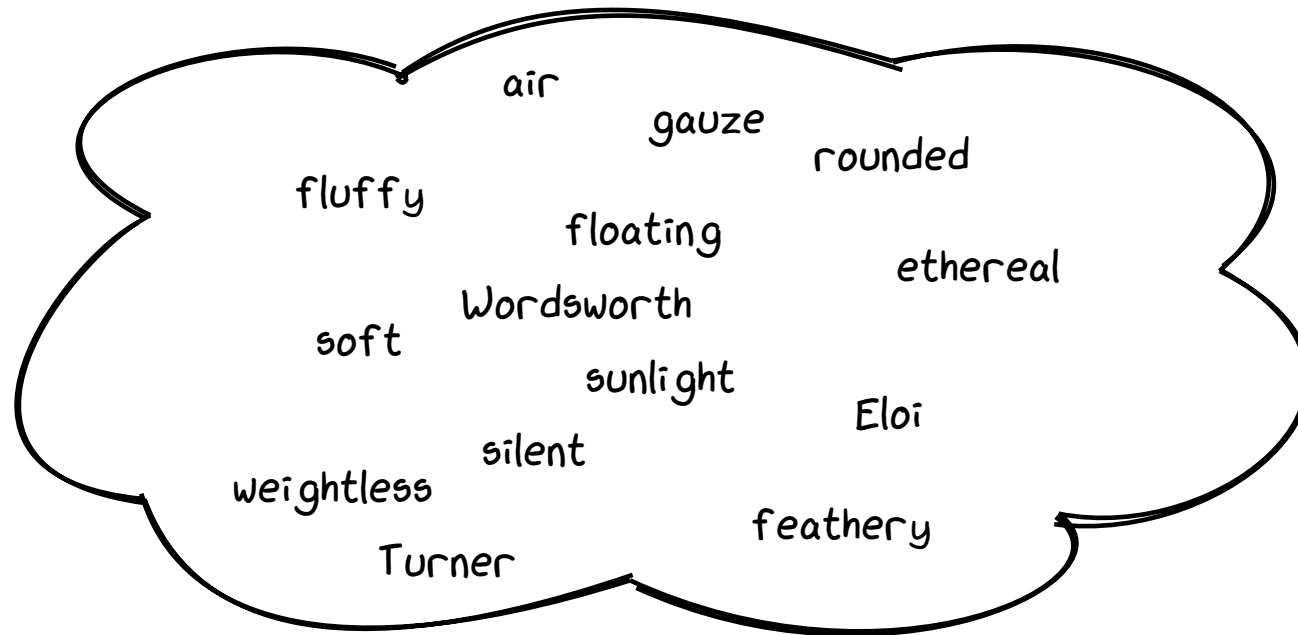


# THE BOTTOMLESS DATACENTRE

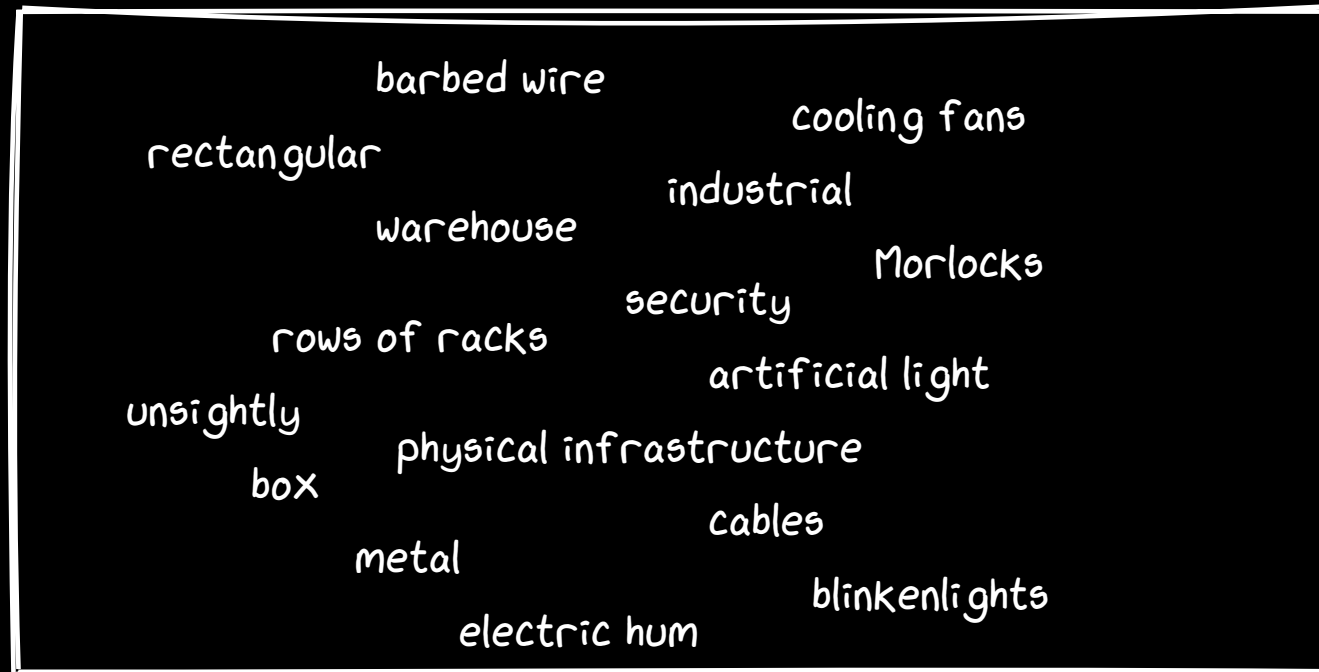


sustainable cloud computing

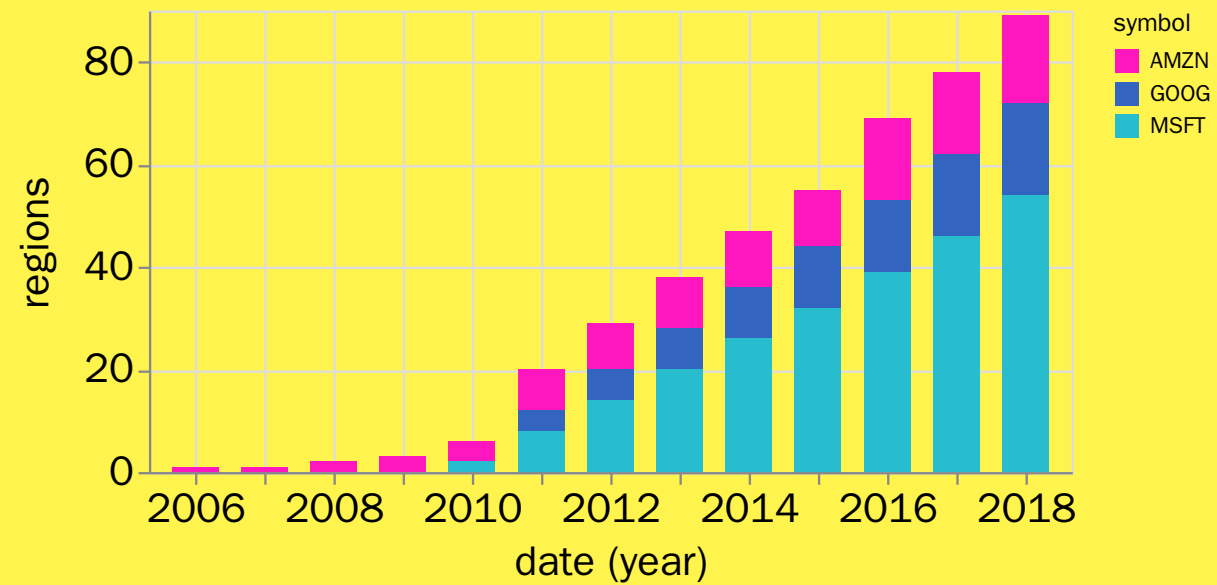
# NEWSPEAK



# GROUNDING



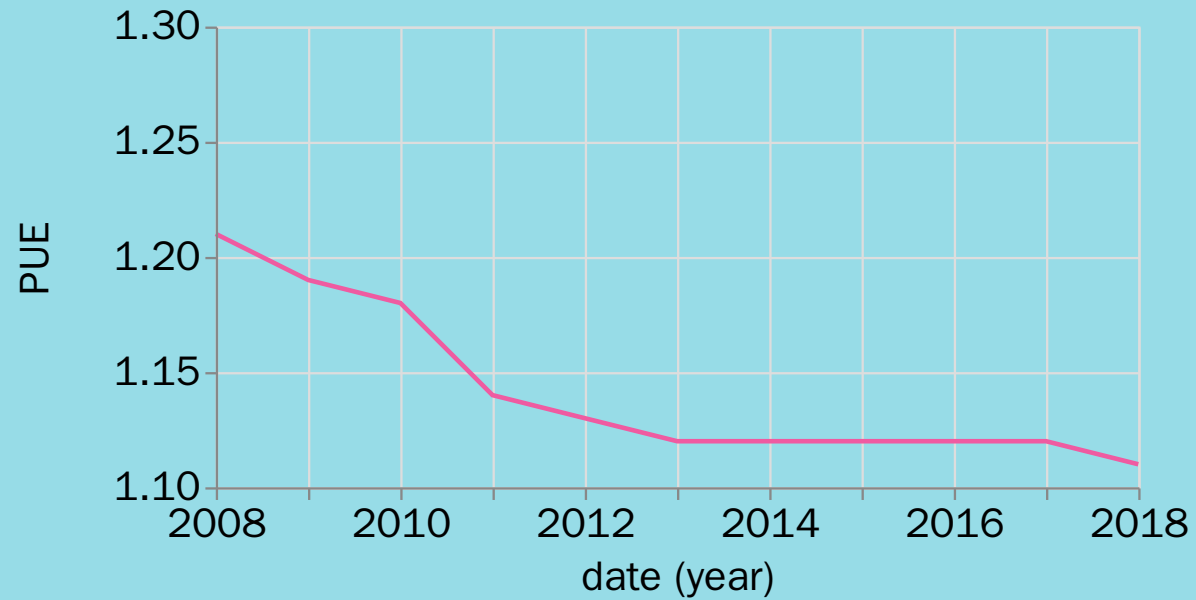
# COMPUTE-1 AND UP



Region data based on the [AWS](#), [GCP](#) and [Azure](#) blogs.  
Some missing data points interpolated.

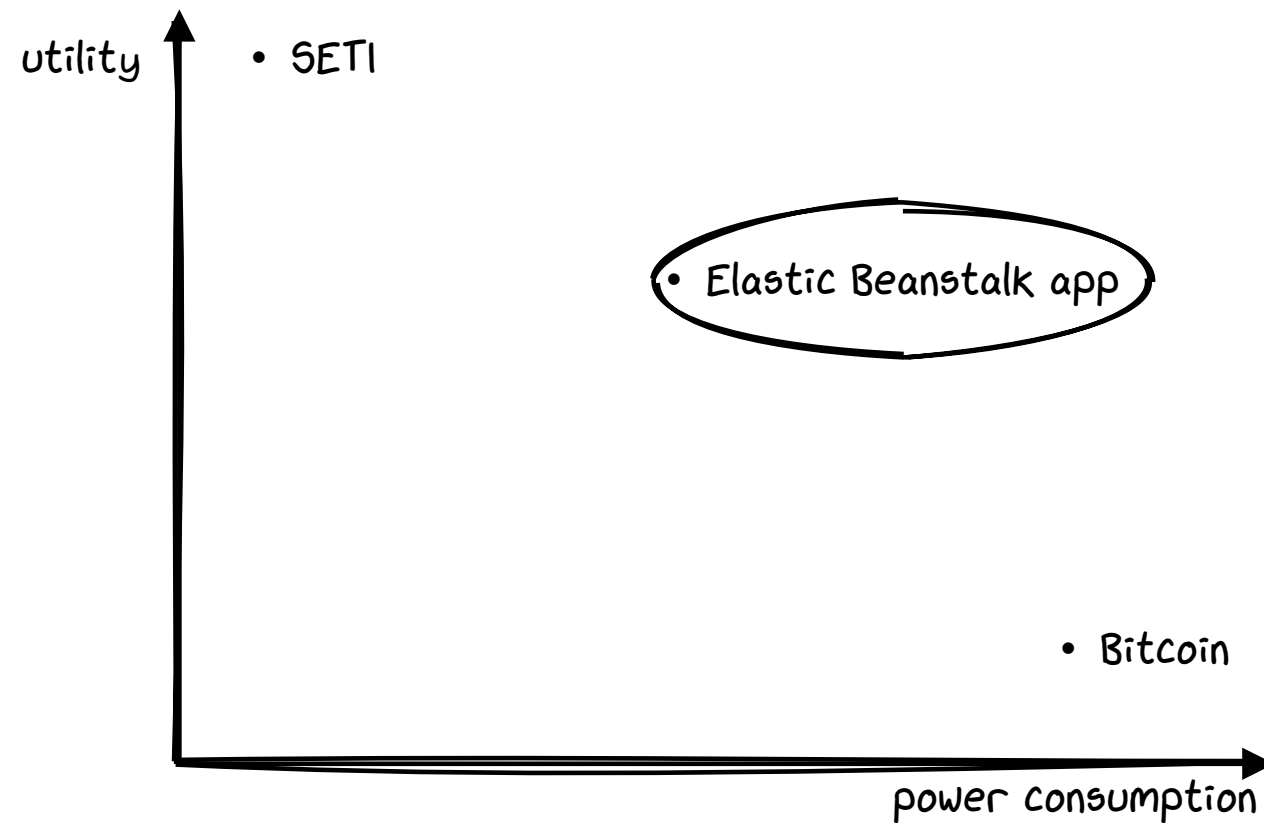
# INCENTIVES

$$\text{PUE} = \frac{\text{Watts in}}{\text{IT watts}}$$

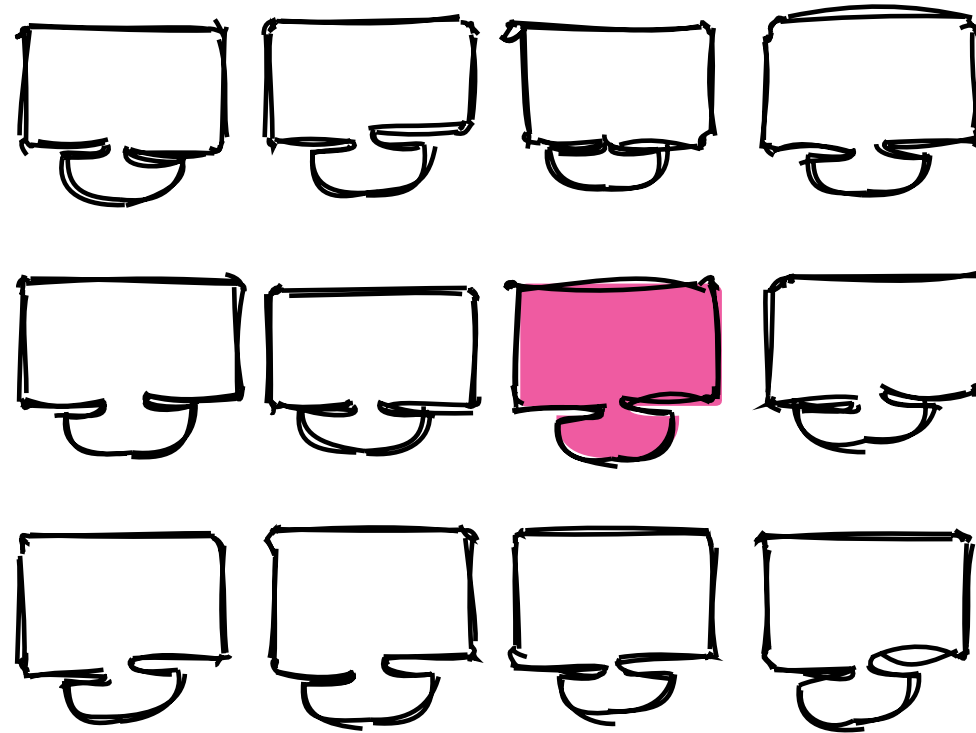


Power usage effectiveness data by [Google Data Centers](#).

# INFINITE BEANSTALK

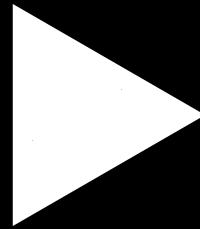


# 1,000,000 SCREENSHOTS

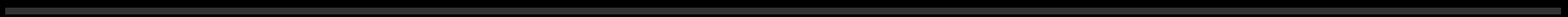


# PHOENIX CI

bash-4.4\$



00:00



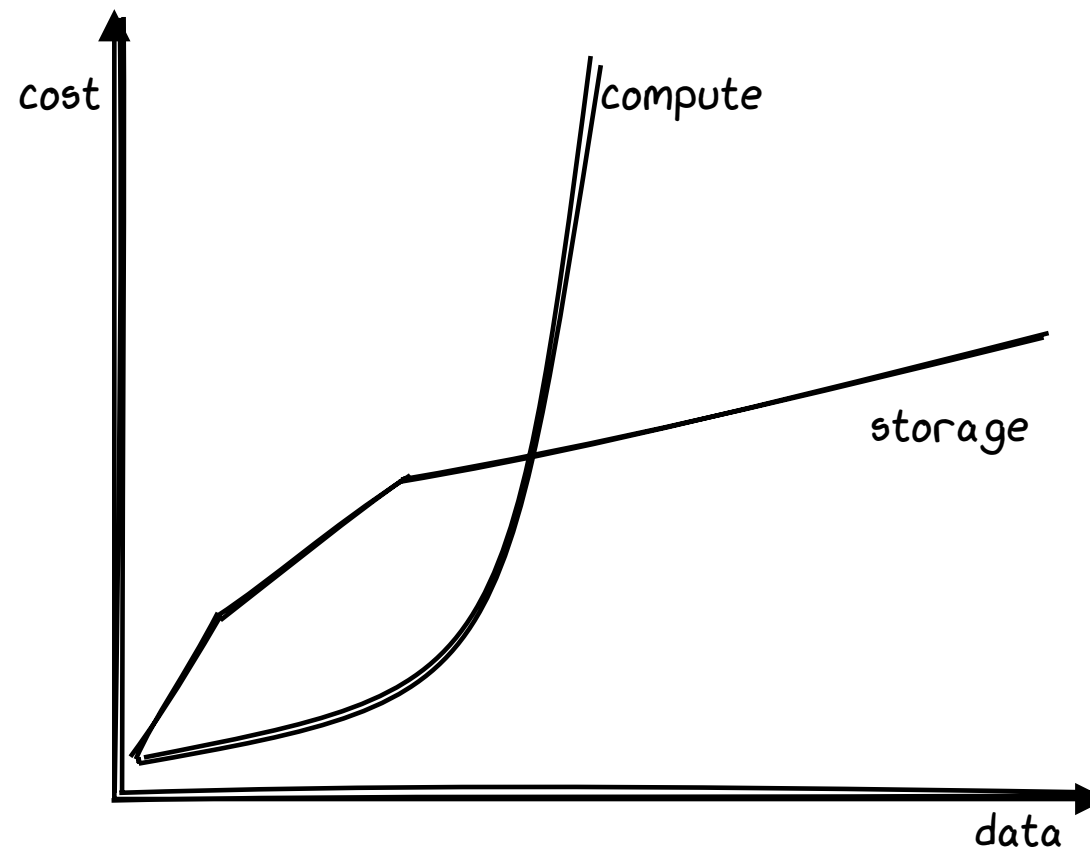


# RECIPE

```
FROM golang:1.11.1 as builder
WORKDIR /go/src/github.com/gerald1248/k8s-network-policy-viewer/
COPY * ./
RUN go mod download && go get && go vet && go test -v -cover && \
    go build -o k8s-network-policy-viewer .
```

```
FROM ubuntu:18.10
WORKDIR /app/
EXPOSE 8080
COPY --from=builder ../k8s-network-policy-viewer /usr/bin/
USER 1000
CMD ["k8s-network-policy-viewer", "-s=true"]
```

# TOTAL COST OF HOARDING



# THE VIEW FROM LE MANS



Program to where the performance puck is going to be,  
not where it has been

– DHH

Source: D.H. Hansson. 2016. [Signal v. Noise](#).

# THE MISSING THREE PER CENT

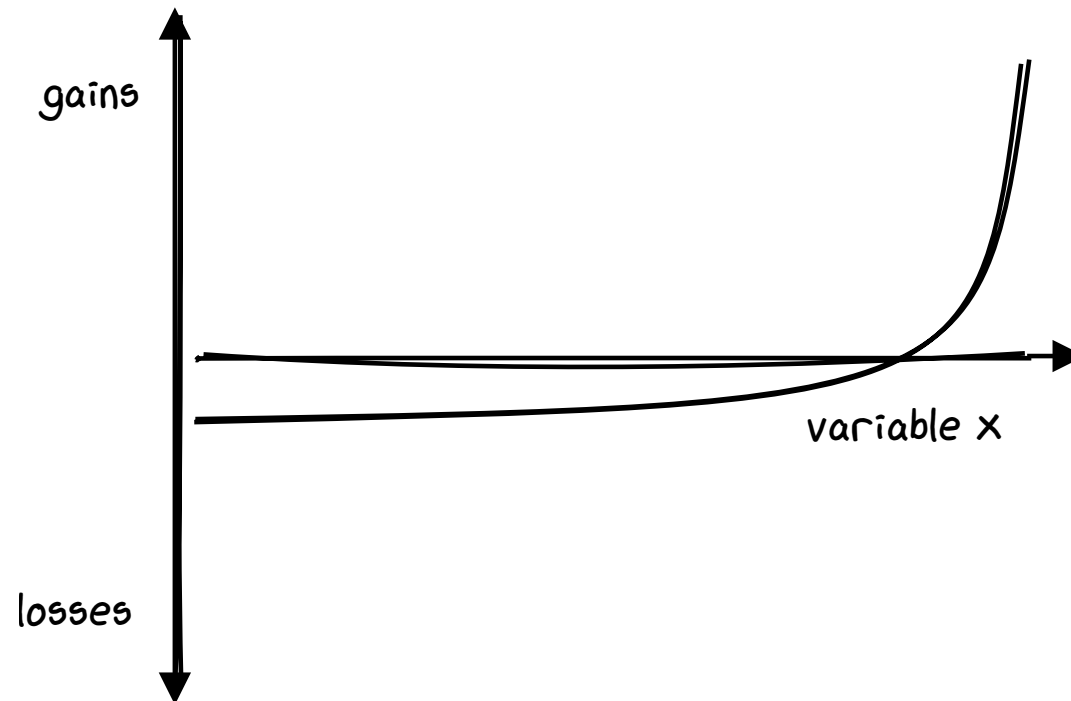


We should forget about small efficiencies,  
say about 97% of the time:  
premature optimization is the root of all evil

– Donald Knuth

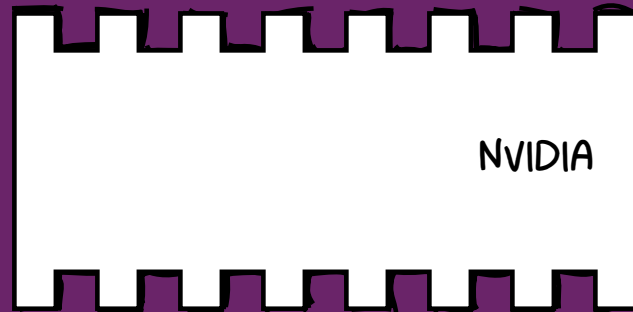
Source: D. Knuth. 1974. "Turing Award Lecture." *Comm. ACM* 17 (1974), p. 671.

# ASYMMETRY



Adapted from N.N. Taleb. 2012. *Antifragile*. NY: Random House, p. 273.

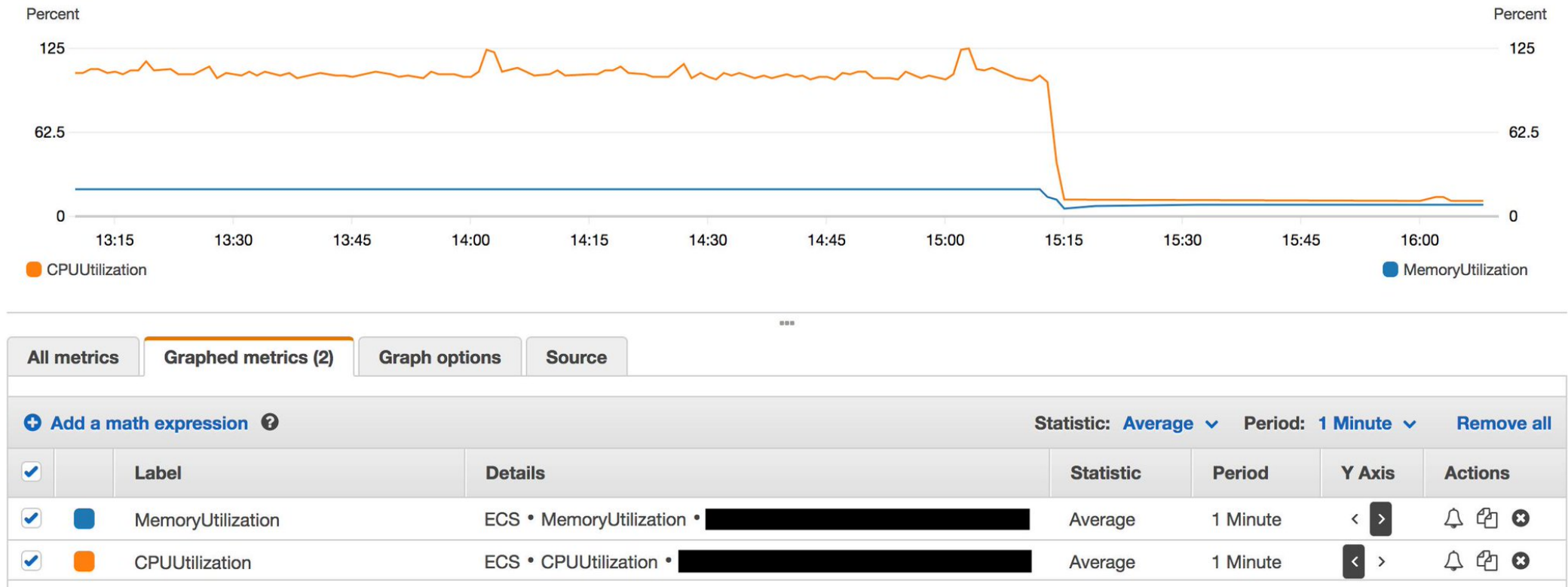
# LENSING



```
qcl::environment env;  
  
const cl::Platform& platform =  
    env.get_platform_by_preference({"NVIDIA", "AMD", "Intel"});  
qcl::global_context_ptr global_ctx =  
    env.create_global_context(platform, CL_DEVICE_TYPE_GPU);
```

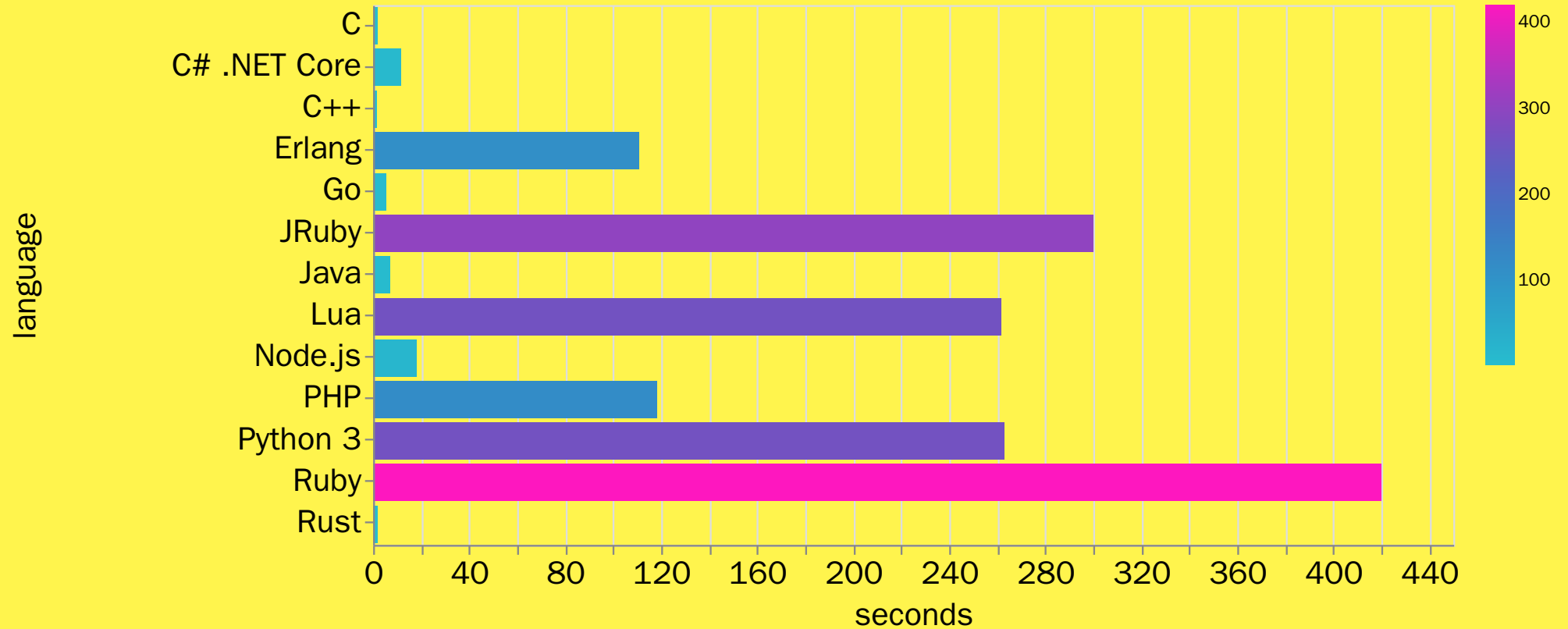
Source: A. Alpay. 2018. [github.com/illuhad/teralens](https://github.com/illuhad/teralens). Publication forthcoming.

# ENCODING



Source: [twitter.com/rossipedia/status/1101266107178967040](https://twitter.com/rossipedia/status/1101266107178967040).

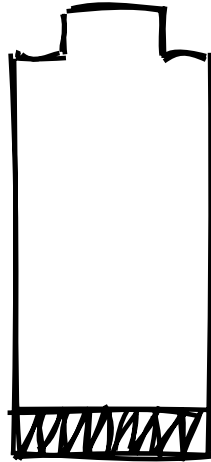
# MANDELBROT



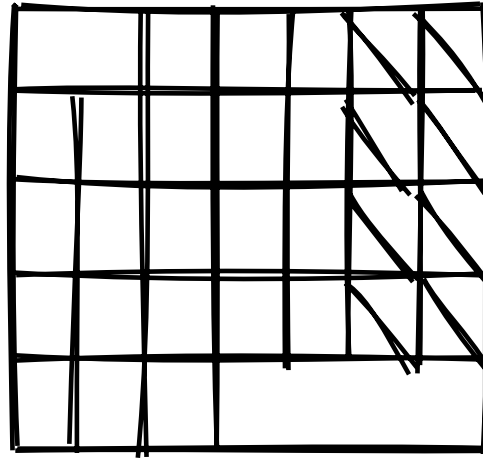
Source: [benchmarksgame-team.pages.debian.net](http://benchmarksgame-team.pages.debian.net).



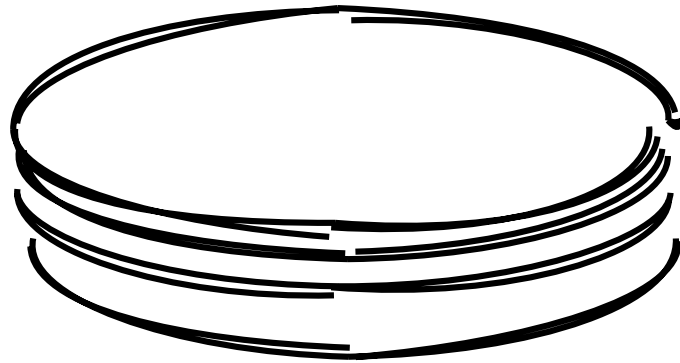
# MOBILE



# EMBEDDED



# PAY FOR WHAT YOU USE



# MAXIMISE THE WORK NOT DONE



# THANK YOU

Slides built with [Markdeck](#)

 [gerald1248/bottomless-datacentre-slides](#)

 [03spirit](#)

## ThoughtWorks®