Google
Developers

Introducing Open Bidder

Leverage Google's Cloud Platform to Reinvent Display Advertising

goo.gl/FuStE

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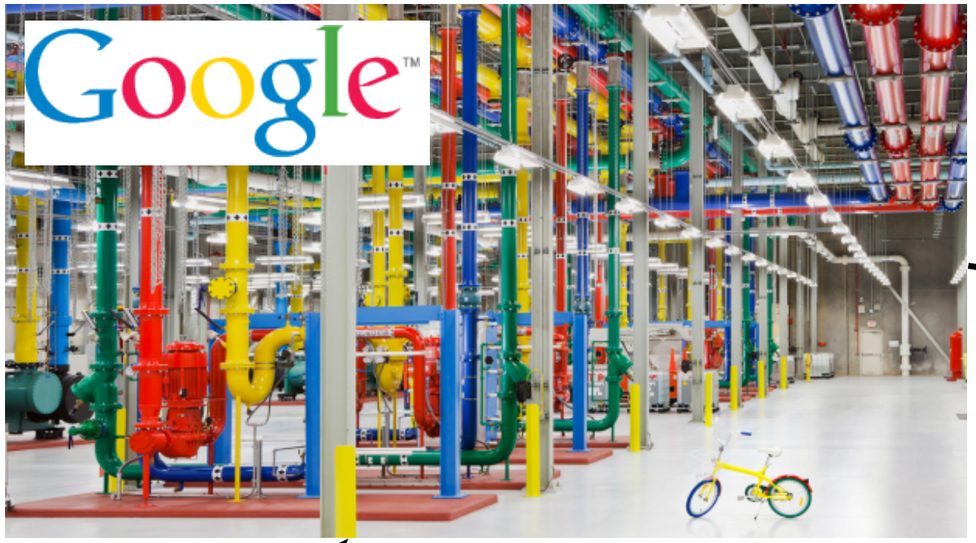
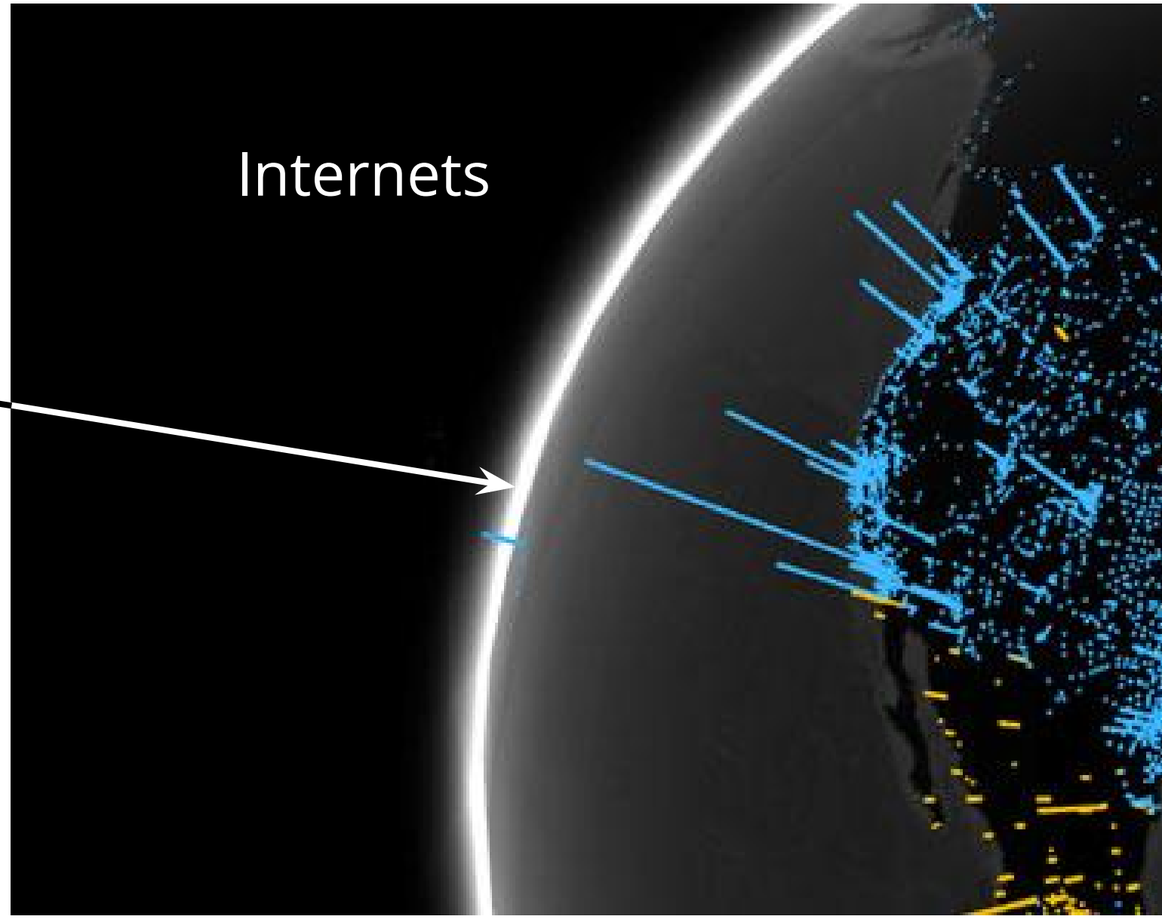
Google I/O 13

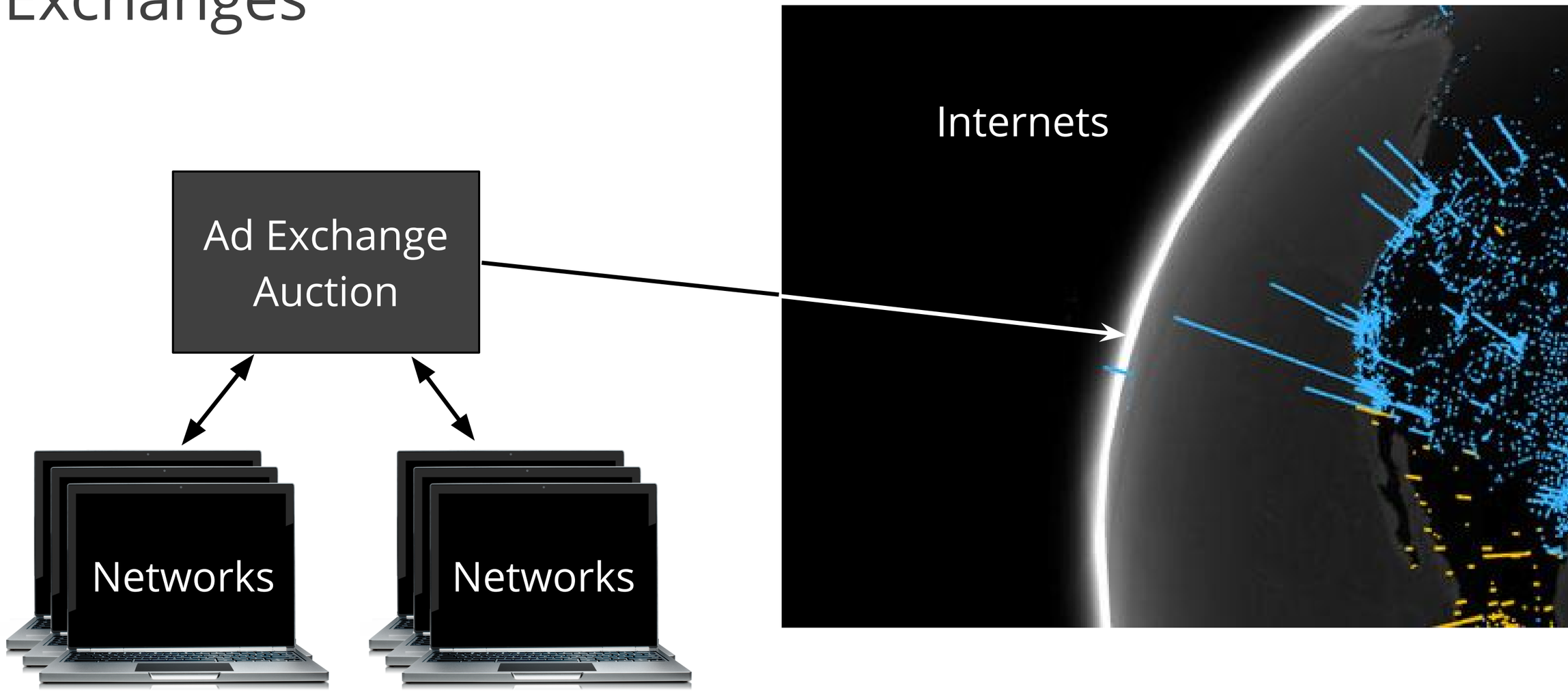
Overview

Display Advertising

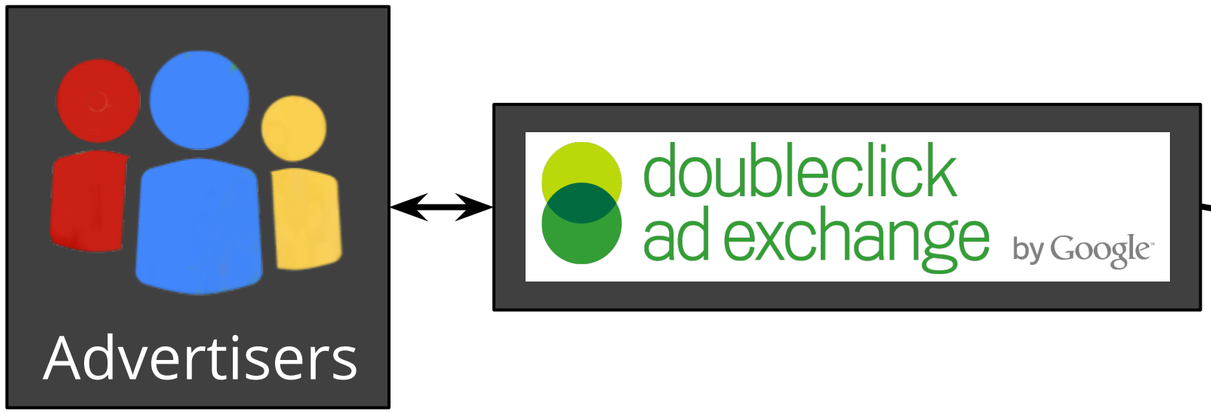


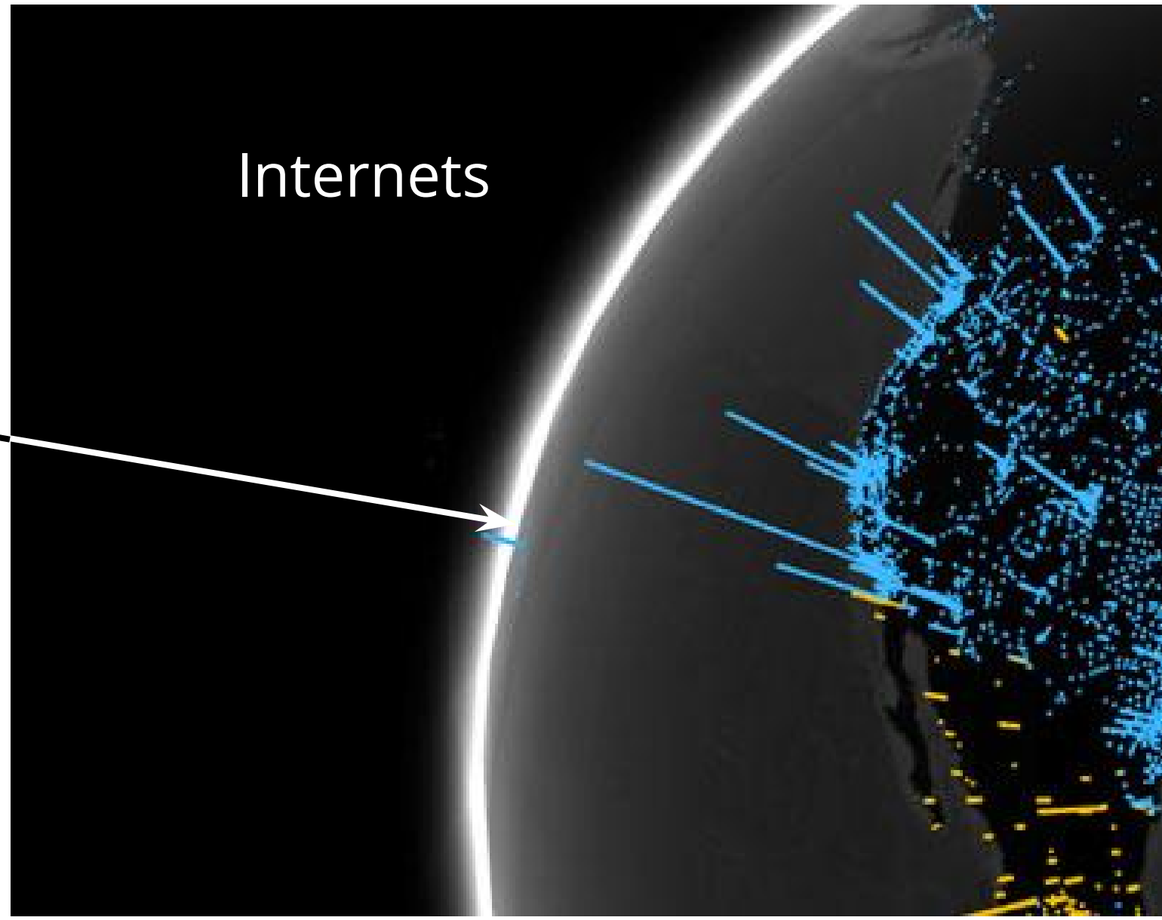


Ad Exchanges



Display Advertising with RTB





Challenges

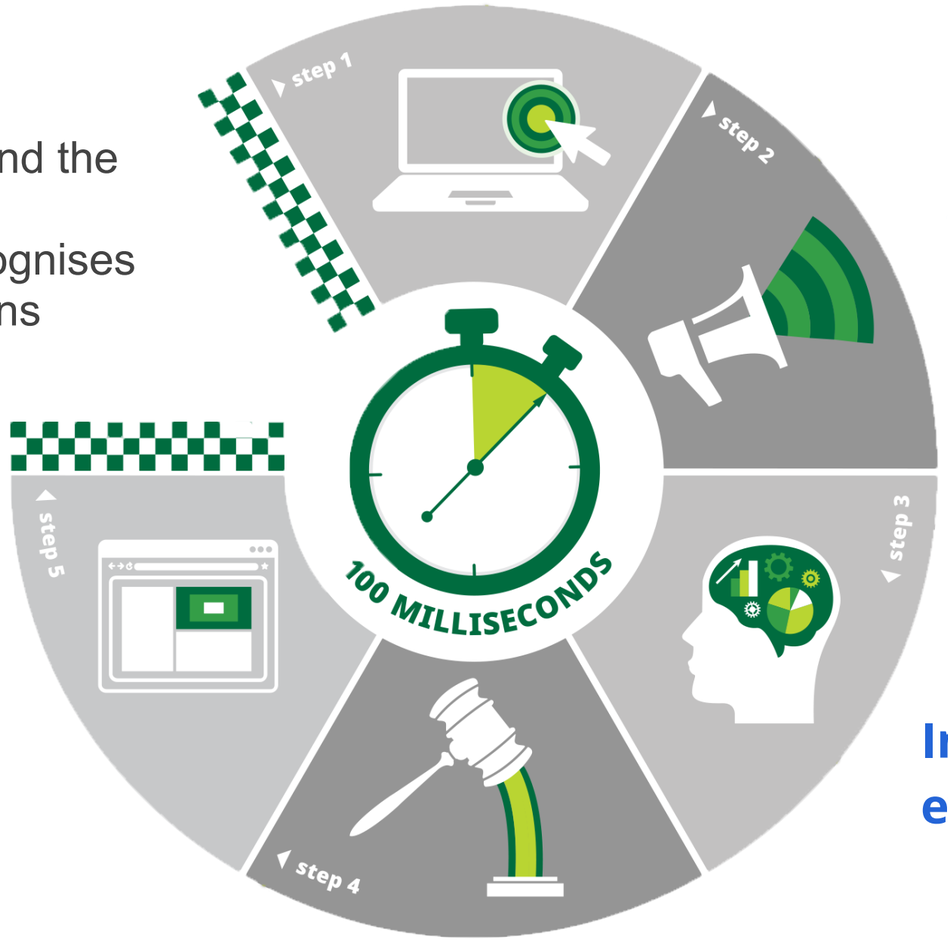
- Latency - 100ms to respond
- Scale - 100k request a second

What is Real-Time Bidding?

How long is 100ms?

- 100ms = Ferrari FXX Gear Change
- 134ms = Light travels around the Equator
- 200ms = Human brain recognises emotion in facial expressions
- 300ms = Human eye blink

User visits a web page



Impression is announced to bidders

Impression opportunity is evaluated and bid is placed

2nd price auction takes place

Winning ad is served

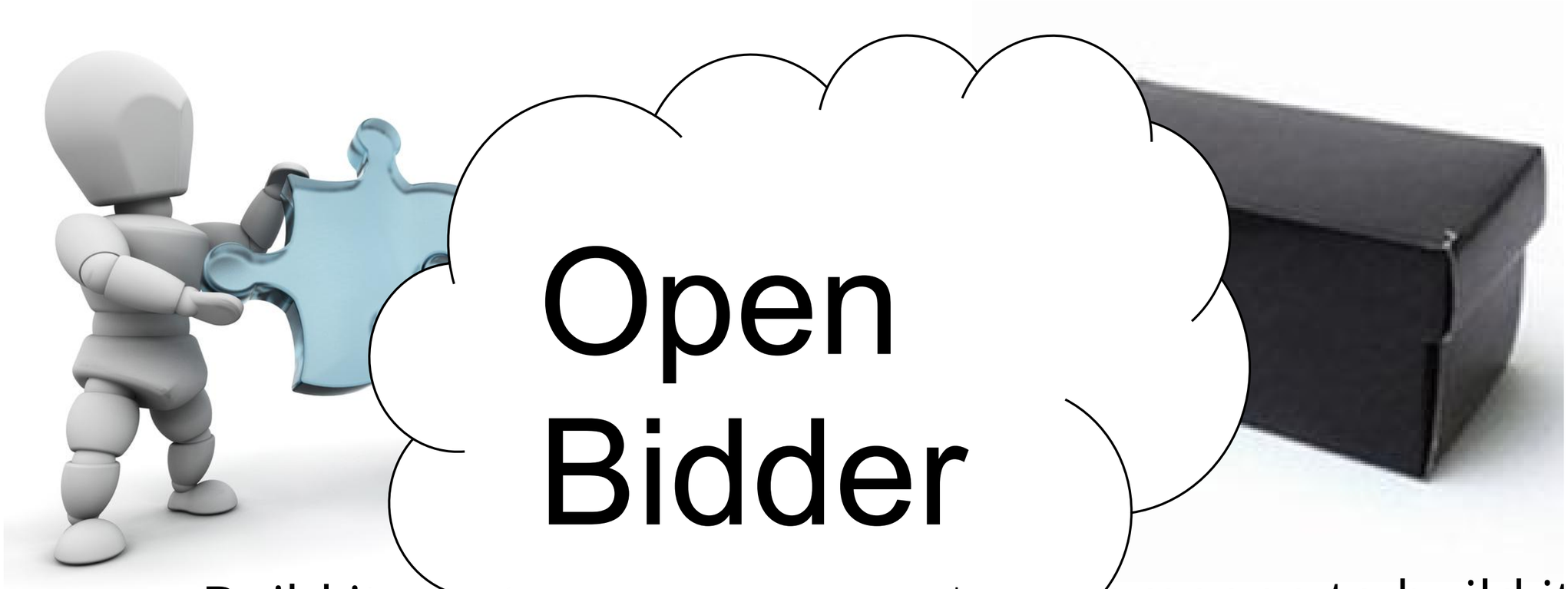
Why RTB?

$40B Market in 2013

59% Annual Growth through 2016

RTB Spending accounted for **$1.9B in 2012**

Participating in RTB



Open Bidder

Build it your

someone to build it

Open Bidder

The Platform for RTB Innovation

Open Bidder is a **fully customizable** toolkit for deploying and managing real-time bidders on **Google Compute Engine** for bidding on **Ad Exchanges***.

The goal of Open Bidder is to give you **everything** you need to start real-time bidding. All you need to write is your **custom** bidding logic.

* Currently DoubleClick Ad Exchange is directly supported.

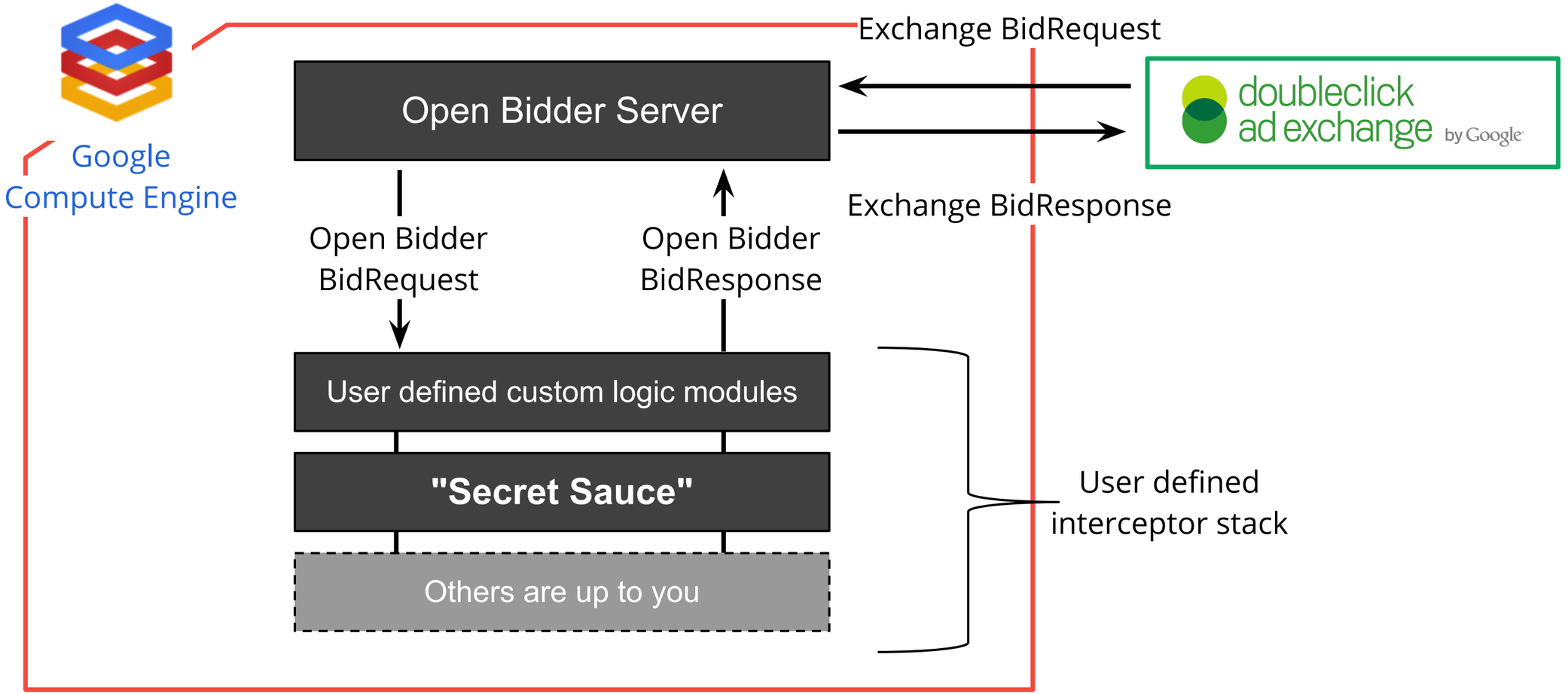
Open Bidder

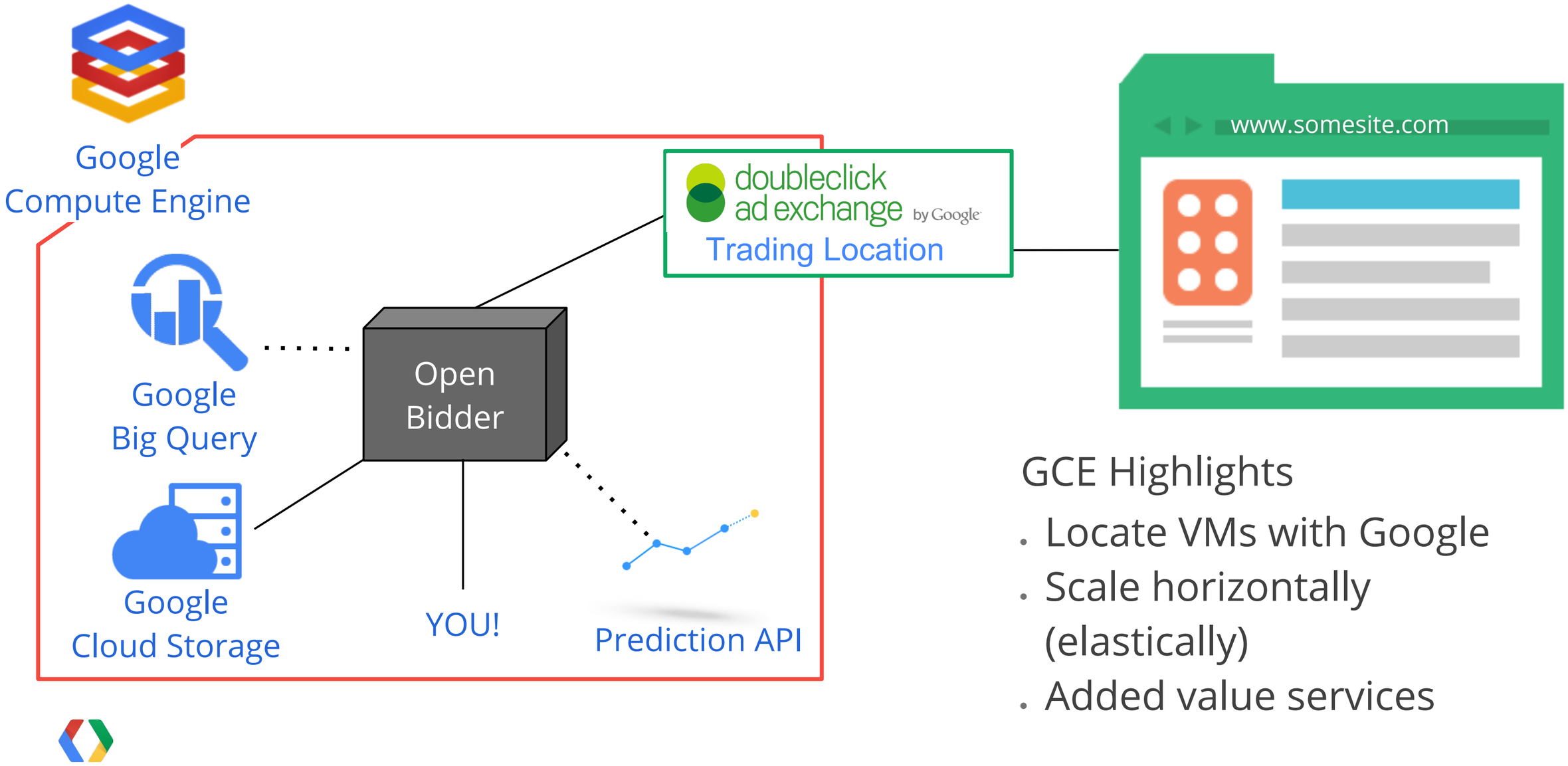
The Platform for RTB Innovation

- Aimed to lower the bar of entry to RTB
- Let you focus on your value add (aka cool innovation)!
- Hosted on GCE

"During peak hours, Google Compute Engine provides ~20% lower latency."

Life of a Bid Request





GCE Highlights

- Locate VMs with Google
- Scale horizontally (elastically)
- Added value services

Utilizing the Cloud

Open Bidder is optimized to run on Google Compute Engine utilizing

- Google Cloud Storage
  Store and access your data on Google's scalable storage and network infrastructure

- Google App Engine
  Run your apps, host your sites, store your data

- Google BigQuery
  Analyze terabytes of data with just a click of a button

Technical Details

Open Bidder
Features

- Bidding
- Impression callbacks
- Click callbacks
- Cookie match requests (great for remarketing)

Open Bidder Interceptor Model

Inspired by the Java Filter API

Java

```
public interface InterceptorChain<Req, Resp> {
  void proceed();
  Req getRequest();
  Resp getResponse();
}

public interface Interceptor<Req, Resp> {
  void execute(InterceptorChain<Req, Resp> chain);
}
```

Secret Sauce Interceptor

Java

```
public class SecretSauceInterceptor extends BidInterceptor {
  public void execute(InterceptorChain<BidRequest, BidResponse> chain) {
    for (AdUnit adUnit : chain.getRequest().getPreTargetedAdUnits()) {
      chain.getResponse().putBid(ThirdPartyAdBid.newBuilder()
        .setThirdPartyAd(HtmlThirdPartyAd.newBuilder().build())
        .setBidMicros(secretSauce())
        .build());
    }
    chain.proceed();
  }
}
```

“We're going to move all of our ad spend to Open Bidder”

Open Bidder Beta Client

Product Vision

Product Vision

Additional Components	Continued development of new components based on your feedback!
More GCE	Continued integration of new Compute Engine value adds
Developer Community	Support the growth of a developer community that gives back to the core and makes it even better!

“There is a gap in the bidder landscape for networks looking to use their own decisioning logic. Open Bidder: brilliant solution. Where do I sign?”

Seph Zdarko, COO
TwelveFold

What's Next?

Sign up at ➔ goo.gl/7Qmz9

developers.google.com/ad-exchange/rtb/open-bidder/

OpenBidder (Ads) 2nd floor between Wallet and Cloud

<Thank You!>

We look forward to seeing how **you** reinvent display advertising!

Google
Developers