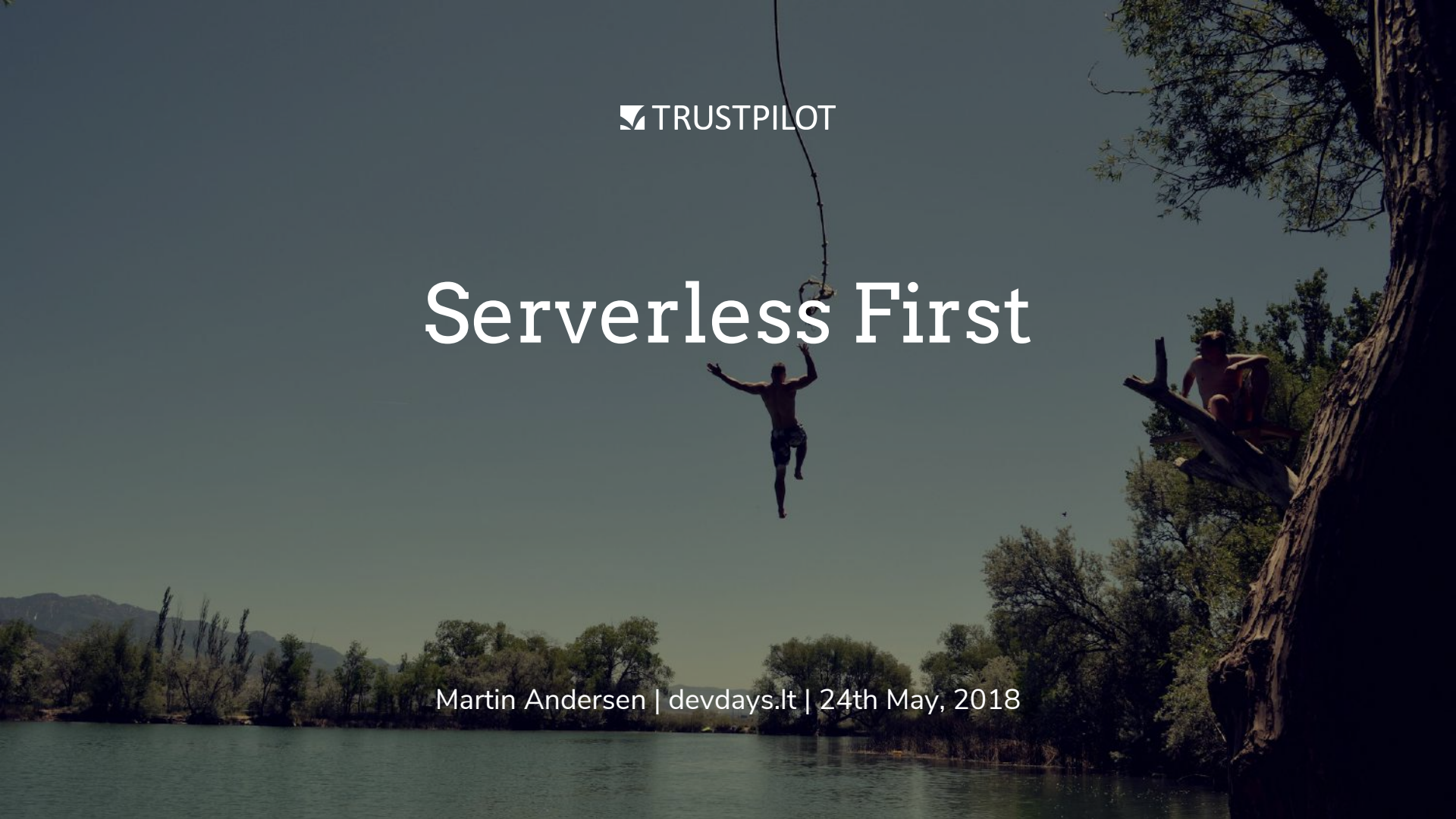
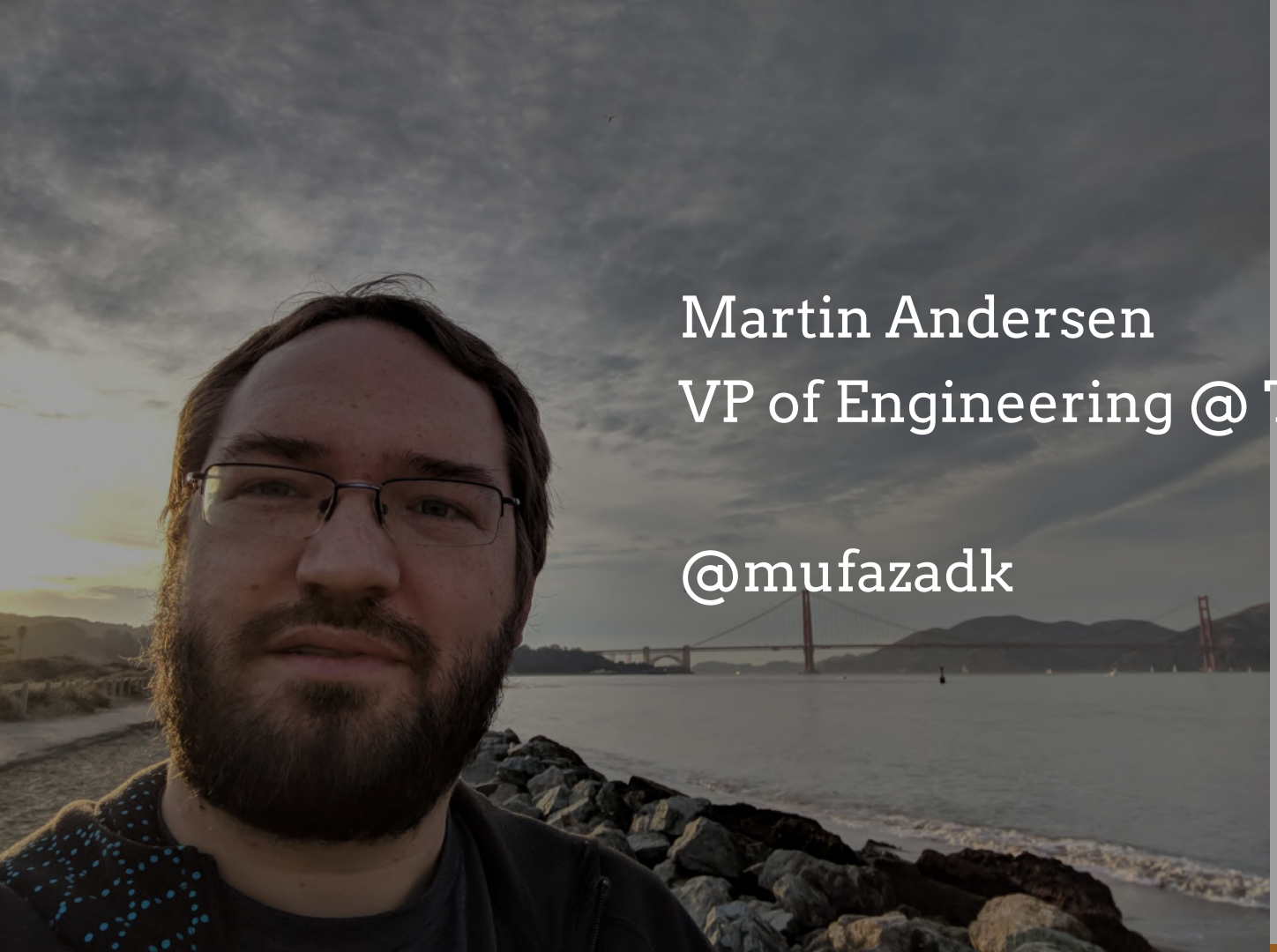
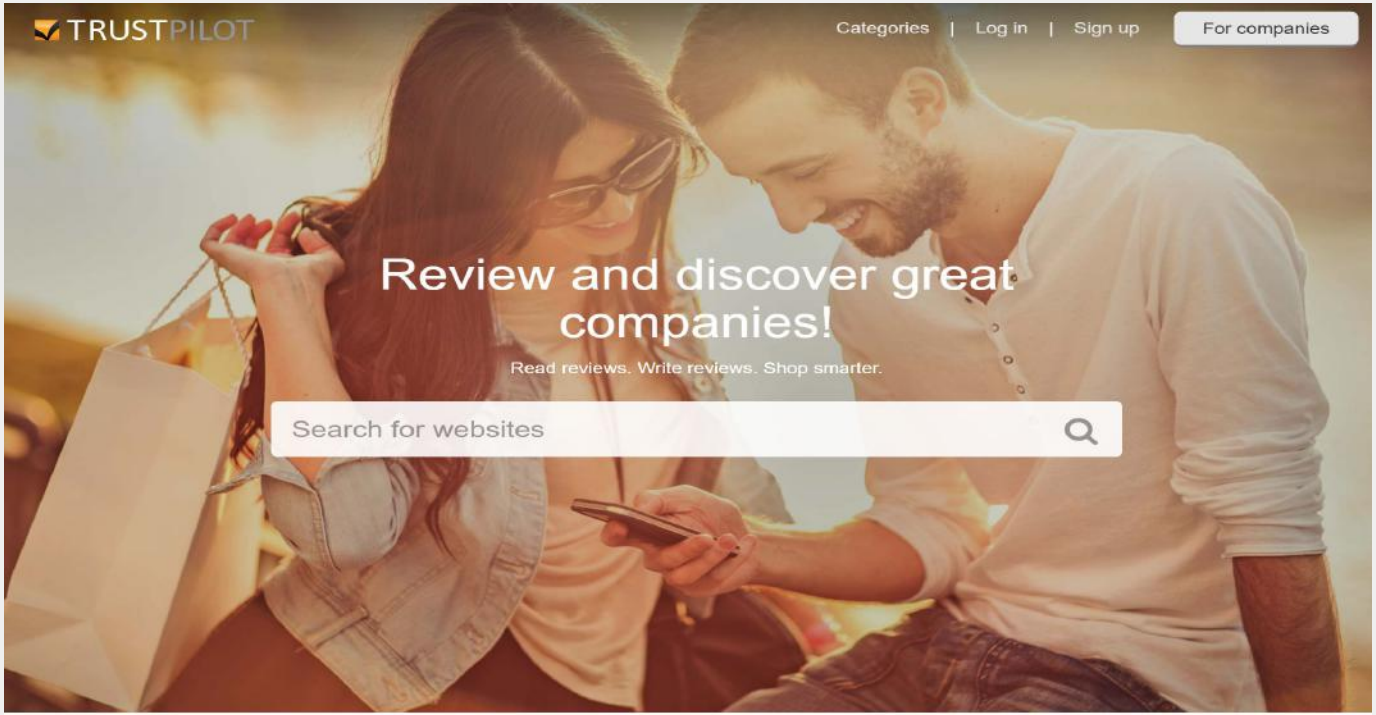

TRUSTPILOT
Serverless First
Martin Andersen | devdays.lt | 24th May, 2018

SKILLS FOR THE
DIGITAL AGE
Help
entrepreneurs
build sustainable
businesses



Martin Andersen
VP of Engineering @ Trustpilot

@mufazadk



Recent Reviews

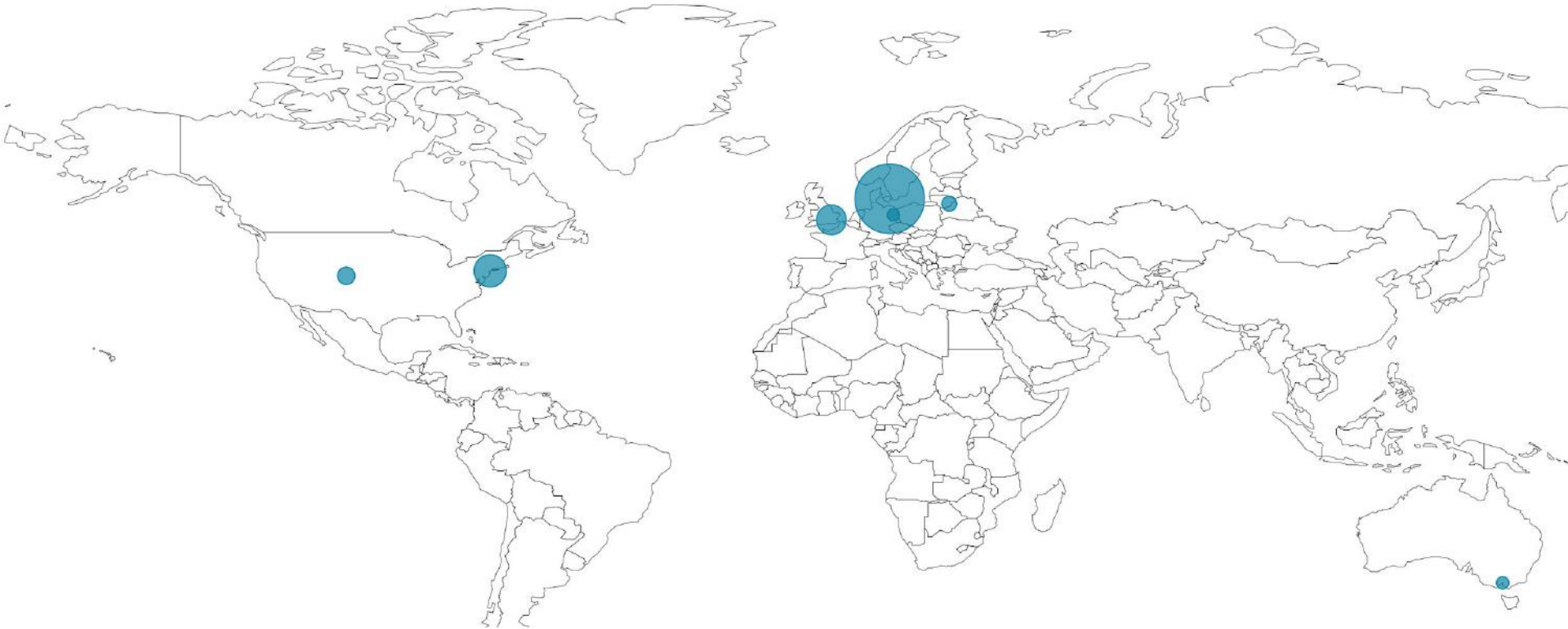
Daniele Pernice
reviewed **Tomtop**

I have ordered a fidget spinner on 30th …

Jesús Perea
reviewed **GoDaddy**

Very nice

Trustpilot employees by office



Monolithic vs Microservices

Monolithic

Microservices

Agenda

- What is serverless?
- Engineering Principles
- Serverless First
- Serverless examples
- Future of Serverless (@Trustpilot)

What is Serverless?

What is Serverless?

What is Serverless?

The Serverless Compute Manifesto

- Functions are the unit of deployment and scaling.
- No machines, VMs, or containers visible in the programming model.
- Permanent storage lives elsewhere.
- Scales per request. Users cannot over- or under-provision capacity.
- Never pay for idle (no cold servers/containers or their costs).
- Implicitly fault-tolerant because functions can run anywhere.
- BYOC – Bring your own code.
- Metrics and logging are a universal right.

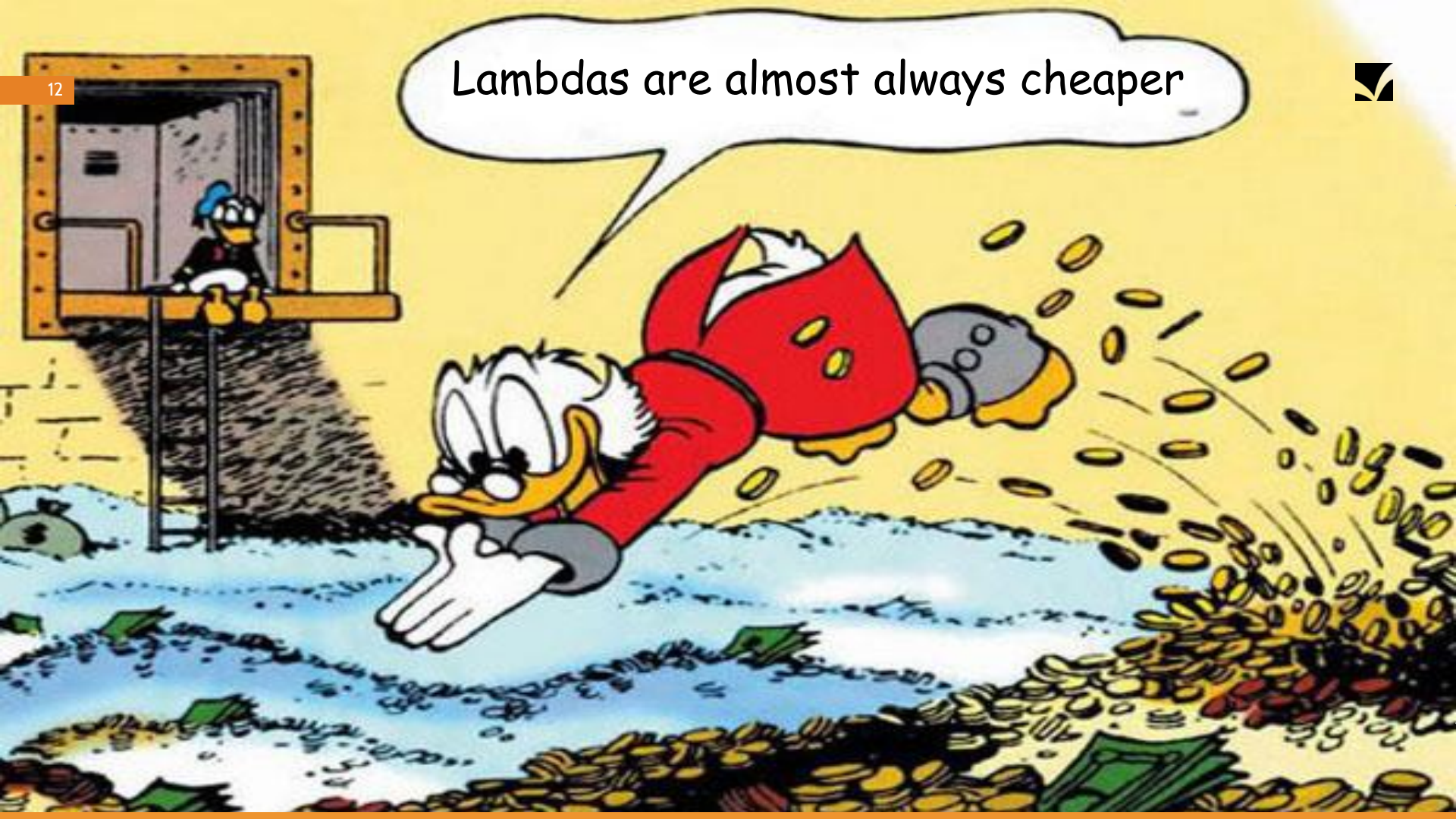
http://alexander.holbreich.org/serverless-manifesto/

adrian cockcroft
@adrianco

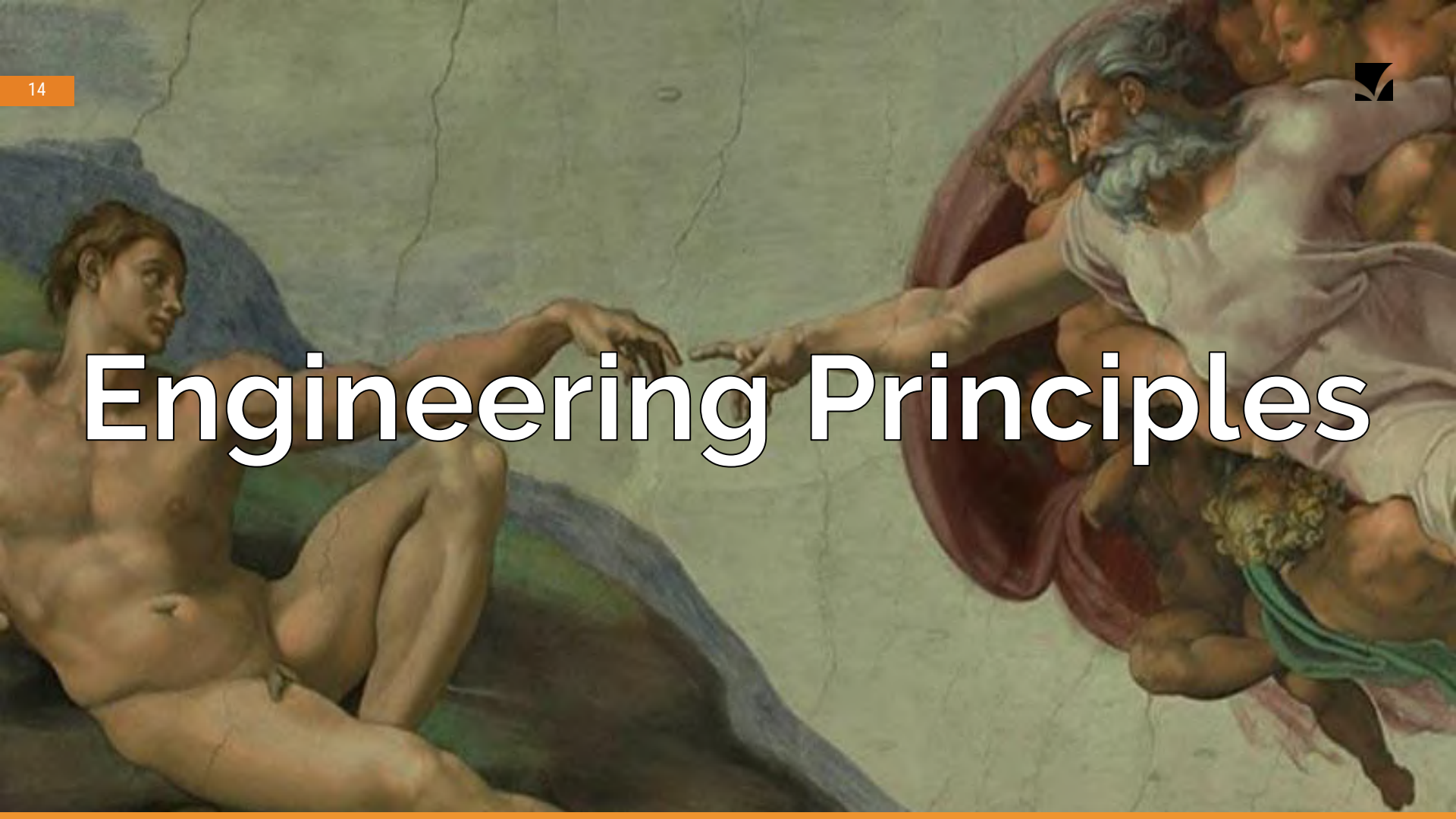
Follow

If your PaaS can efficiently start instances in 20ms that run for half a second, then call it serverless.

> **Julz Friedman** @doctor_julz
> if you think serverless is different than PaaS then either you or I have misunderstood what "serverless" or "PaaS" means


Lambdas are almost always cheaper

FaaS
BaaS
DBaaS



Engineering Principles

Code Review Everything

Encapsulate in contexts
expose APIs

Serverless First

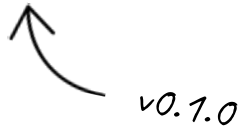
Aim to Open Source

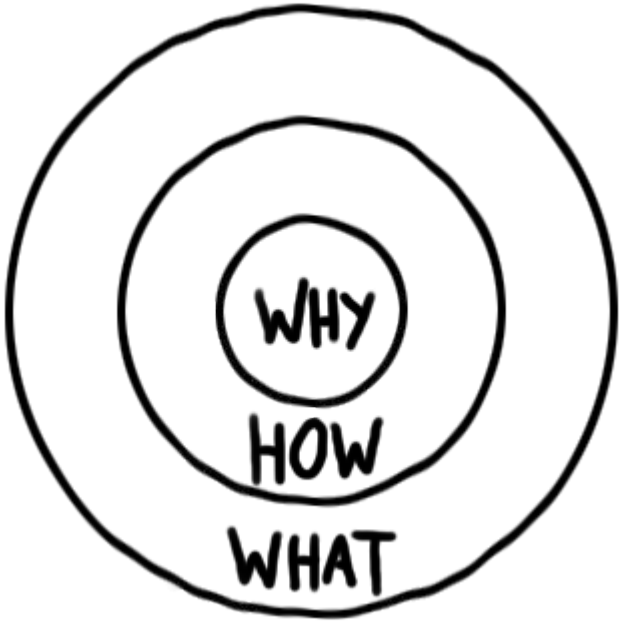
Combining is easier
than splitting

Services First

Serverless First

If serverless is not available or practical, containers are recommended.
Virtual servers (EC2) are considered legacy and should be avoided.



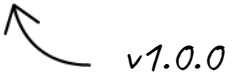


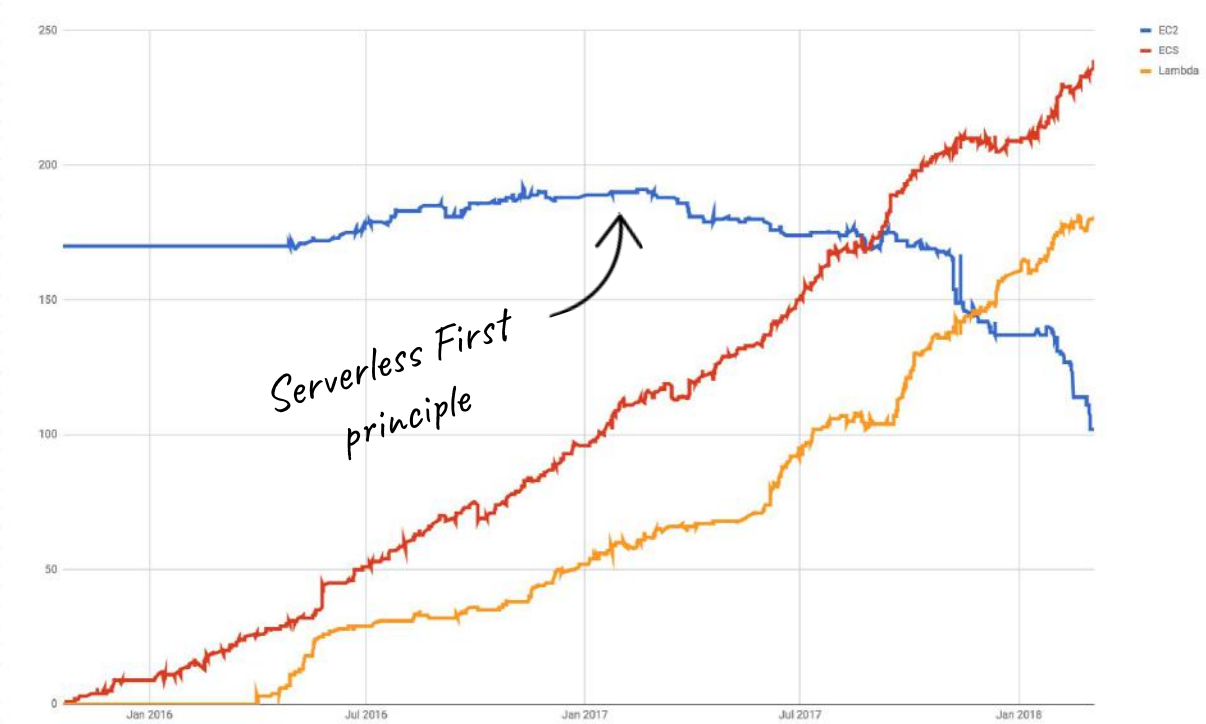
"Start with Why"
by Simon Sinek

Serverless First

If serverless is not available or practical, containers are recommended.
Virtual servers (EC2) are considered legacy and should be avoided.

We do this because we strongly believe that serverless (FaaS, BaaS, DBaaS) is the future of the cloud and we'd like to be on the forefront of that movement. Serverless might not necessarily be the right choice for everything today, but start your architecture discussions there. We're in the process of fading out virtual servers (EC2) and want to avoid creating new ones. The benefits of serverless and containers over virtual servers are diverse: cost savings, better scaling, better orchestration, reduction of operational costs and modernizing our cloud stack.





# of Services - by type ‘16 to ‘18

Hold on?

Some of the customers running serverless on AWS
aws SUMMIT STOCKHOLM
aws SUMMIT STOCKHOLM

iRobot
The Hardest Part of Serverless:
The Serverless Native Mindset
Serverless CPH, 2018-05-16
Ben Kehoe
Cloud Robotics Research Scientist
AWS Community Hero
Amazon AWS
CONFERENCE PARTNERS
Siteimprove
Firebase
Epsagon
TRUSTPILOT
MANNING PUBLICATIONS
SERVERLESS CPH
#SERVERLESSCPH
Zero administration
Pay-per-use
Decreased time to market
Simplifies

EC2 GTFO

#tech-ec2-gtfo

☆ | 26 | 1 | Getting out of EC2 👋

#tech-ec2-gtfo

☆ | 26 | 1 | Getting out of EC2 👋

Thursday, February 15th

Kalina Todorova 1:17 PM

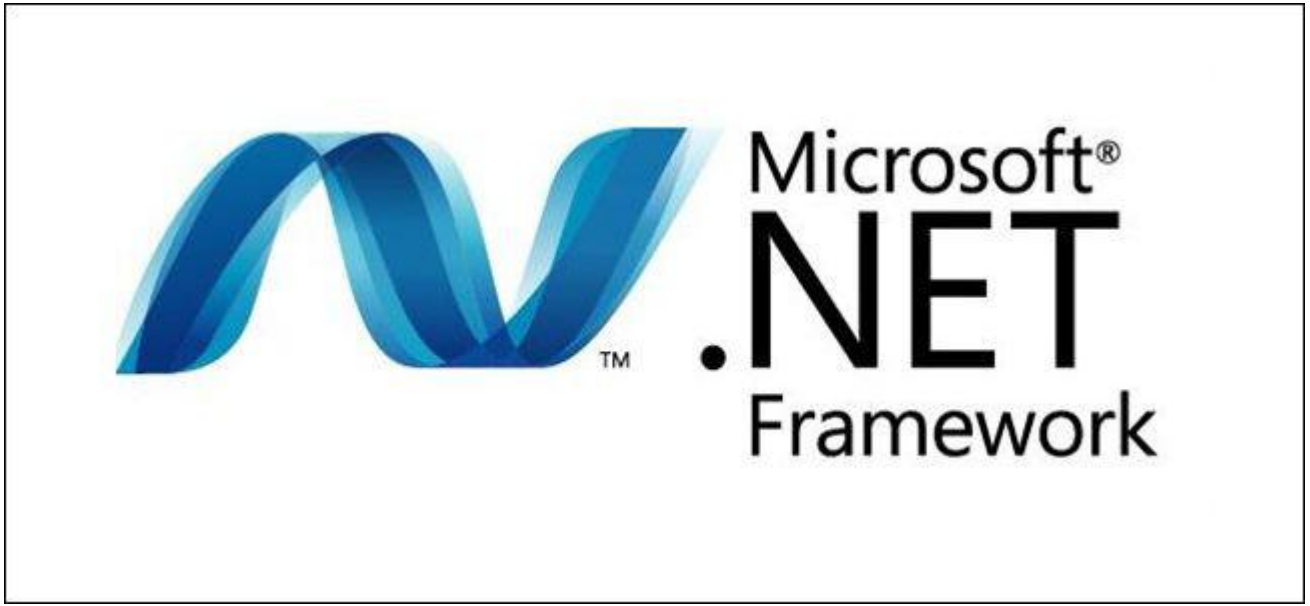
Today #business-systems is officially out of EC2 😎

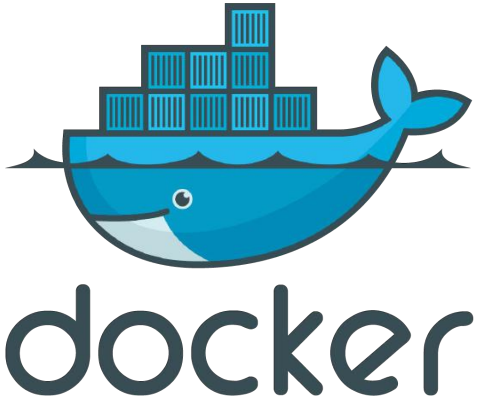
🎉 6 🥳 4 🍹 1 👍 2 🎁 1

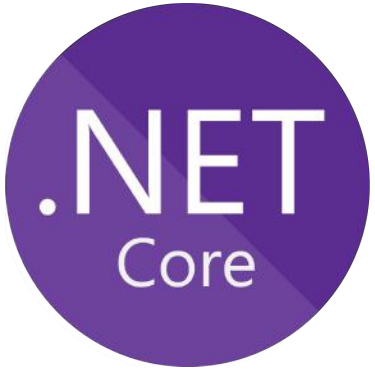
Kalina Todorova 1:18 PM

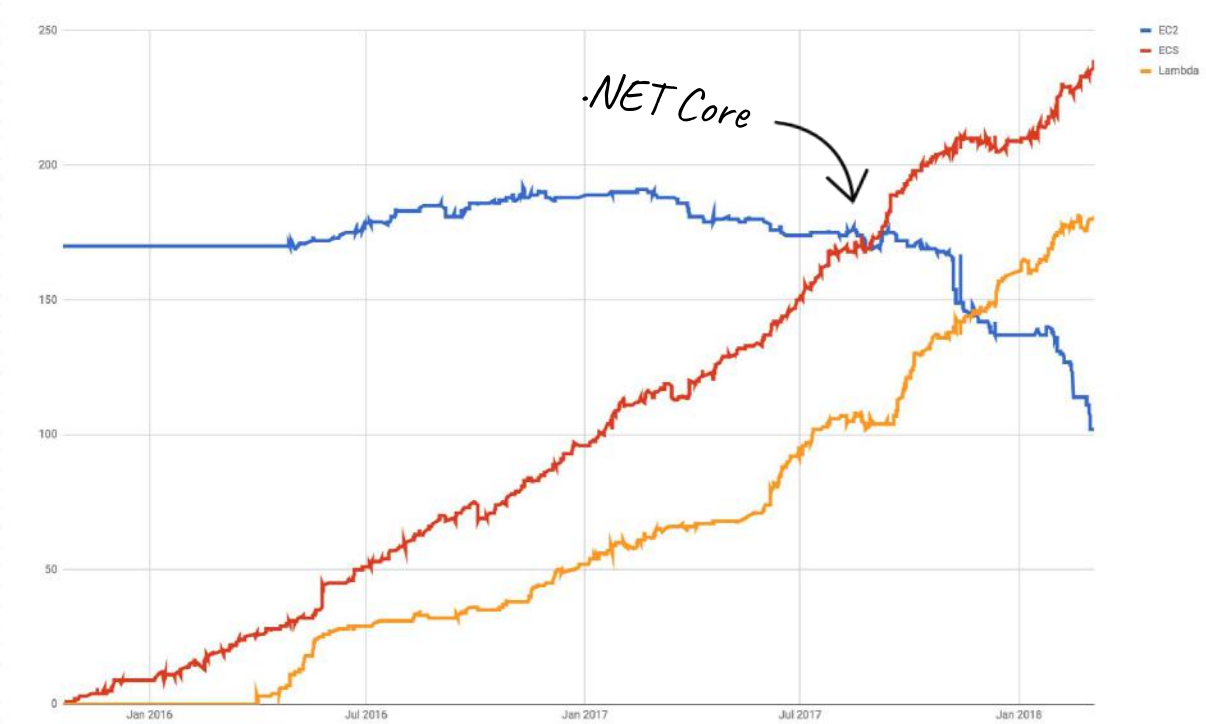
left #tech-ec2-gtfo.

👋 1


Microsoft®
.NET
Framework

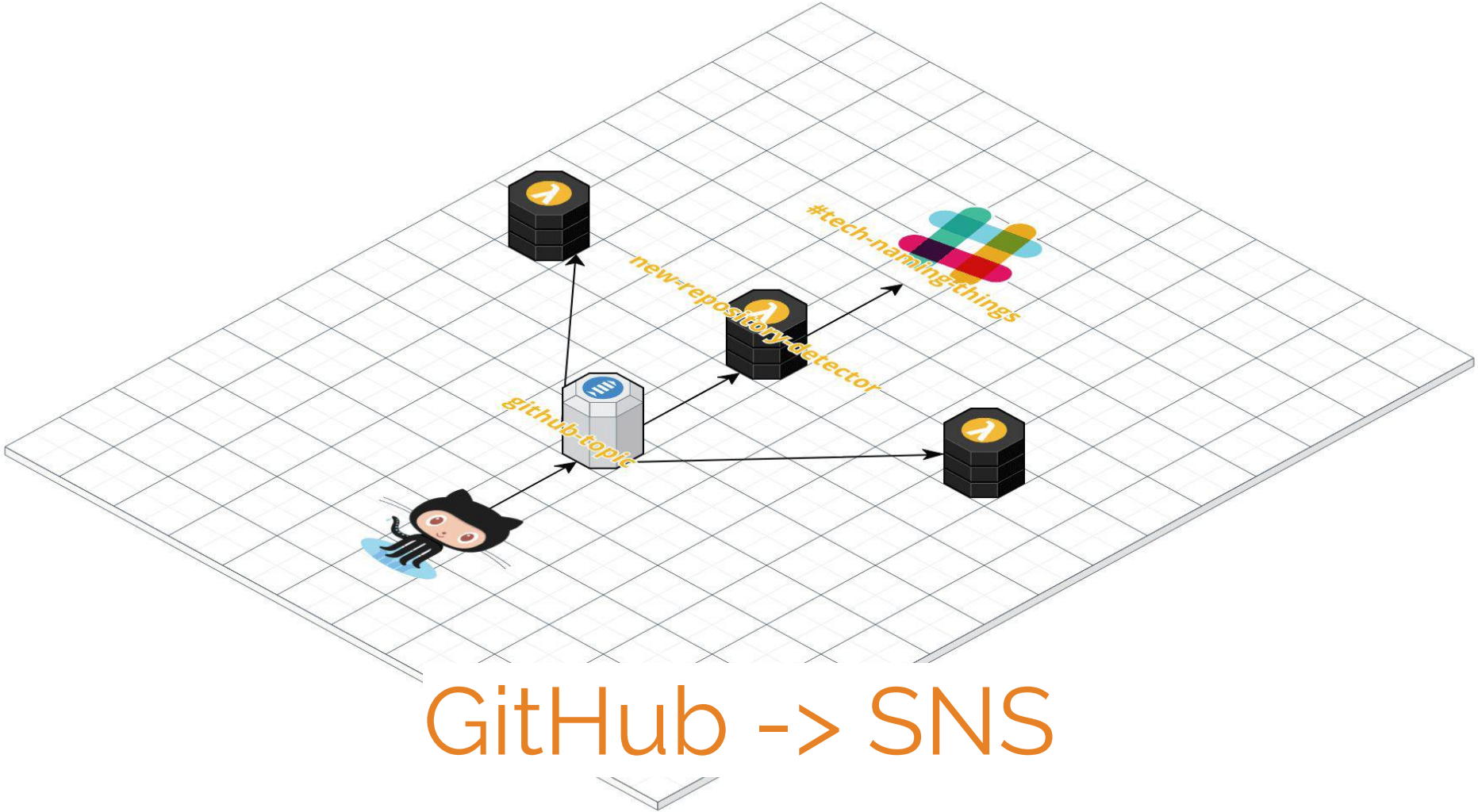

docker


.NET
Core

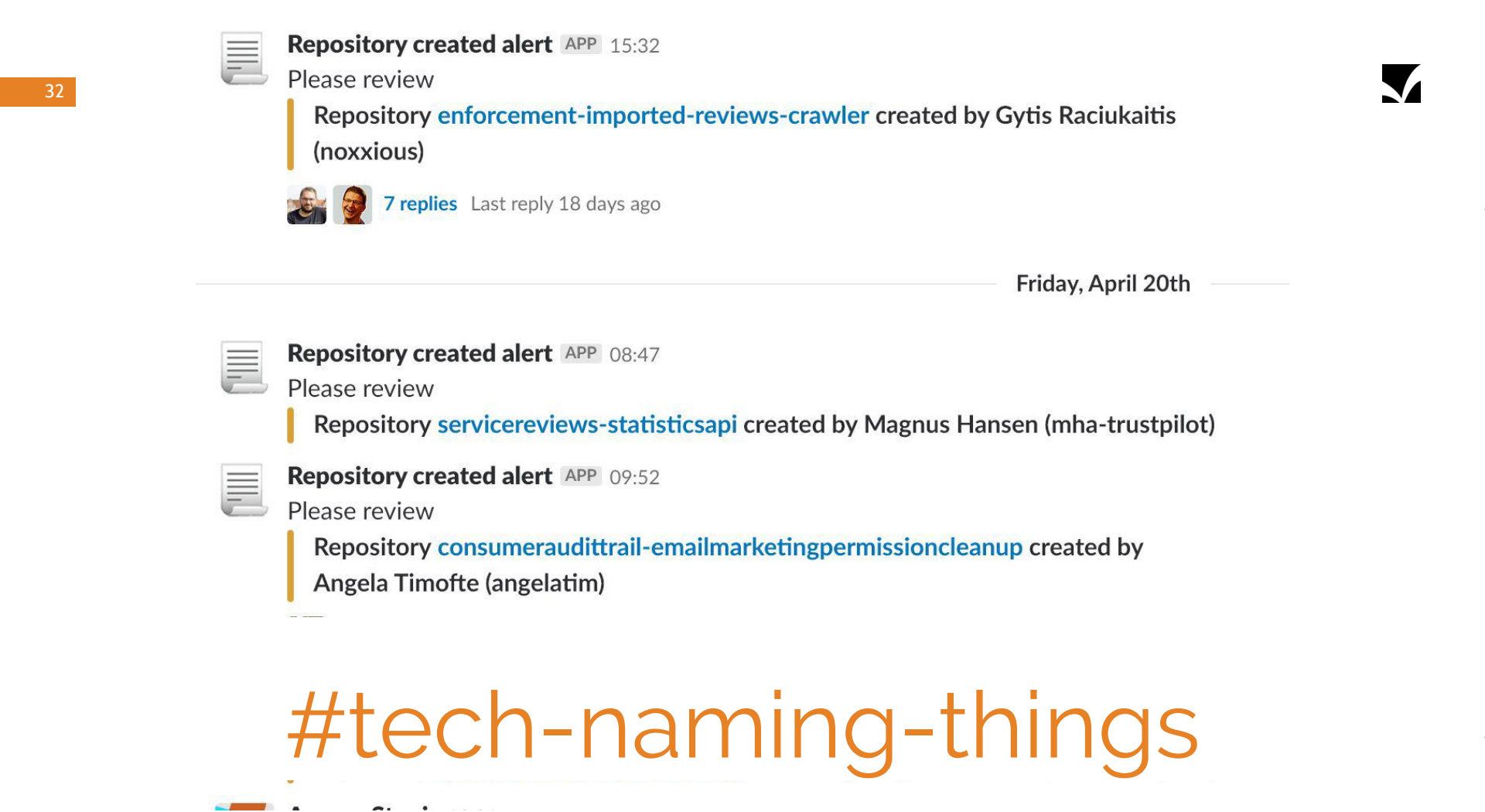


# of Services - by type ‘16 to ‘18

Serverless stuff, that went well



GitHub -> SNS



#tech-naming-things

github-secretsnoop APP 08:29

Just pushed to **trustpilot/businesssite-react**:

> config.js (line 18) 👈 Trustpilot API key?

github-secretsnoop APP 08:30

Just pushed to **trustpilot/businesssite-react**:

> config.js (line 18) 👈 Trustpilot API key?

6 replies Last reply today at 12:29

github-secretsnoop APP 11:

Just pushed to **trustpilot/Pr**

> crowdin.yaml (line 2) 👈 T

Add more commits by pushing to the `fix-memory-leaks` branch on **trustpilot/businesssite-react**.

Review required — Add your review

At least 1 approving review is required by reviewers with write access. Learn more.

All checks have passed — Show all checks

1 successful check

Merging is blocked — Update branch

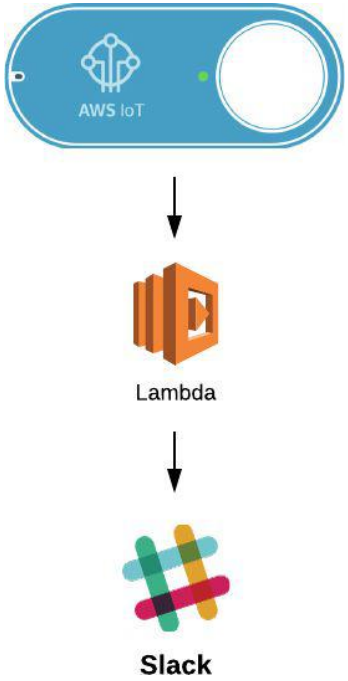
Merging can be performed automatically with 1 approving review.

As an administrator, you may still merge this pull request.

Merge pull request ▾ You can also open this in GitHub Desktop or view command line instructions.

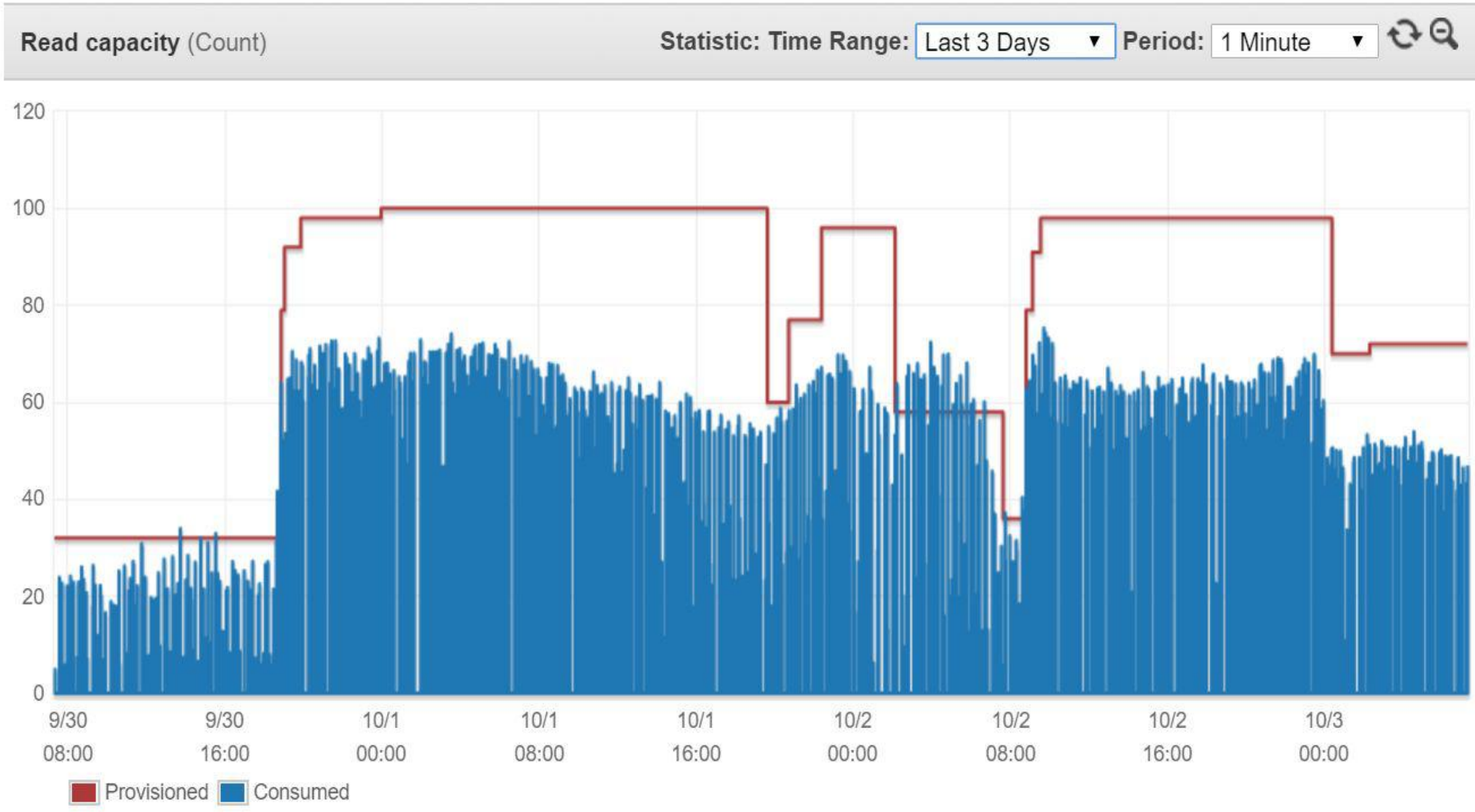
Cake alert!

AWS IoT Button: guide
Cake Alert!
Optional/Spontaneous event
Tech-random - Beer, tech-talk, any optional social activity
Mandatory event
Tech-general - Most hands, any mandatory official event
~ 3 seconds
AWS IoT

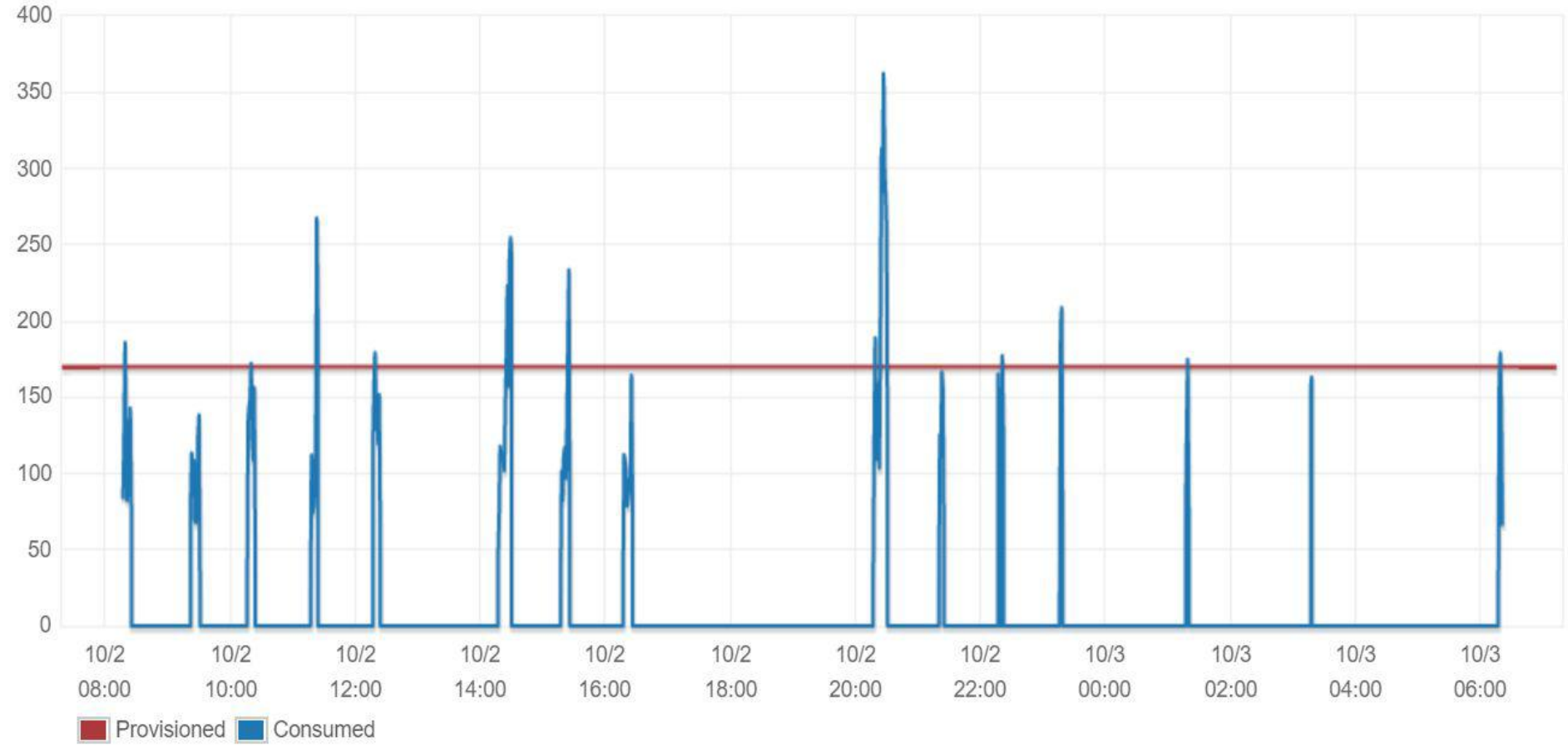

AWS IoT
Lambda
Slack

Serverless stuff, that went less well

DynamoDB scaling

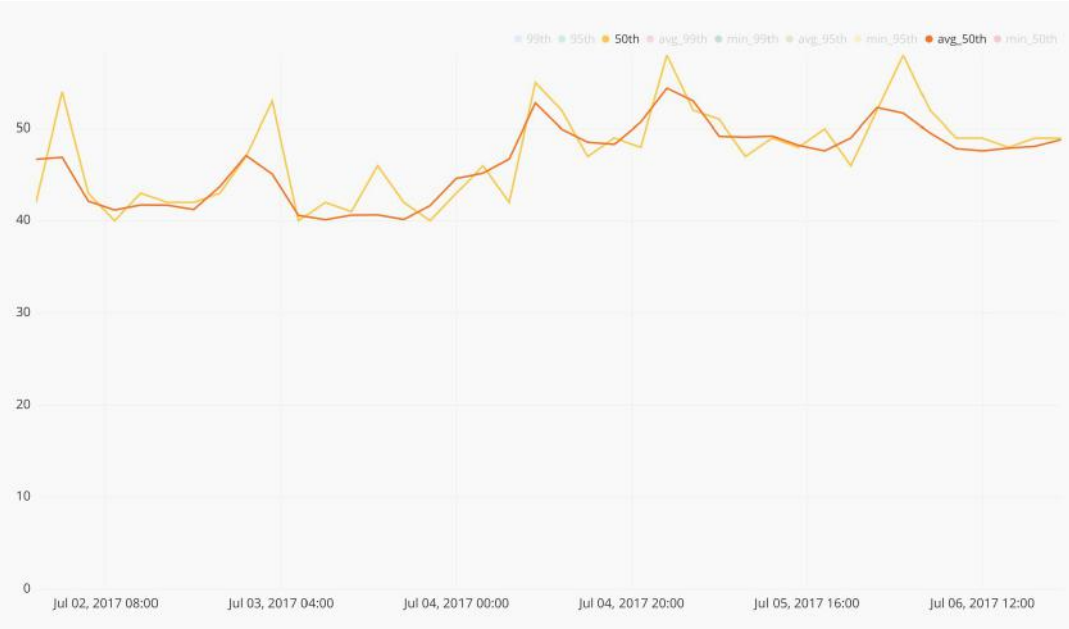

Read capacity (Count)
Statistic: Time Range: Last 3 Days
Period: 1 Minute
120
100
80
60
40
20
0
9/30 08:00
9/30 16:00
10/1 00:00
10/1 08:00
10/1 16:00
10/2 00:00
10/2 08:00
10/2 16:00
10/3 00:00
Provisioned
Consumed

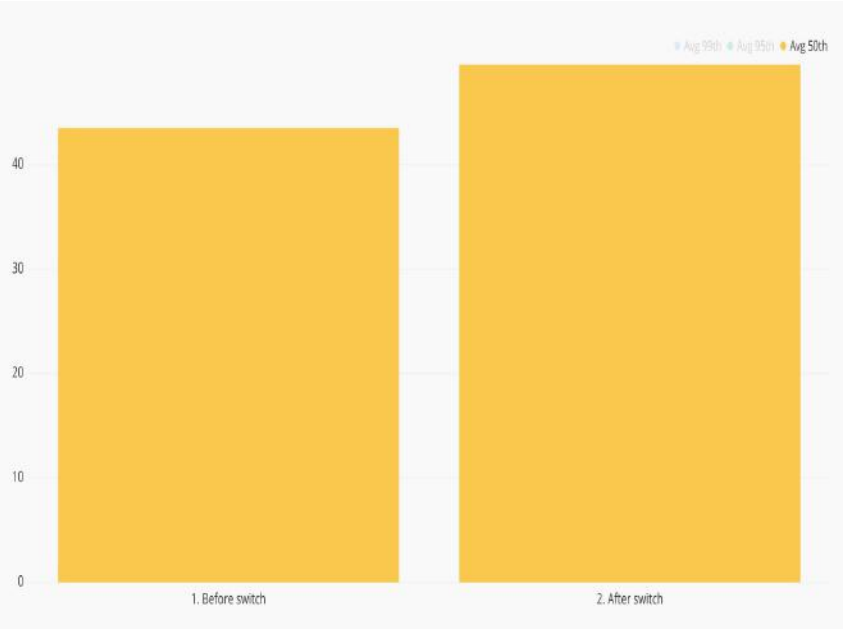
Write capacity (Count) **Statistic: Time Range:** Last 24 Hours **Period:** 1 Minute



Serverless APIs

Lambda + API Gateway increased latency





Public APIs can make us vulnerable to DDOS

- Bad guys could potentially kill our Lambda infrastructure by exhausting invocation limits
- API Gateway supports rate limiting at the gateway level. **This is a must.**

Learnings for us

Learnings

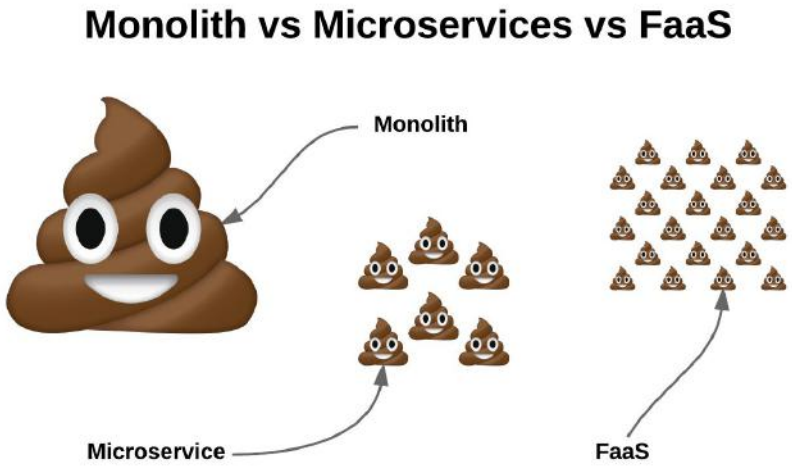
+ Event-based processing
+ Triggers (S3, IoT, DynamoDB, etc)
+ APIs
- High loads
- Data synchronization (streaming)
- APIs (with low latency requirements)

Convenience is key

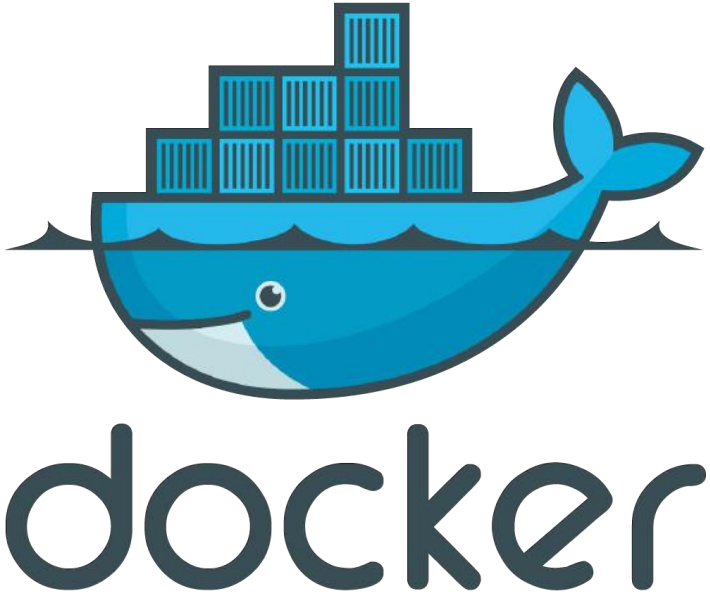
Future of Serverless

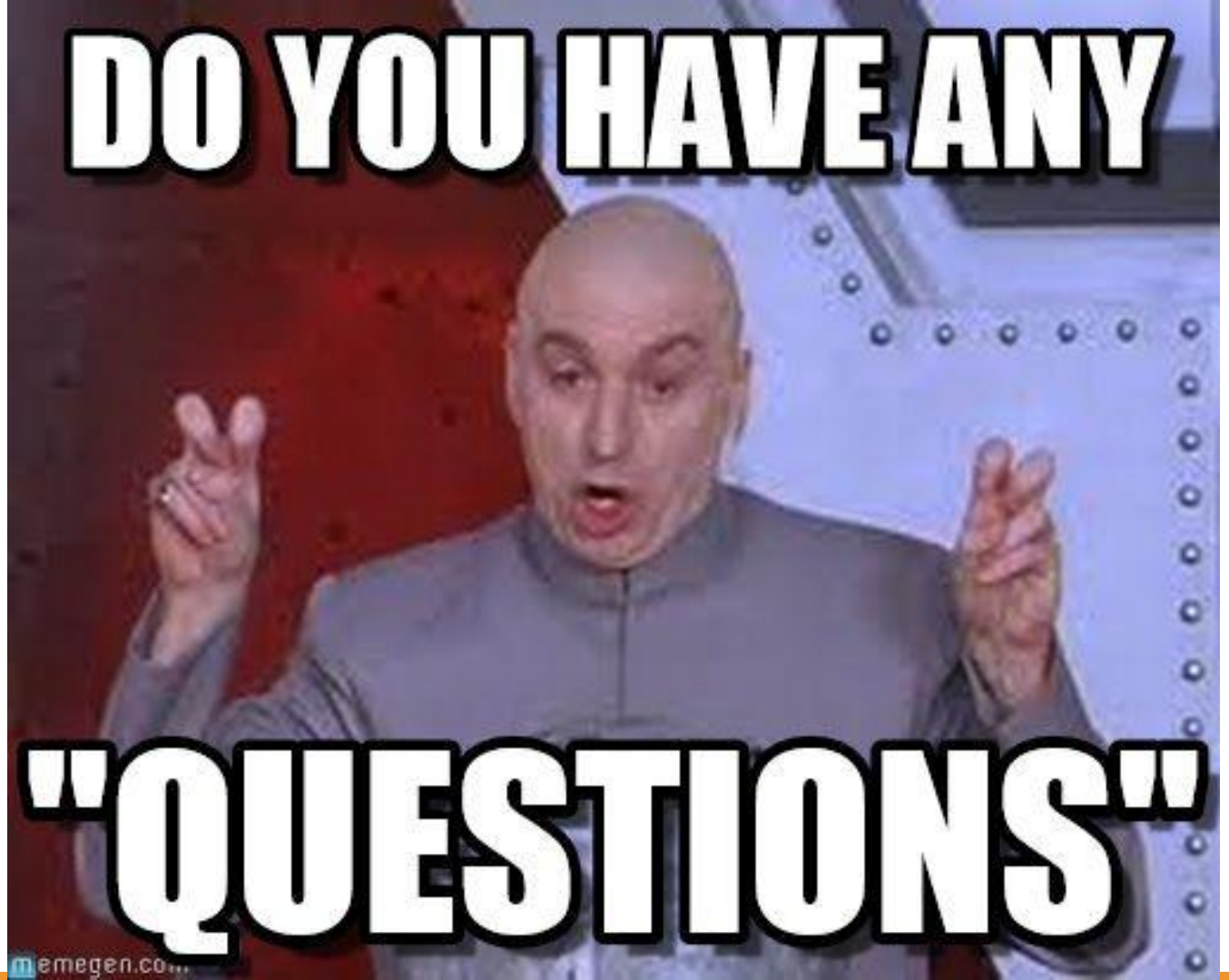
Future of Serverless

"We believe that Serverless is the natural evolution of cloud computing and will dominate it by 2020."



Future of Serverless




DO YOU HAVE ANY
"QUESTIONS"
memegen.co...