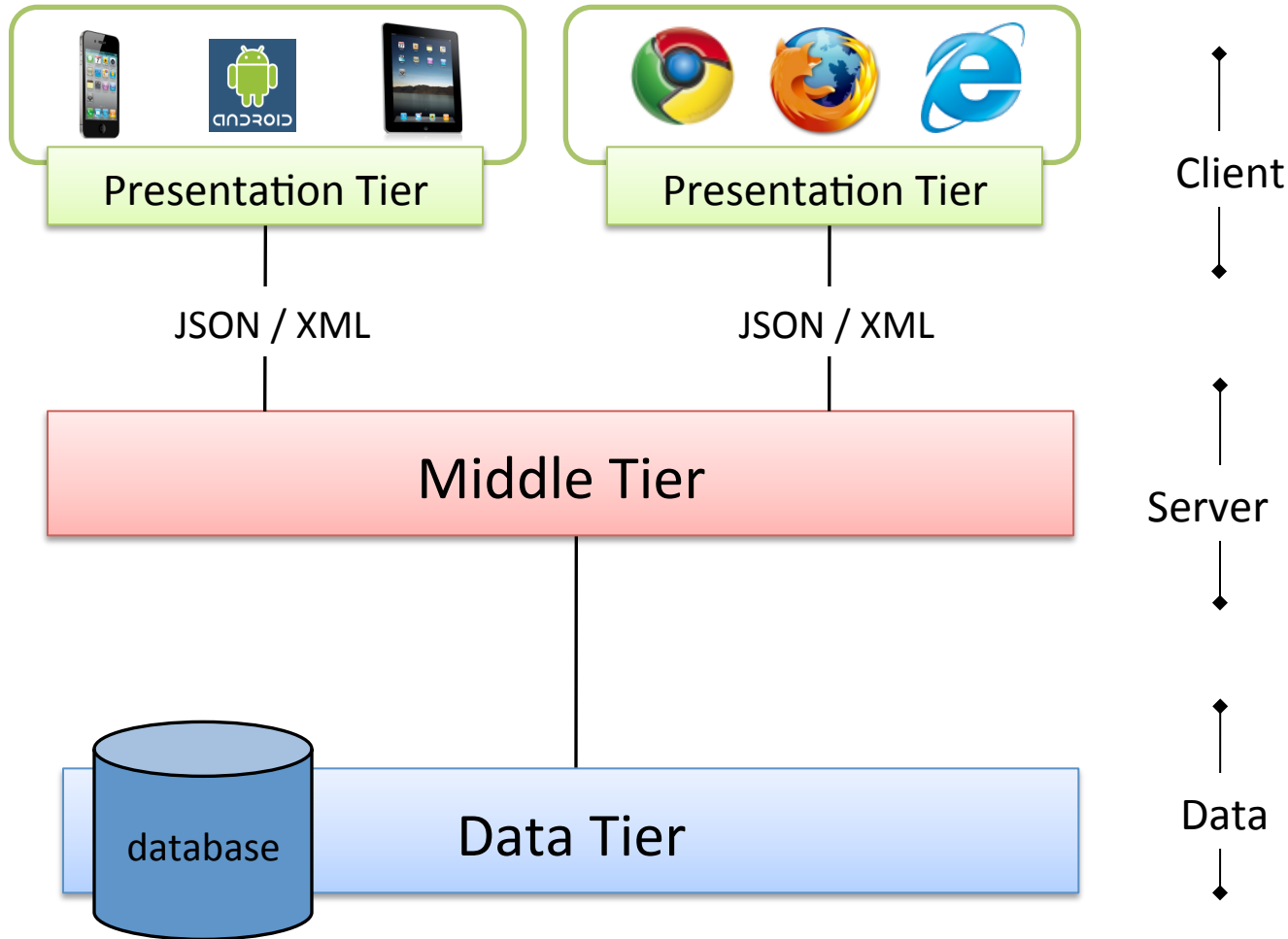


Source: Programmable Web

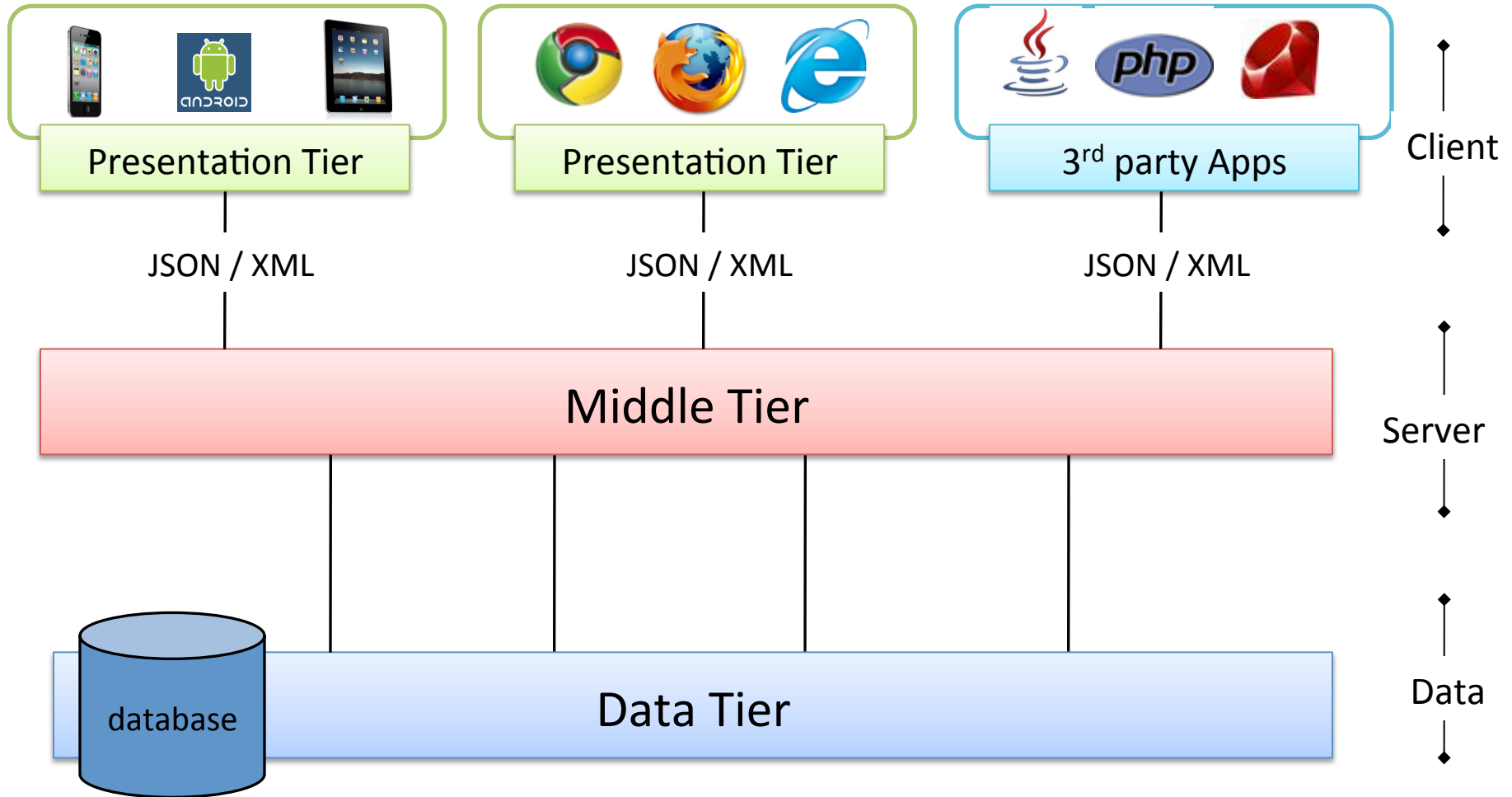
# The traditional 3-tier architecture



# ...is being decomposed

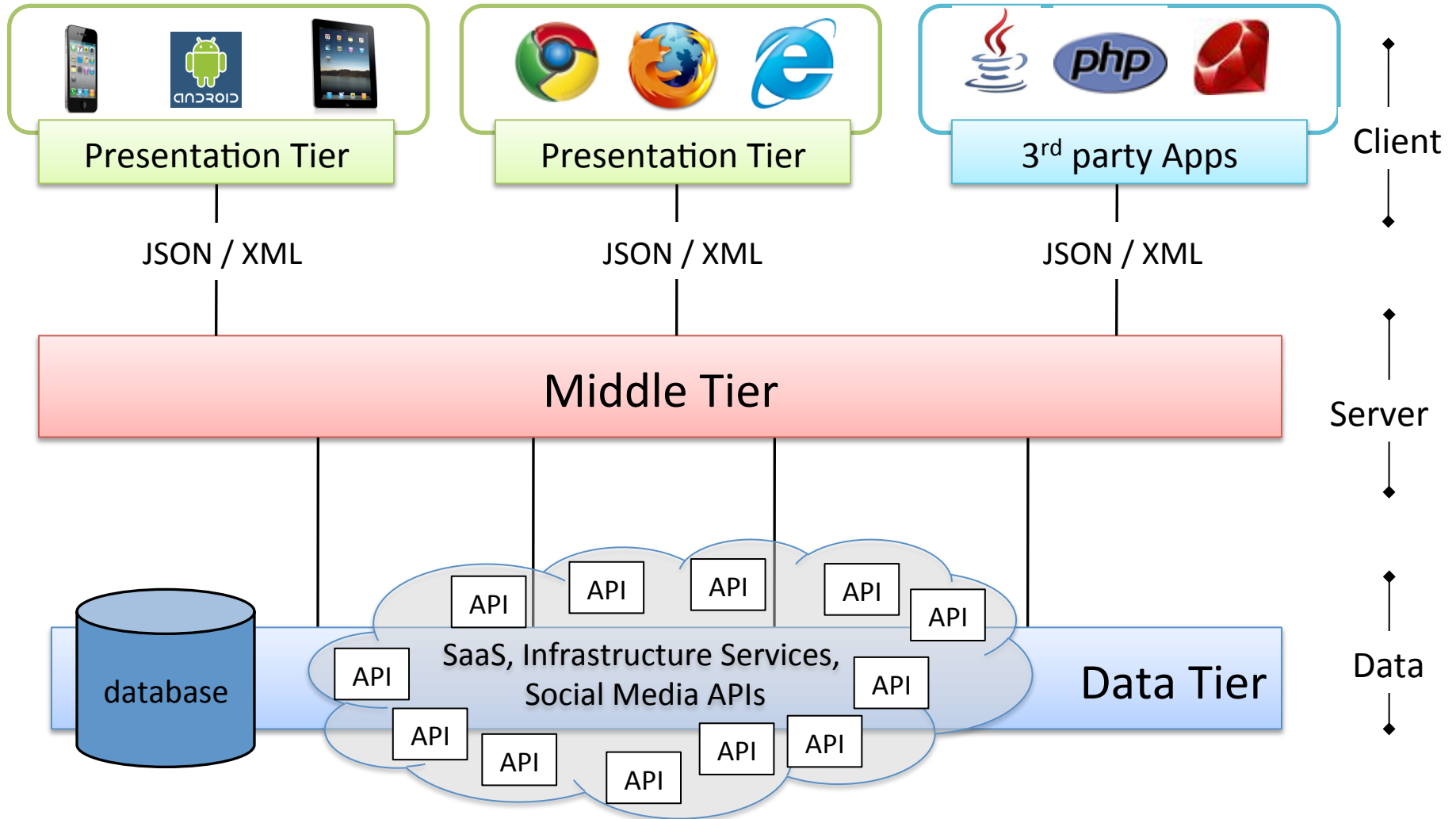


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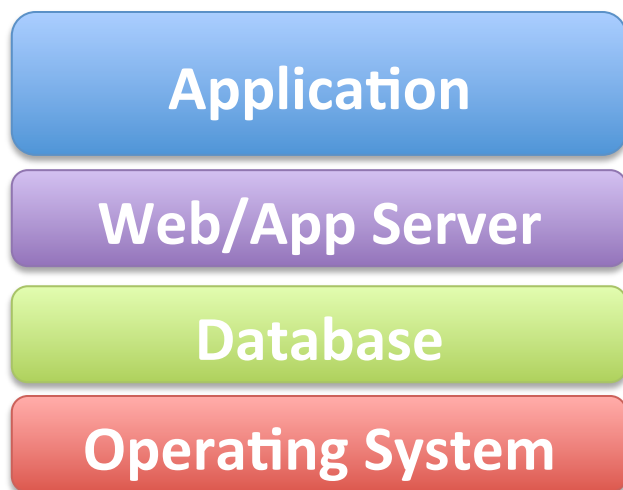


# ...is being decomposed



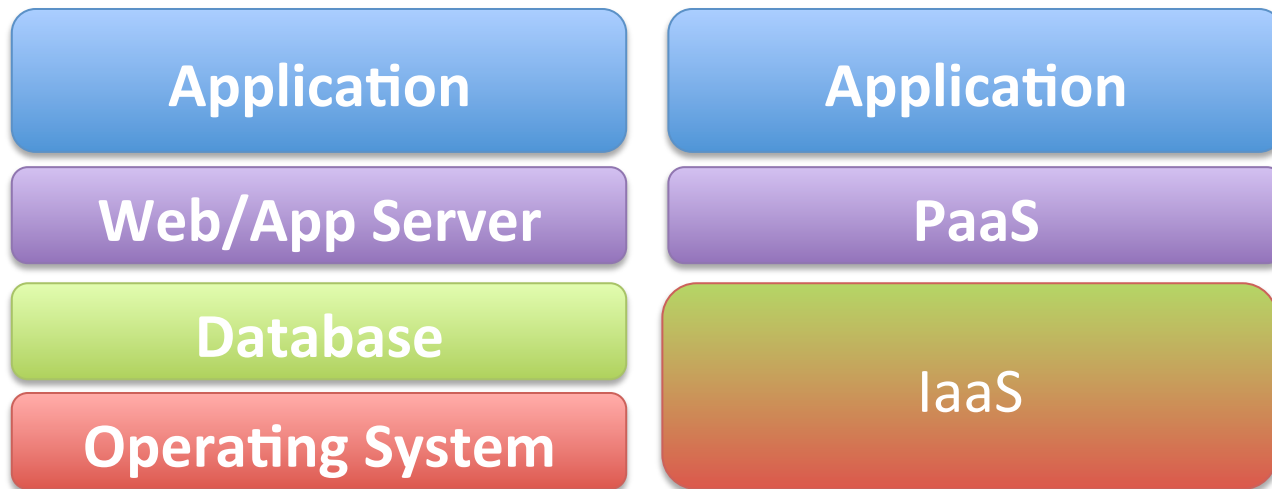
# Platform Shift

## Traditional Application Environments



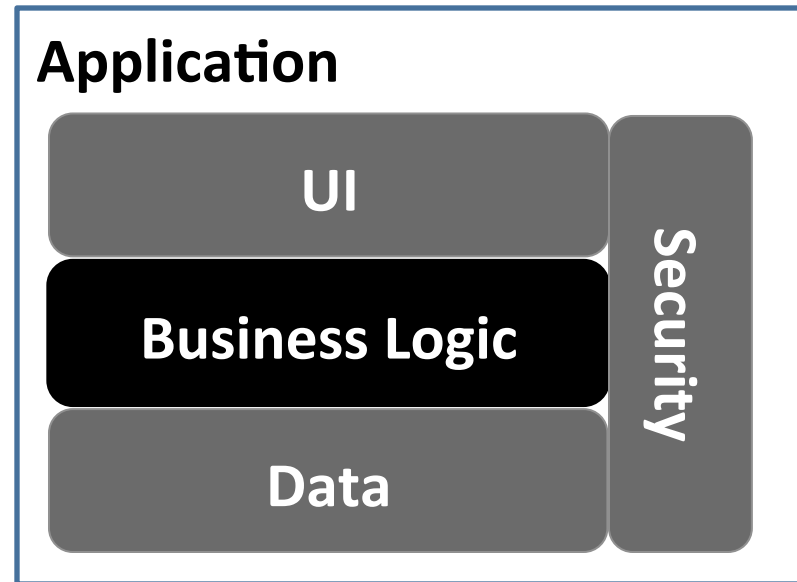
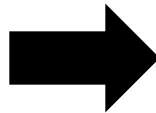
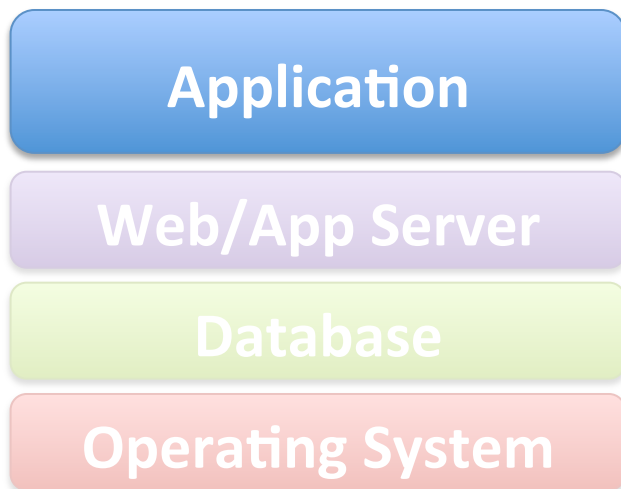
# Platform Shift

## New Application Environments



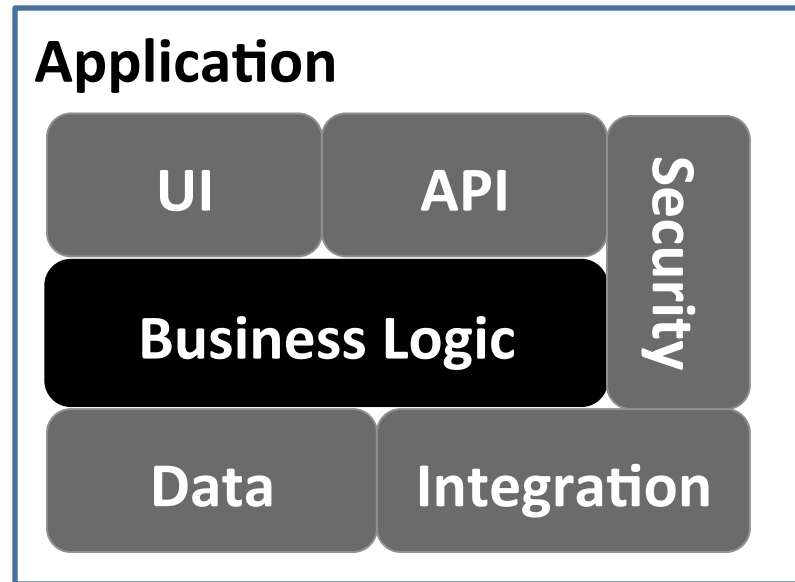
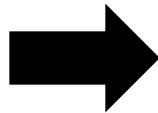
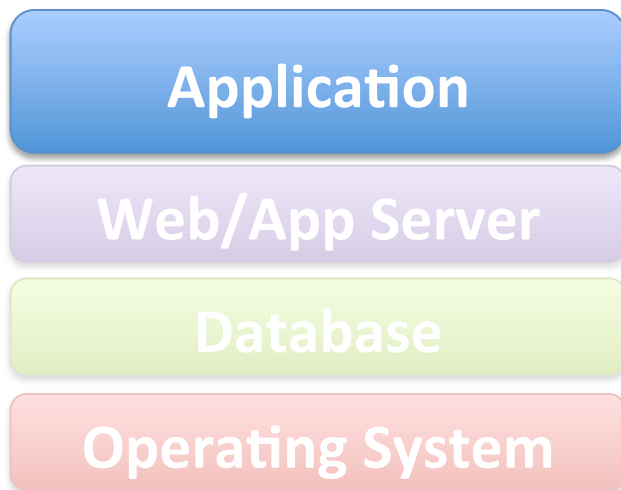
# Technology Shift

## Traditional Application Environments



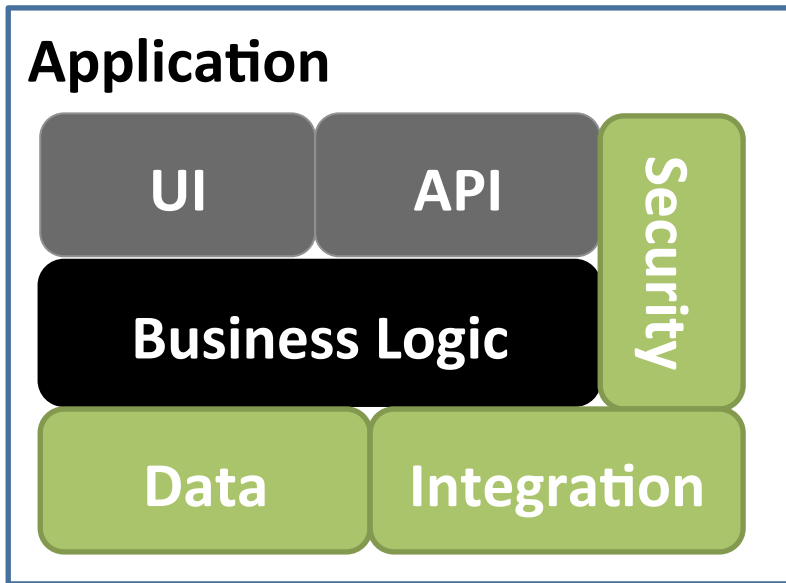
# Technology Shift

## Newer Application Environments



# Technology Shift

## Application Decomposition



GoodData



# Top 10 APIs

API	Description	Category	Mashups
Google Maps	Mapping service	Mapping	2278
Twitter	Microblogging	Social	622
YouTube	Video sharing and search	Video	585
Flickr	Photo sharing	Photo	583
Amazon eCommerce	Online retailer	Shopping	396
Facebook	Social networking	Social	301
Twilio	Telephony service	Telephony	290
eBay	Online auction marketplace	Shopping	213
Last.fm	Online radio service	Music	201
Google Search	Search services	Search	175

Source: ProgrammableWeb.com, Sept 2011

# Top 10 Infrastructure APIs



# 10. The Cloud Database

- MySQL Database as a Service
- Direct replacement for MySQL
- Alternatives: Amazon RDS, Rackspace, Heroku
- API: REST or SOAP for provisioning and controlling the DB instance
  
- So What?
  - Fully managed, auto-scale, HA
  - Management tools built-in
  - API makes the service scriptable

## 9. amazon S3 webservices™

- File System as a Service
- Simple API for storing large and small files
- Alternatives: RS Cloud Files, CloudLayer Storage
- API: REST, SOAP or BitTorrent
  
- So What?
  - Many Apps need file storage
  - Unlimited data
  - Leverage the Amazon global network, CDN support

## 8. loggly

- Logging as a Service
- Manages logs, enables easy search and navigation
- Alternatives: Splunk
- API: REST, Syslog for data collection
  
- So What?
  - Easy to set up, centralized view of App logs
  - No more ssh-ing to different boxes and tailing logs
  - Analytics as standard

## 7. **SendGrid** *Email Delivery. Simplified.*

- Email as a Service
- Replace email infrastructure, its like normal email but way better
- Alternatives: Postmark
- API: REST, SMTP
  
- So What?
  - Set up in minutes no need to run an email server
  - bulk, delivery management, analytics
  - Web Hooks Event API

## 6. mongoHQ

- MongoDB as a Service
- Create a MongoDB in seconds, continue writing your application
- Alternatives: Couch One
- API: MongoDB client API
  
- So What?
  - Fully managed, auto-scale, HA
  - Management tools built-in
  - Code compatible with MongoDB

## 5. Airbrake

- Error Management as a Service
- collects errors generated by other applications, and aggregates the results for review.
- Alternatives: ?
- API: REST
  
- So What?
  - Interesting approach to error management, no need to hit the logs
  - See errors in real-time, track and fix

## 4. Katasoft

- Application Security as a Service
- User account management, authentication, and access control in your application
- *Currently in private Beta*
- API: REST
  
- So What?
  - Every app needs user security, avoid rolling the same code over and over

### 3.



PubNub  
Real-time. Real Easy.

- Publish / Subscribe Messaging as a Service
- Real-time, global messaging for cloud and mobile apps
- Alternatives: Pusher, Amazon SNS
- API: REST
- So What?
  - Amazingly quick; as about real-time as the web gets
  - Asynchronous, streaming API
  - Cheap even for millions of messages



## 2. **Dropbox**

- File Sharing as a Service
- Share files between all your devices and friends/co-workers
- Alternatives: Box.net, SpiderOak, Wuala, etc
- So What?
  - Great for content delivery, service handles all synchronization issues
  - Good way to integrate mobile with desktop and web
  - (Almost) everyone has it

# 1. **twilio** CLOUD COMMUNICATIONS

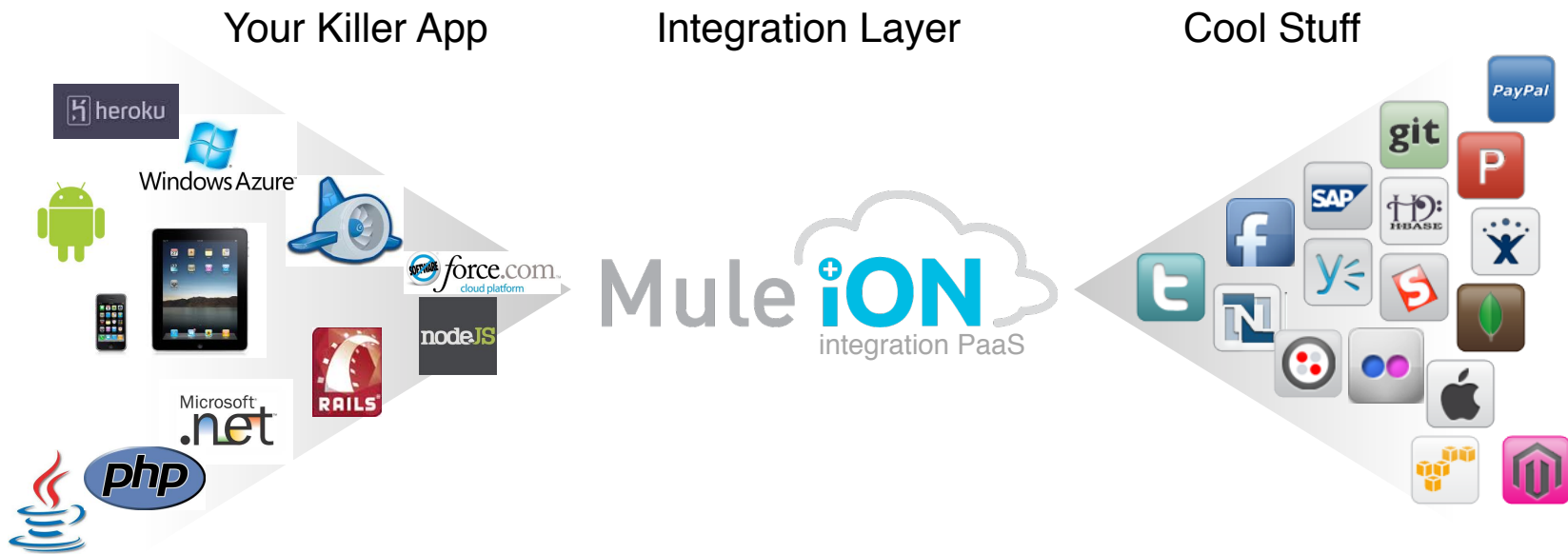
- Telephony as a Service
- Build text/sms and voice apps really easily
- Alternatives: Tropo
  
- So What?
  - This stuff was hard before Twilio came along
  - Integrate text/sms into your apps for alerting, updating, user confirmation, etc
  - Easy to create voice access to data in an app (i.e. account balance)

# The API Challenge

# All APIs are not equal

- Hard to work with different APIs
  - Different approaches
  - Different security schemes
  - Different data formats
  - Different ‘interpretations’ of REST
- Lots of custom code in your app

# iPaaS: Don't clutter your app



# Benefits

- Configuration approach to APIs
- Handled for you:
  - Security (OAuth, SAML, Basic)
  - Session Management
  - Streaming
  - HTTP Callbacks
- Consume and invoke multiple services
- Retries, Error handling
- **Decouple, keep your application code clean**

# Quick Demo



- Listen to Salesforce Chatter API for messages
- '#now' tag in Chatter messages get filtered
- Calls Twilio API to send an SMS to the user's phone

# The Flow

```
<twilio:config name="twilio-default" accountSid="xxxxxxx" authToken="xxxxxx"/>
```

```
<sfdc:config name="salesforce-default" username="xxxxx" password="xxxxx"/>
```

```
<flow name="sendSmsNotifications">
```

```
  <sfdc:subscribe-topic config-ref="salesforce-default" topic="/SMSNotifications"/>
```

```
  <logger level="INFO" message="#[payload]"/>
```

```
  <regex-filter pattern="\#now"/>
```

```
  <twilio:send-sms-message config-ref="twilio-default"
```

```
    accountSid="xxxxxxx"
```

```
    from="+14086457888"
```

```
    to="#[map-payload:To__c]"
```

```
    body="#[map-payload:Text__c]"/>
```

```
</flow>
```



# Summary

- APIs are becoming part of our application architecture
- All APIs are different making them hard to consume
- Coding directly to APIs clutters the application and creates a dependency (tight-coupling)
- iPaaS can do the integration heavy lifting, decouple your app from the APIs it consumes

# Questions, Ideas, Comments?

- Mule iON free account : <http://muleion.com>
- Twitter: [@rossmason](#), [@mulejockey](#)
- Blog: <http://blogs.mulesoft.org>
- Company: <http://mulesoft.com> (we're hiring!)