The Hitchhiker's Guide to "Serverless" JavaScript

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BUSTLE

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"Serverless"

Your Buzzword for 2016: Serverless

What the hell is Serverless? To be honest, I can give you an answer, but I can't guarantee it's the right one. It's the new buzzword for 2016 <u>from 2012</u>. Either way I'm going to attempt it.

It's not a market segment, it's not a product and it's not a new way of working. It's all of that and more. To be very mundane and obvious, it's about doing stuff without servers. It's what is required to free ourselves of servers, and the behaviour that is driven by operating without servers, is what is going to change the way we meet user needs.

Every user need that is met through software will be addressed with a direct functional requirement, for example *"I need the current time"*. In addition to the direct requirement there will always be at least three additional implied requirements of **performance**, **availability** and **security**. To extend the

"Serverless"

there are
still servers…

~~servers~~
platforms!

* as a Service

Database-aaS
Caching-aaS
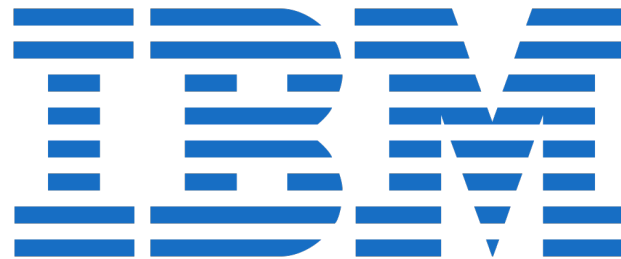Logging-aaS
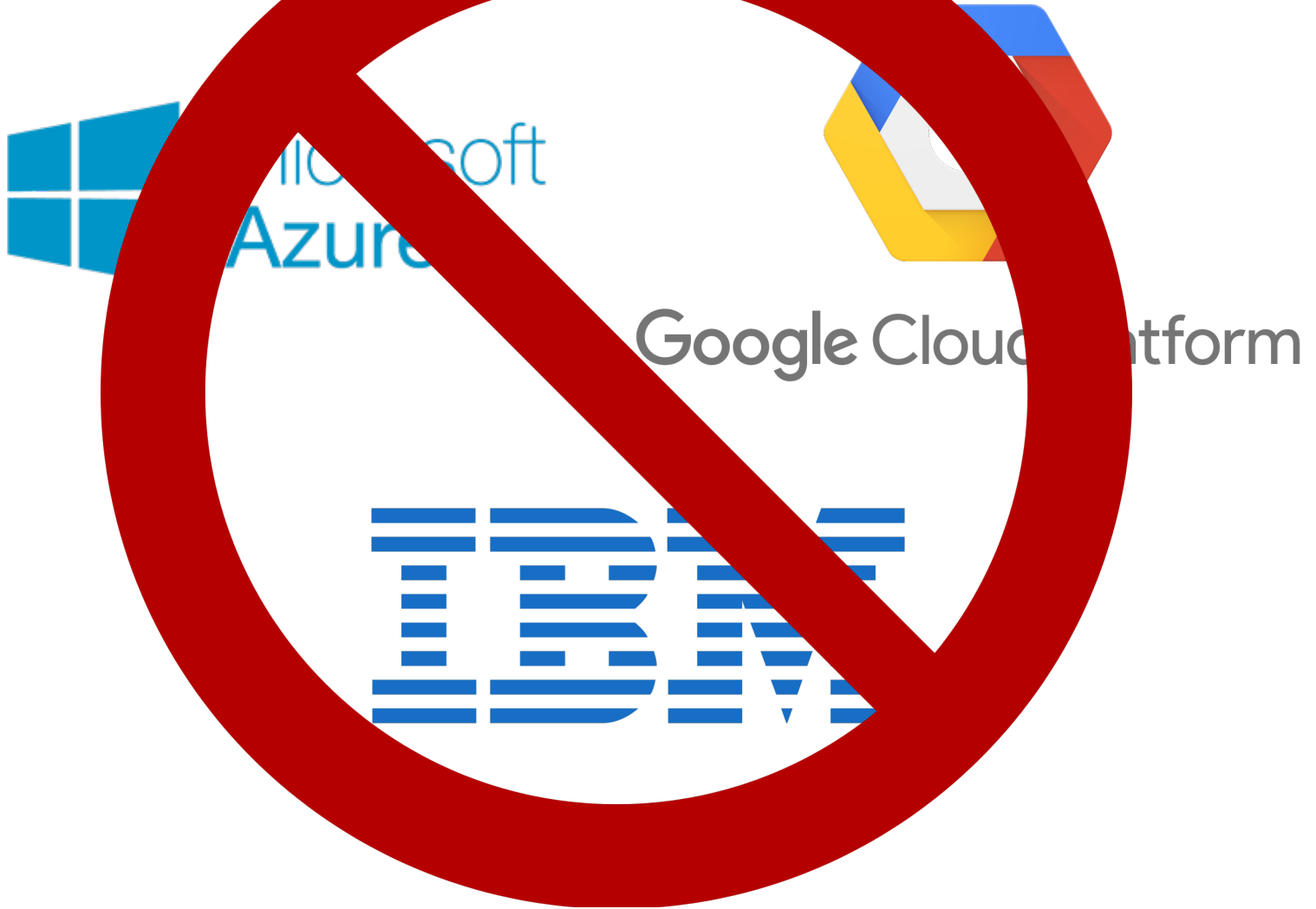Metrics-aaS
Servers-aaS

business logic?

Functions-aaS

```
myApp(request)
#=> response
```

Microsoft Azure

Google Cloud Platform

IBM

amazon
web services™

Lambda

+

API Gateway

Functions-aaS
+
Routing-aaS

$ per request

scales
magically*

Lambda

write code
zip
upload
function()

node

java

python

C#

shim
+
rust/go/haskell

```
function(event,context,cb){
  cb(null, 'Hello World')
}
```

versioning
aliases
RAM + CPU
logging
non-http events

API
Gateway

swagger
or
click a lot

cache/throttle
authorization
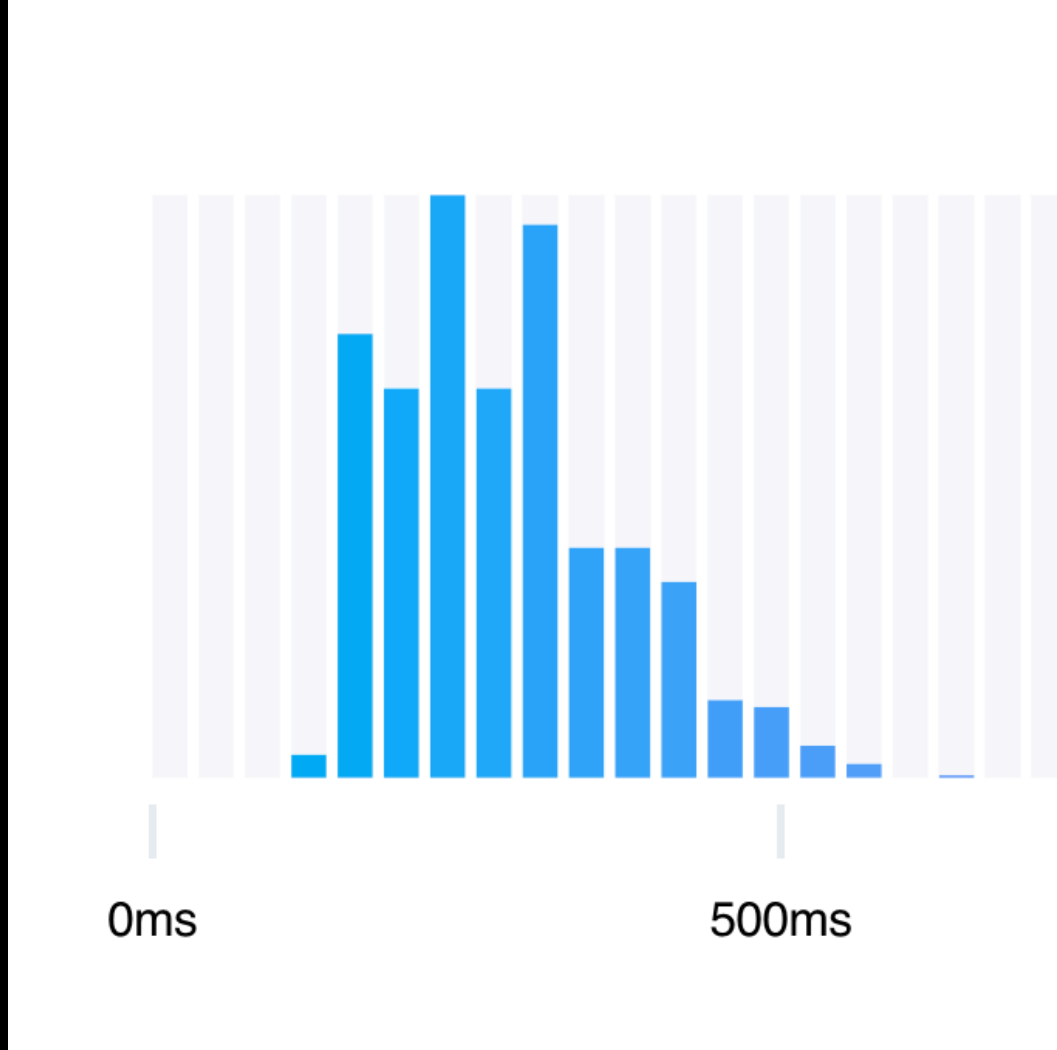api keys
logging/metrics
custom domains
ssl

10-20 million
calls per day

< $$$

0ms   500ms

frontend

10 Alternatives To Getting A Full-Time Job
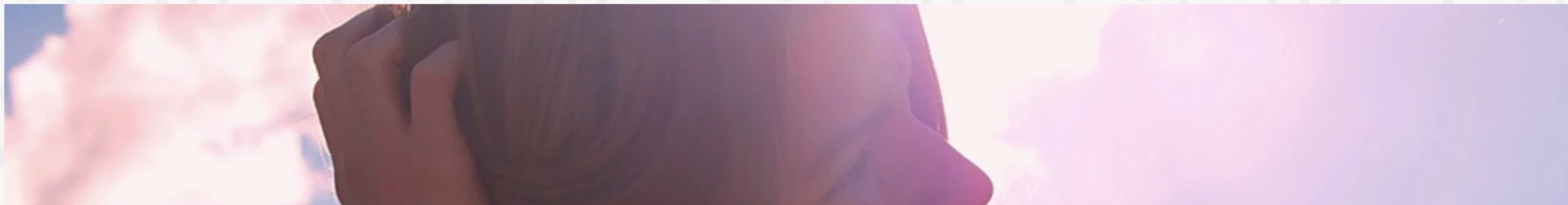
By JESSICA BOOTH

Why A Donald Trump Presidency Terrifies Me

By SADIE L. TROMBETTA

The Sign You Have An Unhealthy Friendship

By BIBI DEITZ

html + js

API Gateway

S3 Lambda(SSR)

Ember

~~Ember~~ Riot

~~Ember~~

~~Riot~~

Preact

why
preact?

components
simple
small

backend

graphiql.bustle.com

JSON

API Gateway

Lambda

---

dynamoDB   redis*

Ruby

~~Ruby~~

JS (REST)

~~Ruby~~

~~JS (REST)~~

Purescript

Tim Kellogg
@kellogh

Follow

Riak is the Haskell of databases. It sacrifices UX for correctness, so no one uses it

RETWEETS
25

LIKES
53

~~Ruby~~
~~JS (REST)~~
~~Purescript~~
JS (GraphQL)

why graphQL?

graphiQL

types

field
resolution

dataloader

why serverless?

ops

#noops

#noops

benchmarks
fallbacks
load testing
monitoring
#lessops

scale scale scale scale scale
scale scale scale scale scale
scale scale scale scale scale
scale scale scale scale scale
scale scale scale scale scale
scale scale scale scale scale
scale scale scale scale scale
scale scale scale scale scale
scale scale scale scale scale
scale scale scale scale scale

1 -> 1000 rps

1000 -> 0 rps

iteration

single function
deployments

$$$$

events
API

ec2
~$2500/mo

lambda
api gateway
~$400/mo

why not?

lock in

```
const express = require('express')
const fn = require(./lambda-fn/)
const app = express()

app.get('/', (req, res) => {
  fn.handler(null, null, (err, result) => {
    res.json(result)
 })
});

app.listen(3000)
```

cold functions

```
const data = loadBigData() // Takes 15s

module.exports.handler = function(e,ctx,cb){
  processBigData(data, cb)
}
```

long tasks

5 min max

s3(3GB)
Lambda
Kinesis Firehose
Elasticsearch

testing

test in the cloud?

tools!

serverless framework
node-lambda
apex
claudia.js

```
npm install -g shep
```

JavaScript Only
no CF
swagger
webpack
environments

```
shep new my-api
shep generate endpoint
shep deploy production
```

questions?

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