THE BOTTOMLESS DATACENTRE
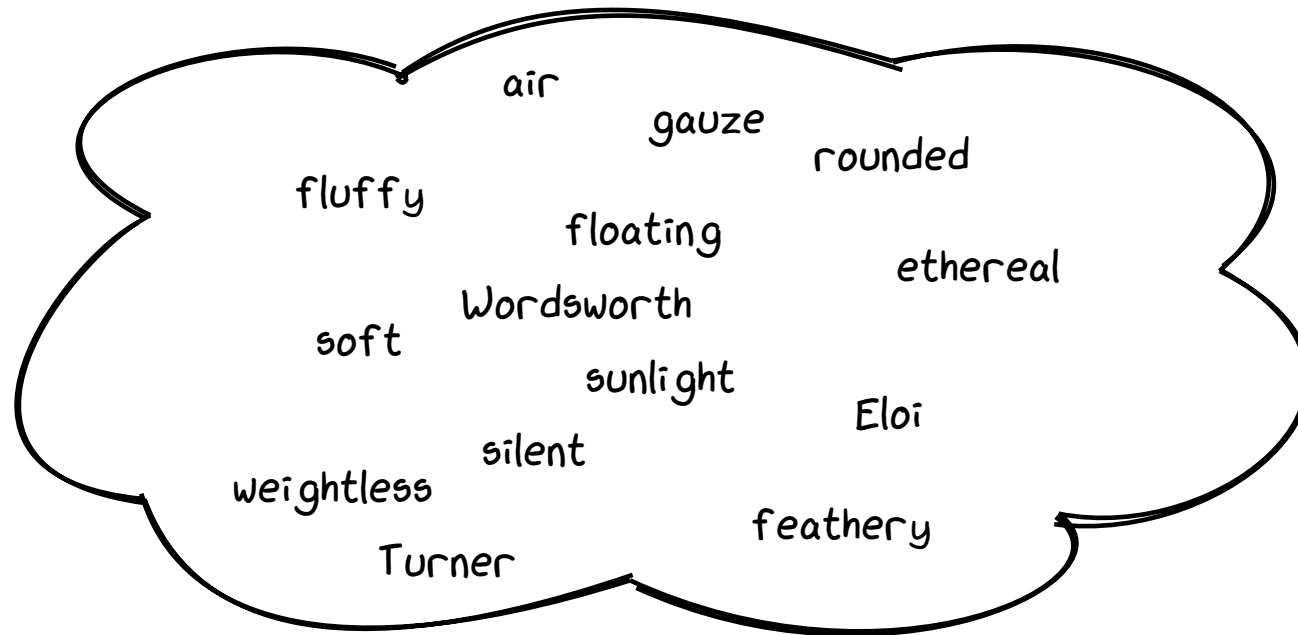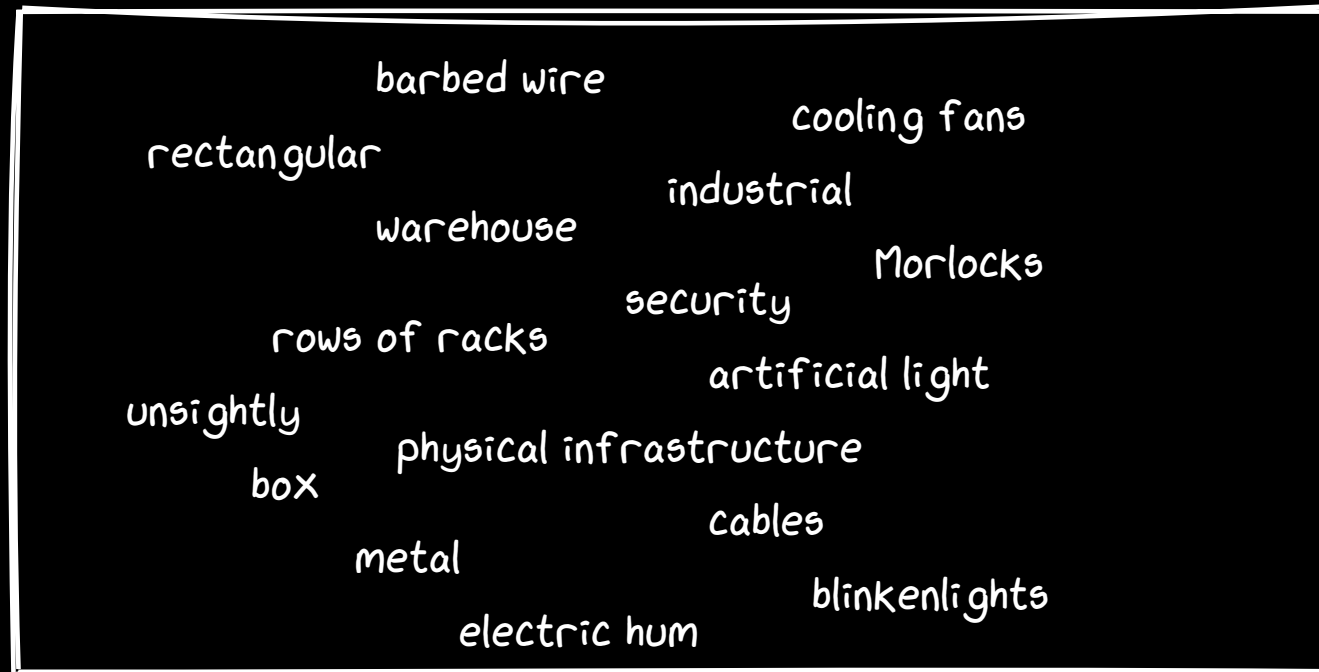
sustainable cloud computing
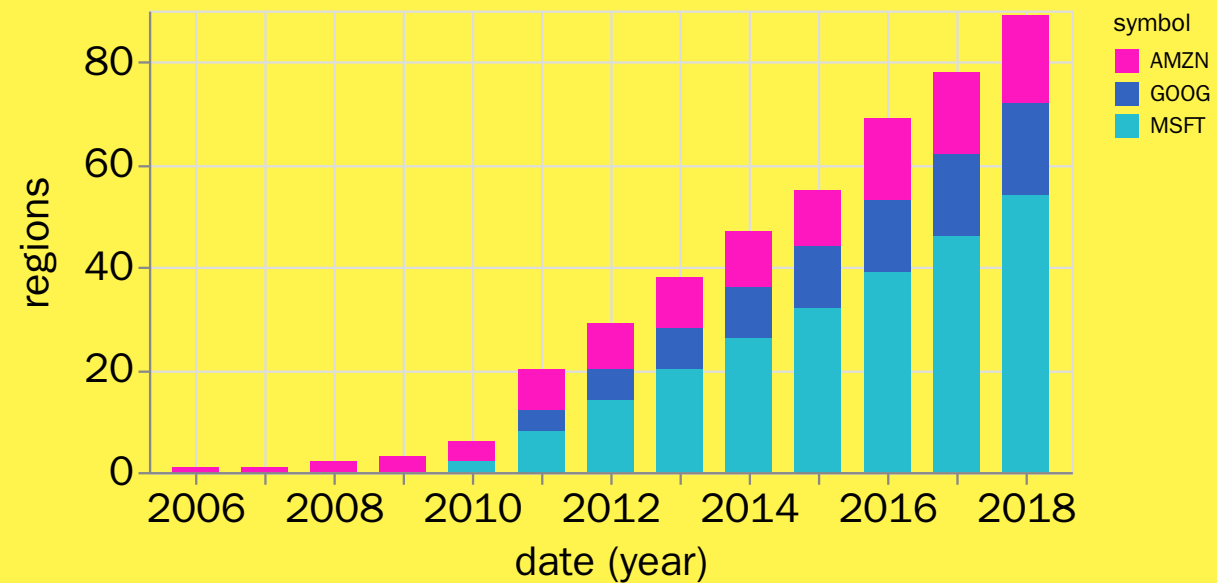
NEWSPEAK

air
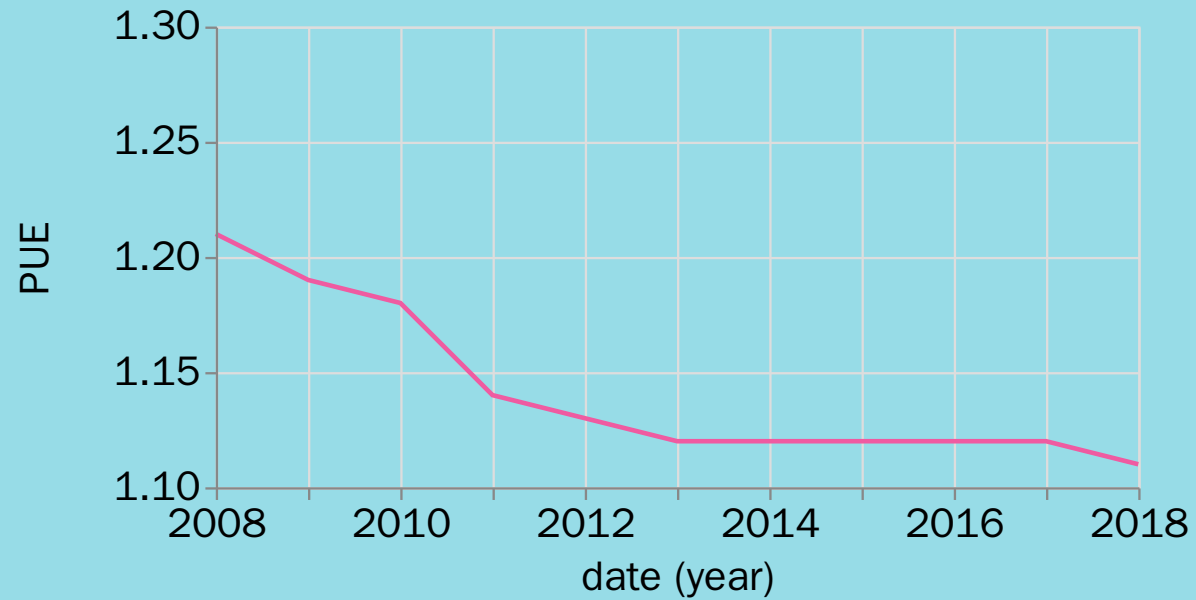
gauze

rounded

fluffy

floating

ethereal

Wordsworth

soft

sunlight

Eloi

silent

weightless

feathery

Turner

GROUNDED

barbed wire

cooling fans

rectangular

industrial

warehouse

Morlocks

security

rows of racks

artificial light

unsightly

physical infrastructure

box

cables

metal

blinkenlights

electric hum

COMPUTE-1 AND UP

Region data based on the AWS, GCP and Azure blogs. Some missing data points interpolated.
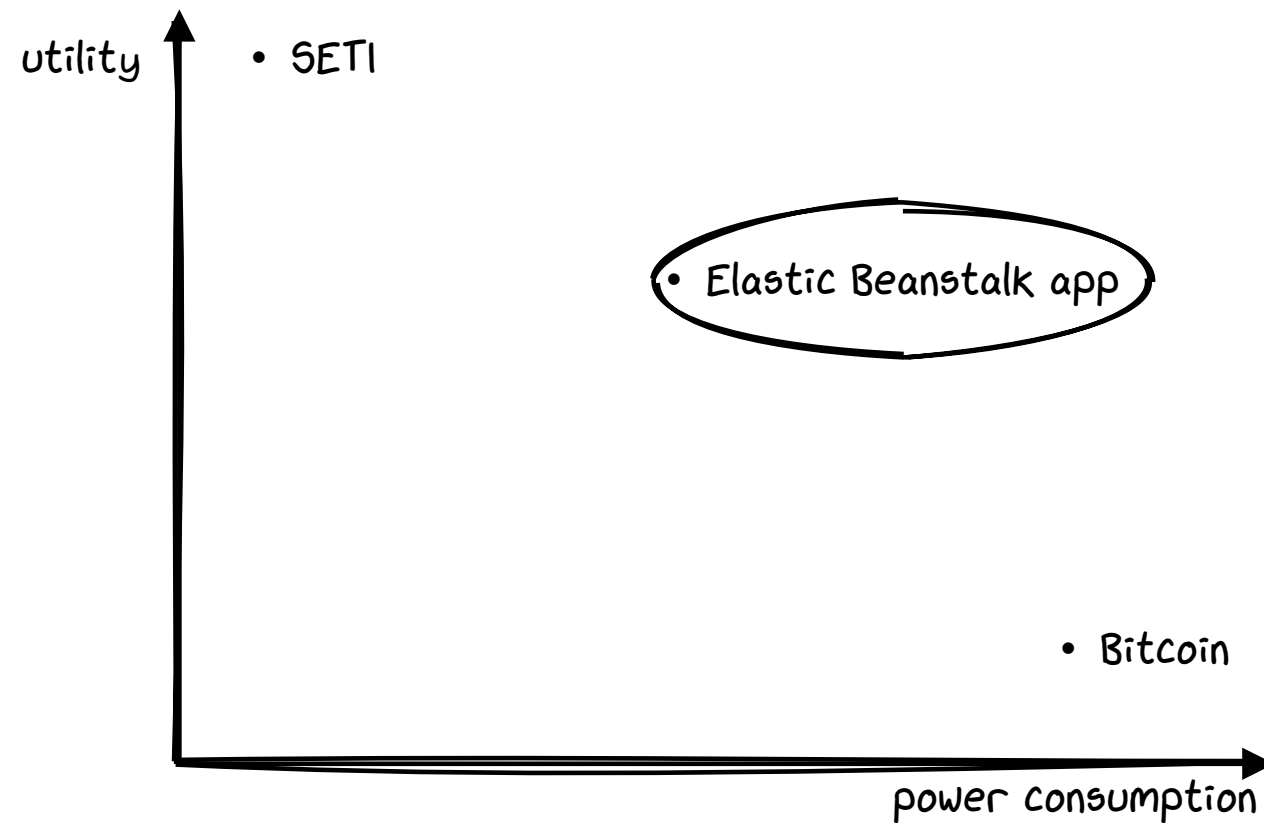
INCENTIVES

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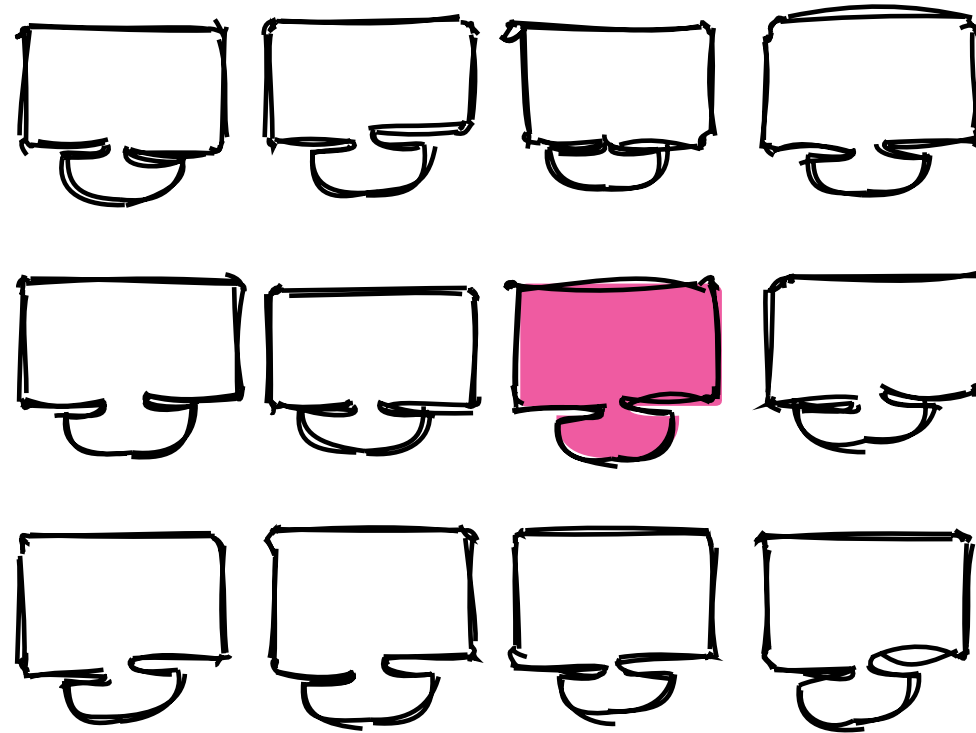

Power usage effectiveness data by Google Data Centers.
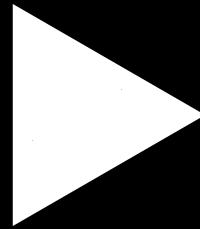
INFINITE BEANSTALK
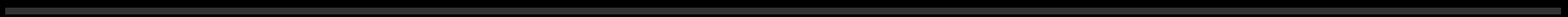
1,000,000 SCREENSHOTS
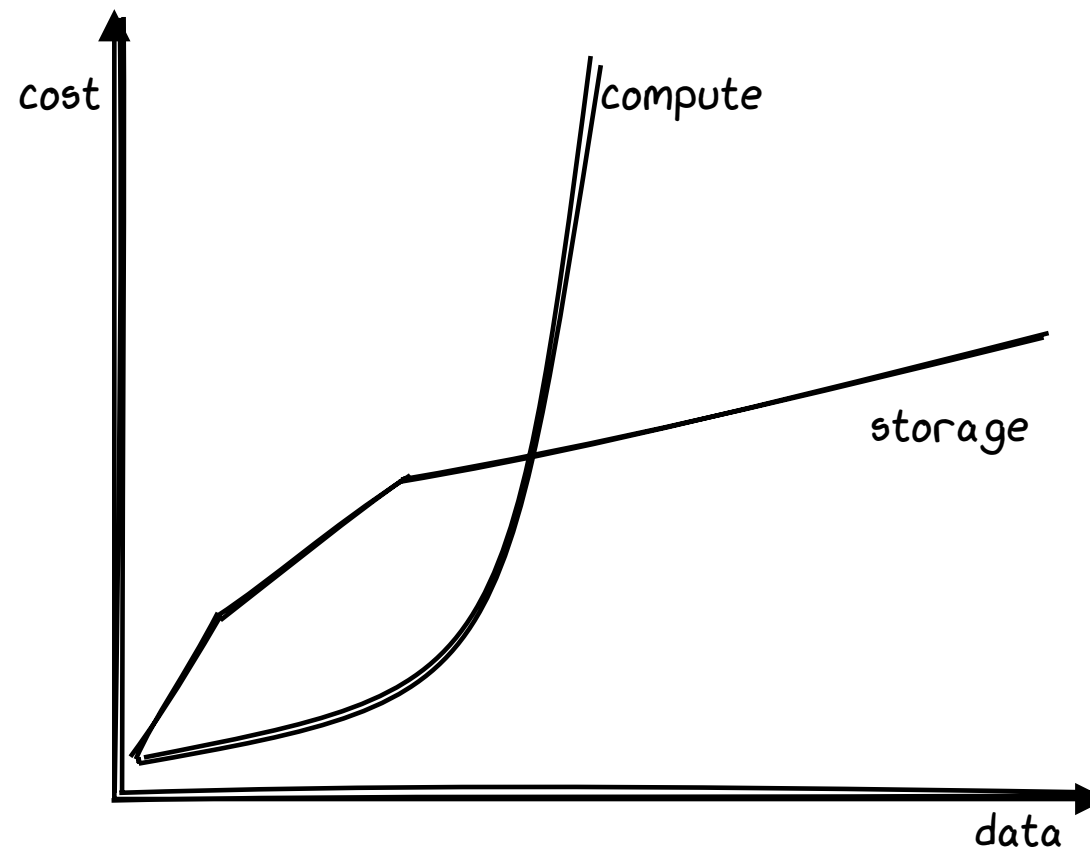
PHOENIX CI

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

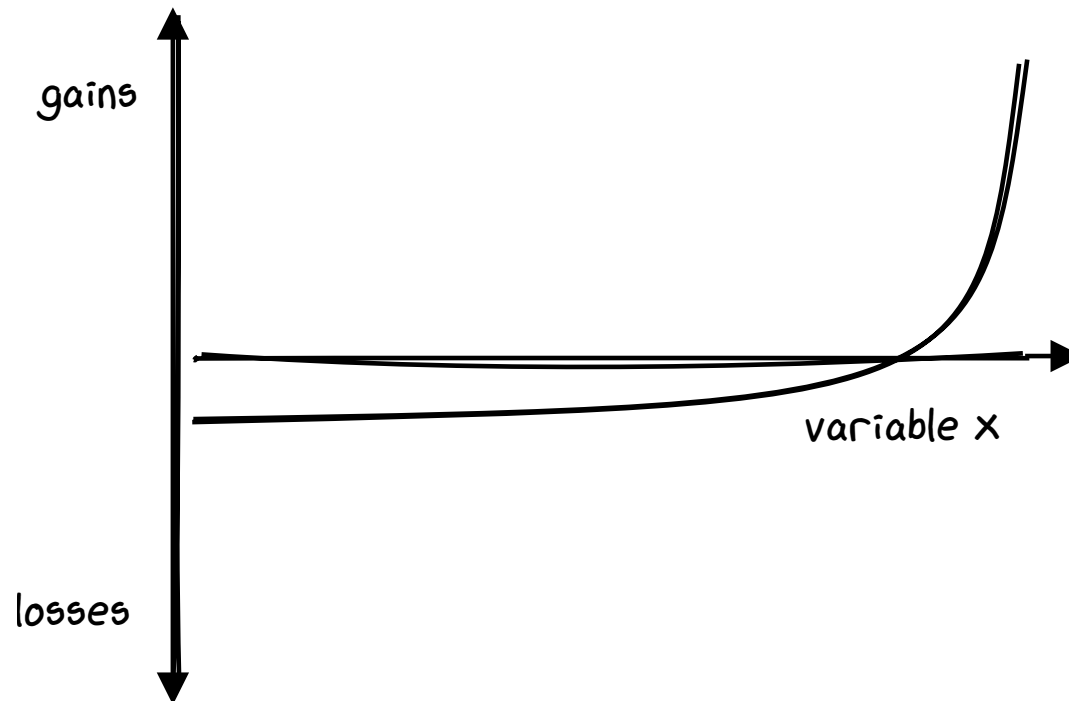Source: D.H. Hansson. 2016. Signal v. Noise.

THE MISSING THREE PER CENT

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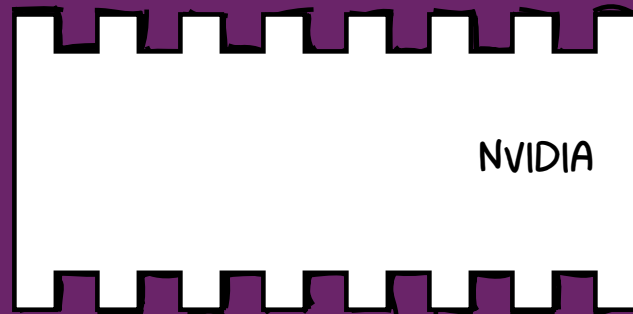> premature optimization is the root of all evil
>
> — Donald Knuth

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

ASYMMETRY

gains

variable x

losses

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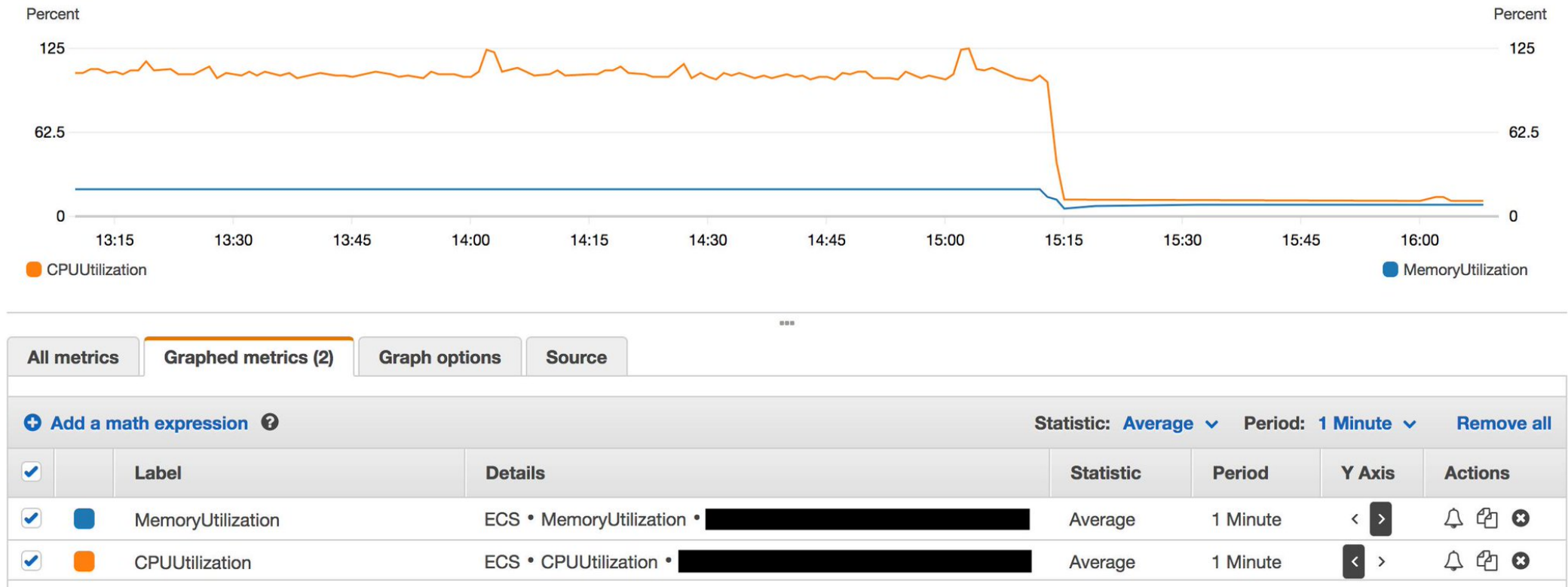
LENSING


```
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);
```
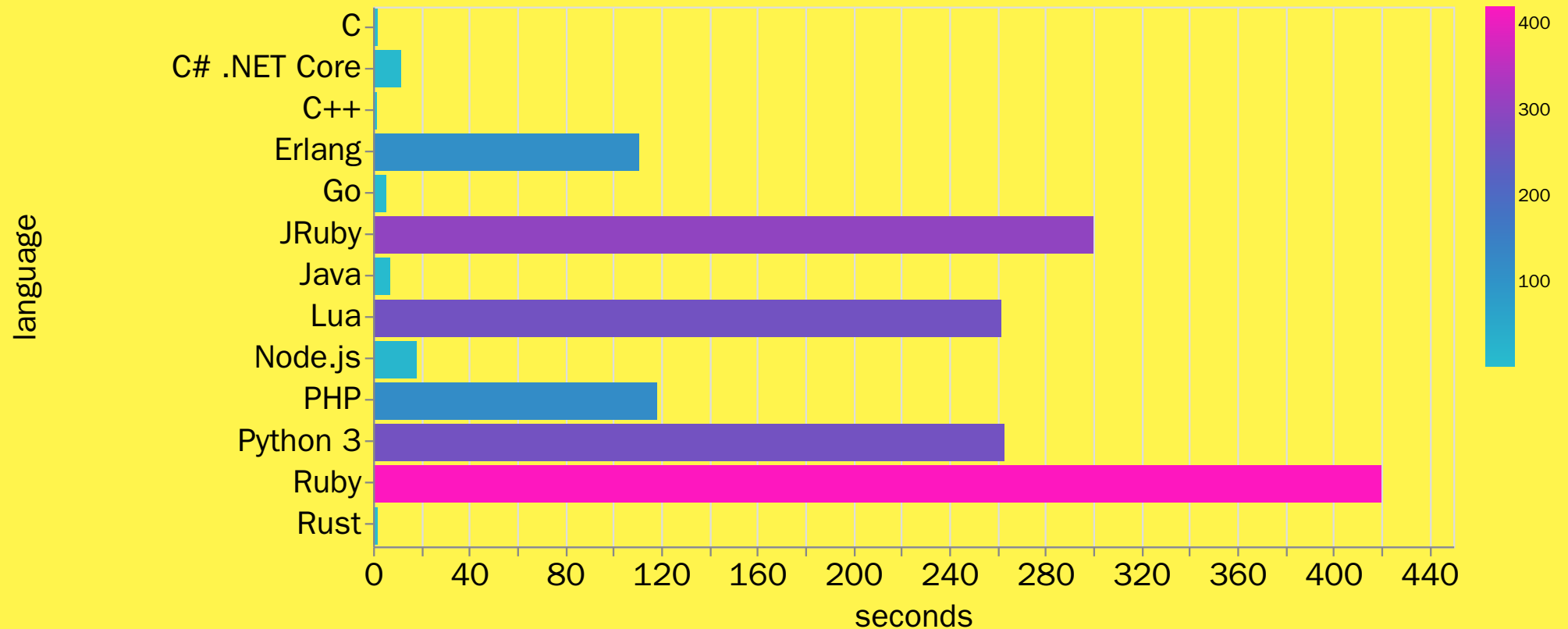
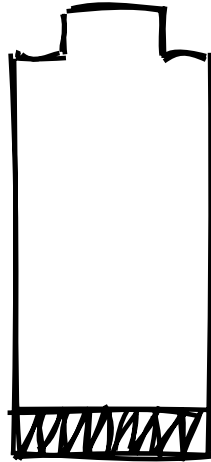Source: A. Alpay. 2018. github.com/illuhad/teralens. Publication forthcoming.

ENCODING

Source: twitter.com/rossipedia/status/1101266107178967040.
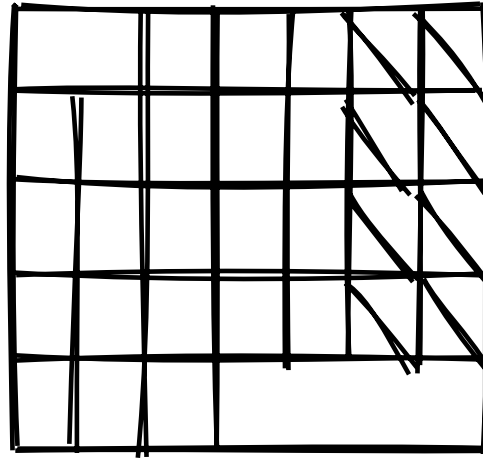
MANDELBROT

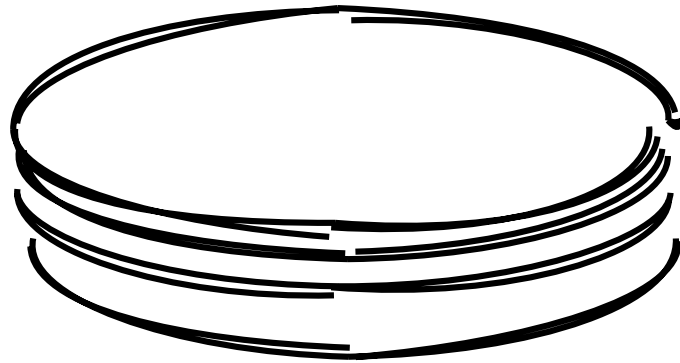Source: benchmarksgame-team.pages.debian.net.

MOBILE

EMBEDDED

PAY FOR WHAT YOU USE

MAXIMISE THE WORK NOT DONE

THANK YOU

Slides built with Markdeck
 gerald1248/bottomless-datacentre-slides
 03spirit

ThoughtWorks®