

Serverless

Karol Sejka

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Twitter - [@karolsejka](https://twitter.com/karolsejka)

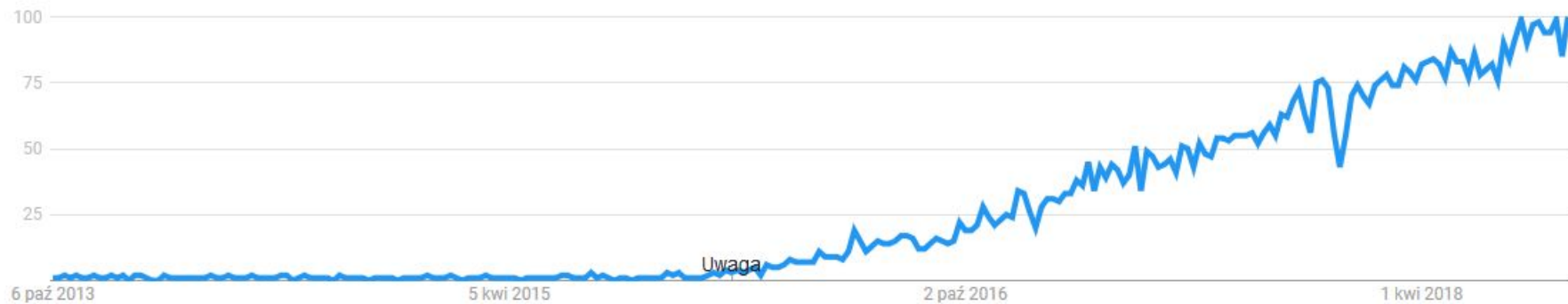
LinkedIn - [karolsejka](https://www.linkedin.com/in/karolsejka)

Github - [sejka](https://github.com/sejka)

Allegro, Setapp



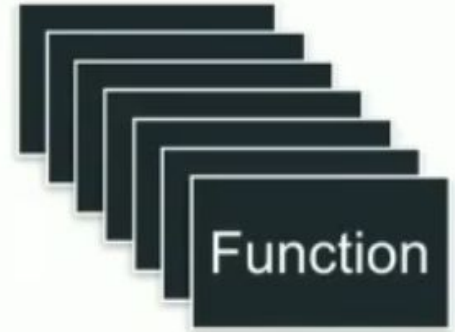
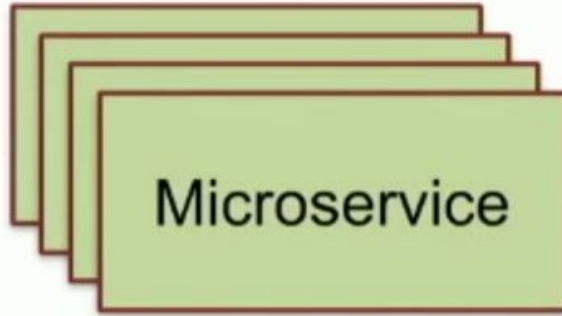
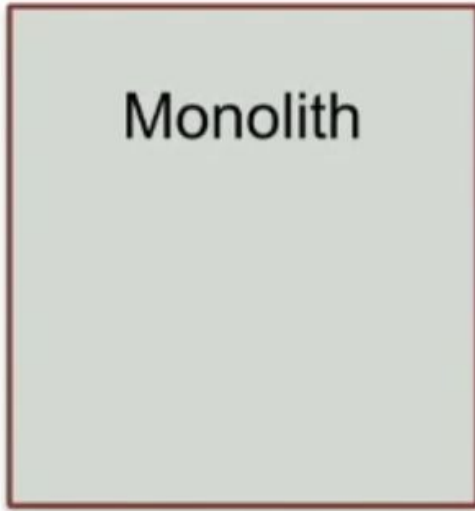
Zainteresowanie w ujęciu czasowym ?

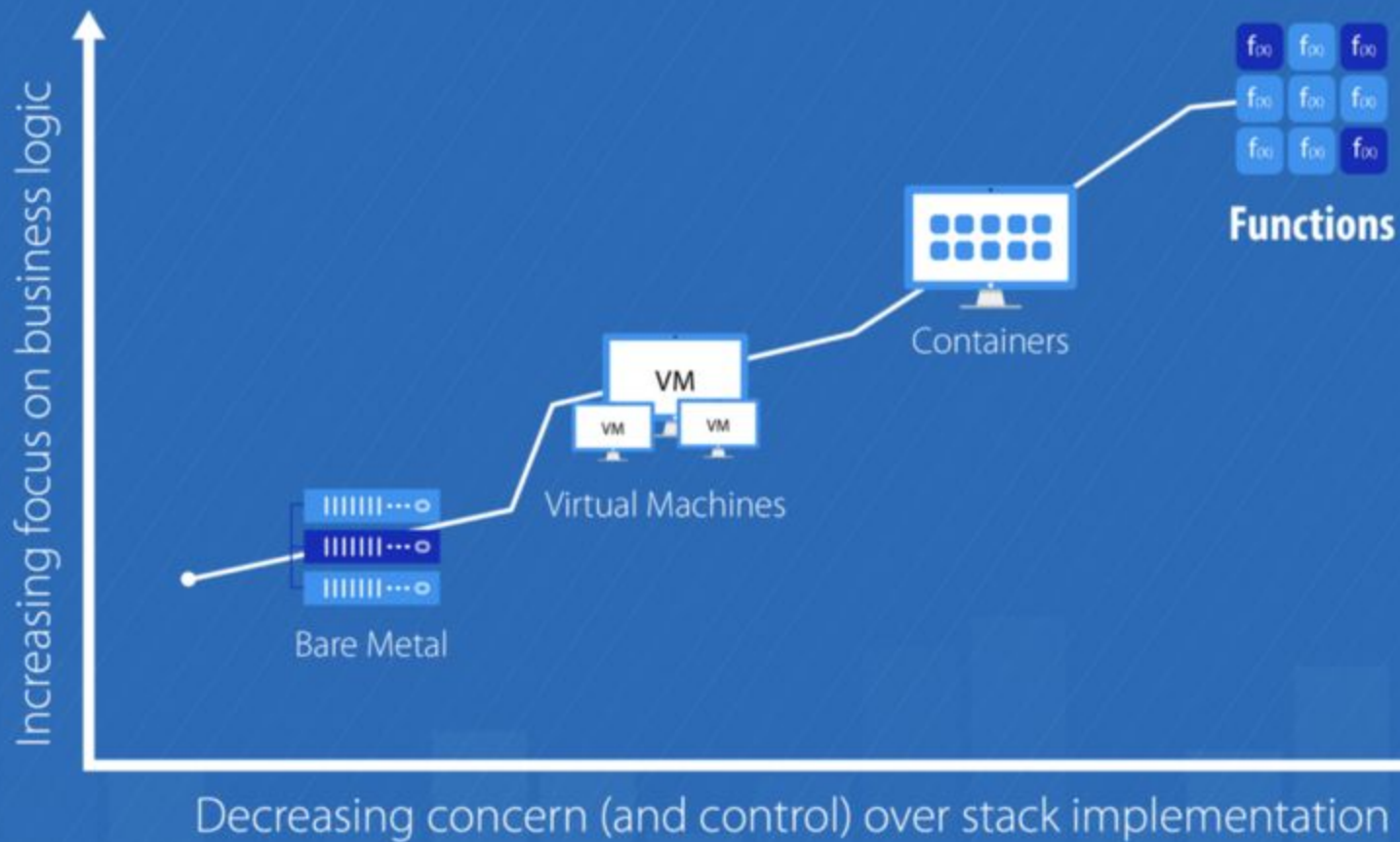


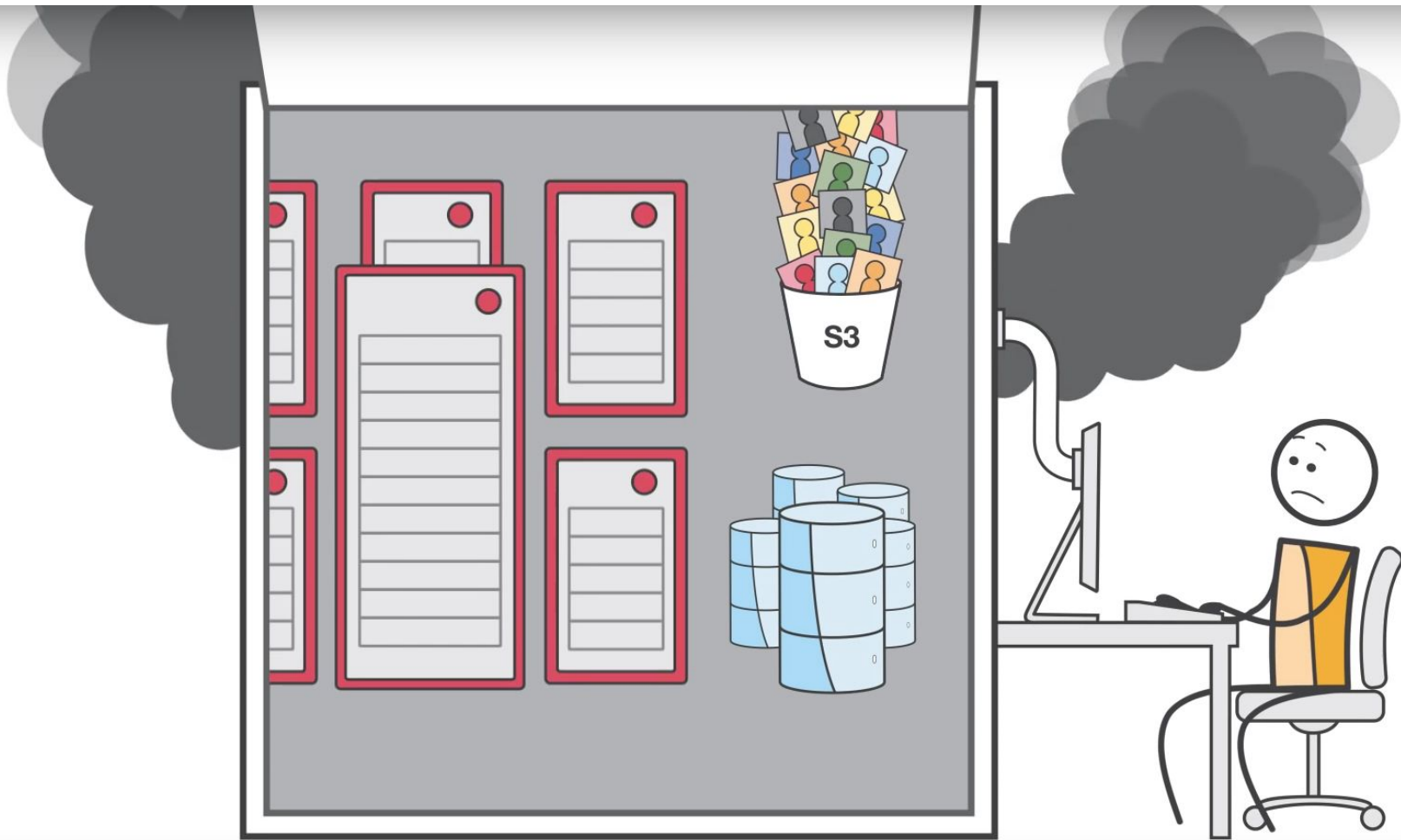
What is it?

Function as a Service

Why?







Cheap

pay for what you **ACTUALLY** use

<http://serverlesscalc.com/>

Scalable

<https://www.azurefromthetrenches.com/azure-functions-significant-improvements-in-http-trigger-scaling/>

Quick to start

No need to wait for infrastructure

Triggers

Cons

Limits on execution duration, memory and code size

AWS - 5 minutes / 128MB - 3GB / 50MB

Azure - 5-10 minutes / 128MB -1.5GB / None

GCP - 9 minutes / 128MB - 2GB / 100MB

Cold start

	A	B	C	D	E	F	G
1	language	memory size	std dev	mean	median	95%-tile	99%-tile
2	csharp	128	405.17	4387.87	4372.80	4980.11	5352.78
3	csharp	256	355.80	2234.23	2132.14	2848.27	3040.10
4	csharp	512	349.12	1223.42	1538.10	1636.65	1948.62
5	csharp	1024	192.28	524.29	489.16	712.55	1320.18
6	csharp	1536	270.25	407.99	338.04	694.43	1049.45
7	java	128	547.83	3562.12	3464.38	4493.39	5100.89
8	java	256	210.62	1979.44	1958.26	2358.66	2593.52
9	java	512	132.99	999.78	826.86	1212.71	1311.84
10	java	1024	86.31	530.99	534.37	677.64	744.75
11	java	1536	73.97	339.65	329.34	425.31	479.87
12	nodejs6	128	12.43	12.67	2.06	38.23	55.57
13	nodejs6	256	8.41	8.94	2.08	25.44	35.89
14	nodejs6	512	4.08	3.73	2.08	15.12	20.04
15	nodejs6	1024	0.45	2.11	2.06	2.28	3.21
16	nodejs6	1536	0.13	2.09	2.07	2.29	2.42
17	python	128	12.10	1.28	0.19	0.41	32.43
18	python	256	2.94	0.83	0.20	3.88	16.08
19	python	512	1.45	0.39	0.20	0.45	6.76
20	python	1024	1.60	0.45	0.20	0.47	9.00
21	python	1536	1.01	0.34	0.19	0.38	6.60

You don't control the environment (mostly)

Runtime

Node.js 6.10

.NET Core 1.0 (C#)

.NET Core 2.0 (C#)

.NET Core 2.1 (C#/PowerShell)

Go 1.x

Java 8

Node.js 4.3

Node.js 6.10

Node.js 8.10

Python 2.7

Python 3.6

General settings

PHP version ⓘ

Off

Platform ⓘ

32-bit

64-bit

HTTP Version

1.1

2.0



Auto swap destinations cannot be configured from production slot

Auto Swap

Off

On

Auto Swap Slot



FTP based deployment can be disabled or configured to accept FTP (plain text) or FTPS (secure) connections. Click to learn more.

FTP access

FTP + FTPS

FTPS Only

Disable

Debugging

Remote debugging

Off

On

Remote Visual Studio version

2012

2015

2017

Programming Languages

<https://read.acloud.guru/comparing-aws-lambda-performance-of-node-js-python-java-c-and-go-29>



	AWS Lambda	Azure Functions	GCP Functions	Apache OpenWhisk
JavaScript(node.js)	Yes	Yes	Yes	Yes
Java	Yes	Yes	No	Yes (Partial)
C#	Yes	Yes	No	No
Python	Yes	Experimental	No	Yes
PHP	No	Experimental	No	Yes
Go	Yes (Partial)	No	No	No
F#	No	Yes	No	No
Swift	No	No	No	Yes

Use cases

Machine
Learning

Batch Jobs

Image/Video
conversion

Mobile Back-
ends / IoT

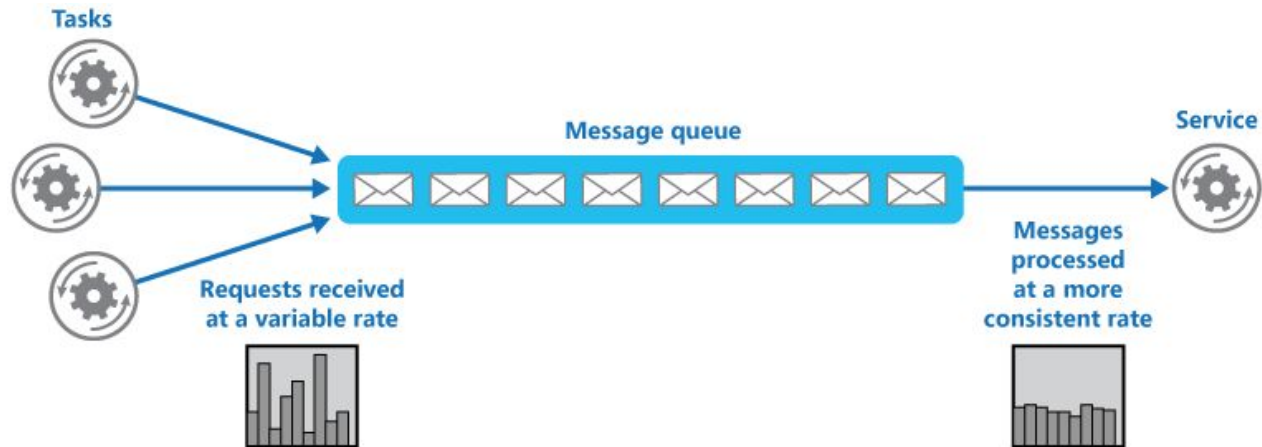
Chat Bots

HTTP API /
Integrations

Do's and don't's

No long running tasks in single function

No state, local storage



Landscape

Serverless Cloud Native Landscape
2018-10-01T03:44:13Z 15d8032

See the serverless interactive display at s.cncf.io

Greyed logos are not open source

Tools



Security



Framework



Hosted

Installable

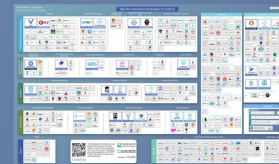
Platform



Serverless computing refers to a new model of cloud native computing, enabled by architectures that do not require server management to build and run applications. This landscape illustrates a finer-grained deployment model where applications, bundled as one or more functions, are uploaded to a platform and then executed, scaled, and billed in response to the exact demand needed at the moment



Cloud Native Landscape



OpenFaaS



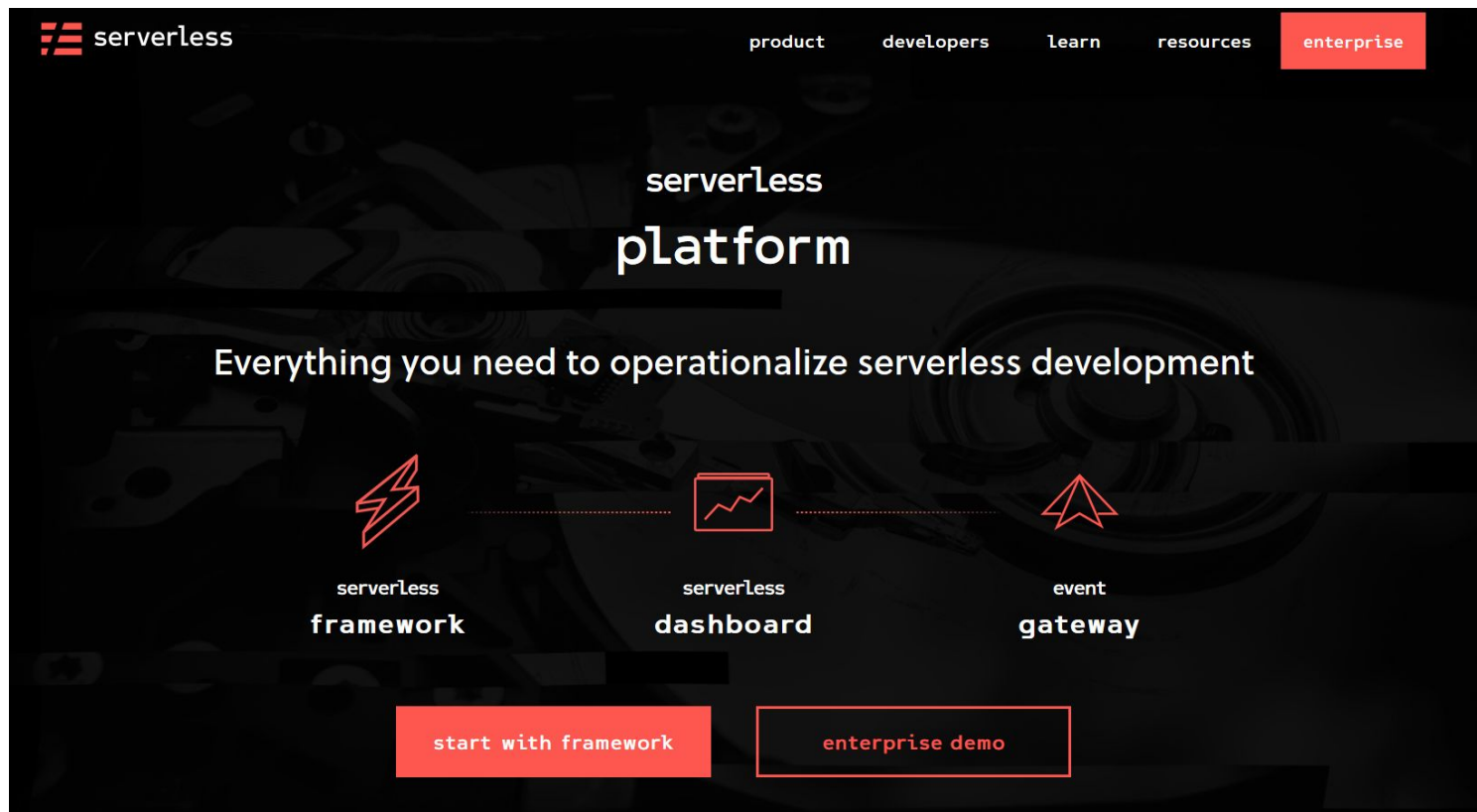
OPENFAAS

<https://github.com/openfaas/faas>

Azure functions runtime

<https://github.com/Azure/azure-functions-host/>

Serverless framework



A Cloud Guru

Online training platform

200k customers

They don't run a single server!



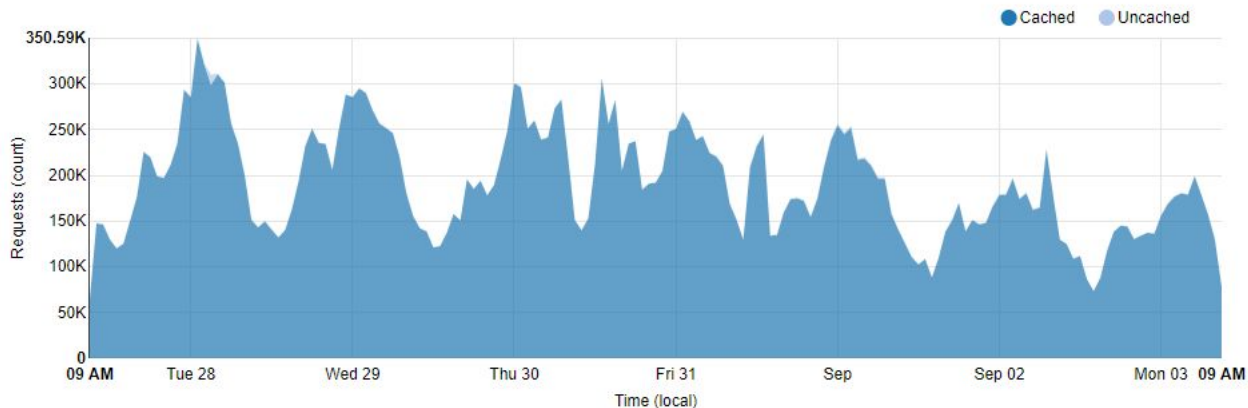
A CLOUD GURU

Have i been pwned

<https://www.with-cloudflare.com>

[nall-dollars-](#)

Total Requests Last week	Cached Requests Last week	Uncached Requests Last week
32,408,715	32,286,149	122,566



Expedia

\$90B gross bookings

\$6.6B revenue

600M+ monthly site visits

22k employees

\$550 for AWS lambda

Our brands

The Expedia group is one of the world's leading travel companies, with an extensive brand portfolio that includes leading online travel agencies (OTAs) and brands, such as:



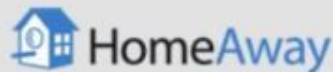
Hotels.com



trivago



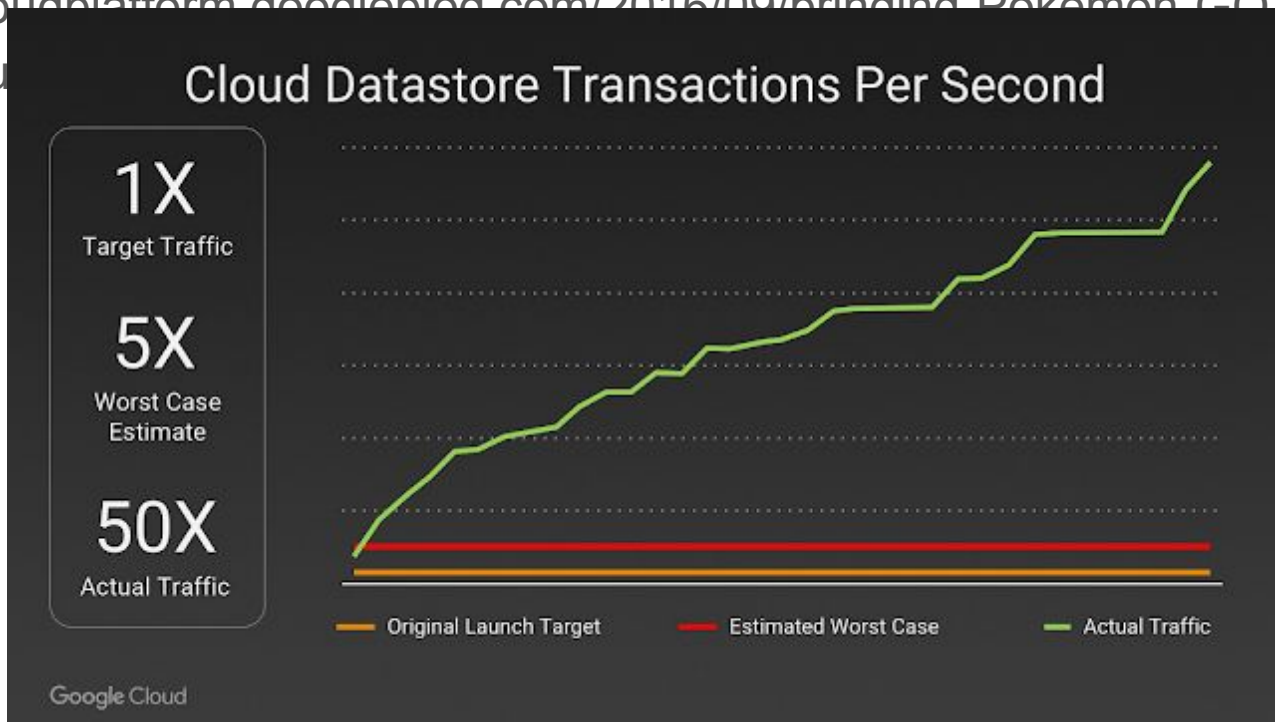
hotwire



AirAsiaGo

Pokemon go

<https://cloudplatform.googleblog.com/2016/09/bringing-Pokemon-GO-to-life-on-Google-Cloud.html>



Parallax + David Guetta



Pocket to kindle

<https://github.com/sejka/PocketToKindle>

reference

<https://martinfowler.com/articles/serverless.html>

Poznań Serverless meetup -

<https://www.meetup.com/Pozna%C5%84-Serverless-Meetup/>