Google
Developers

What's New and Cool in Compute Engine

cloud.google.com/compute

Martin Gannholm
Engineering Manager

Navneet Joneja
Lead Product Manager

Google I/O

Photograph by Connie Zhou

Highly Secure

- Encapsulation
- Access
- Encryption

Consistently fast

- VMs
- Storage
- Network
- Scaling

1.5 TB Minutesort

www.mapr.com/mapr-google

Open

- CentOS & Debian
- APIs for everything
- UI and Tools use the same APIs you do
- Rapidly growing ecosystem

"Google Compute Engine has an impressive network and we've experienced **exceptional speed and boot times** with the platform. Google has achieved this performance while also having a **remarkable focus on security**, including data encryption at rest. In a recent survey, our customers continue to tell us the **#1 challenge in moving to the cloud is security**, and we're happy to see that **Google is directly addressing this concern"**

Thorsten von Eicken, CTO

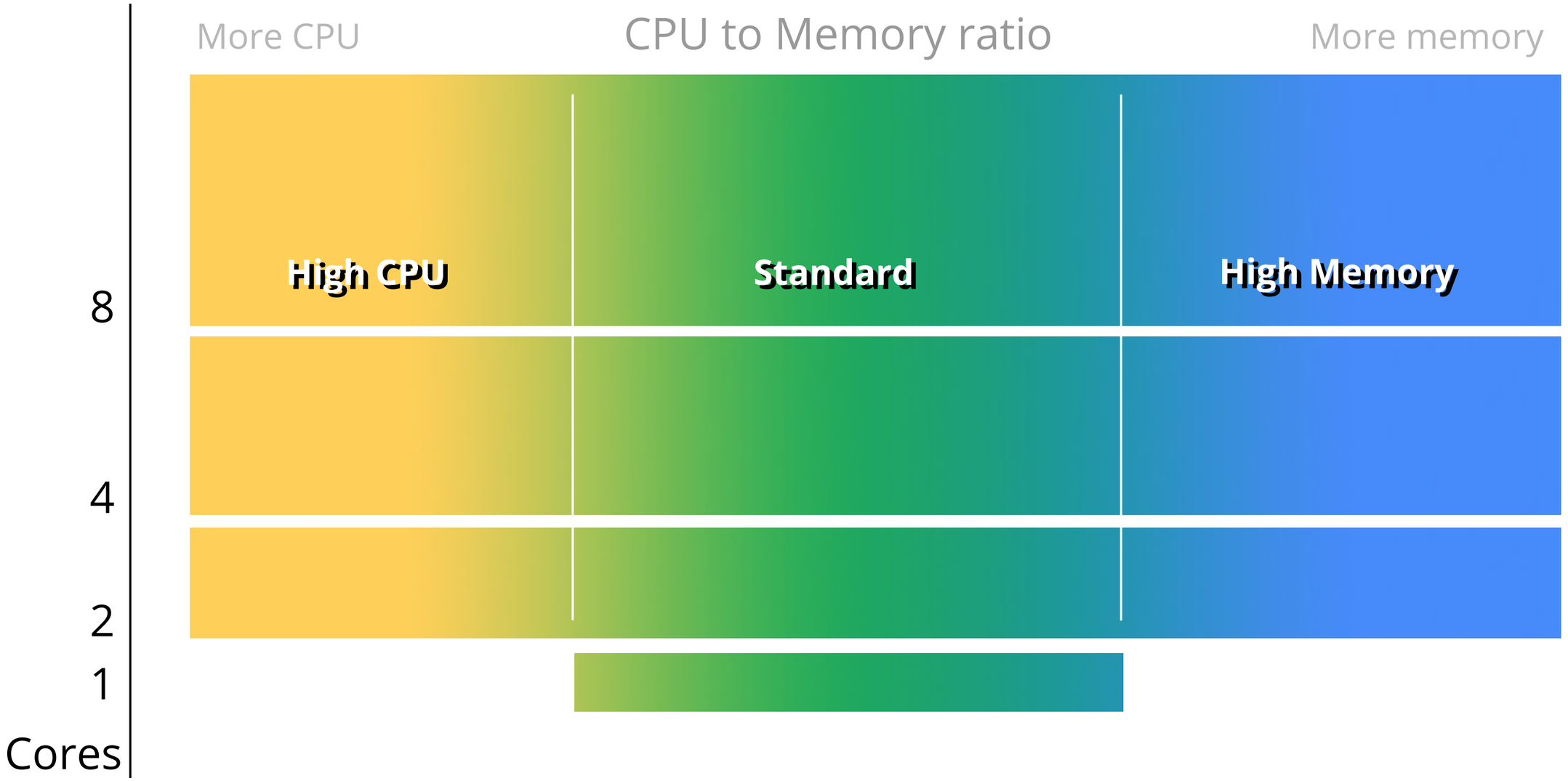
RIGHTSCALE®
CLOUD MANAGEMENT

"My pipe dream is for Google to combine Compute Engine's flexible virtual machines with App Engine's ridiculously impressive datastore."

- Ben Kamens,
Khan Academy lead developer
http://goo.gl/zxFbt

Cloud Datastore

Instances to suit diverse workloads



New Instance Types

g1-small

1.7 GB RAM
shared core, 1.38 GCEU

5.4c / hr US

f1-micro

0.6 GB RAM
shared core, burstable

1.9c / hr US

Powerful Metadata

Easy access from within an instance

HTTP

```
GET http://metadata/computeMetadata/v1beta1/instance/
attributes/
disks/
network-interfaces/
service-accounts/
tags
...

GET http://metadata/computeMetadata/v1beta1/project/
attributes/
...
```

Powerful Metadata

Update Custom Metadata on the fly

HTTP

```
POST https://www.googleapis.com/compute/v1beta14/projects/{project}/zones/
{zone}/instances/{instance}/setMetadata
{
  "kind": "compute#metadata",
  "fingerprint": bytes,
  "items": [
    {
      "key": string,
      "value": string
    }
  ]
}
```

Persistent Disk

10

terabytes

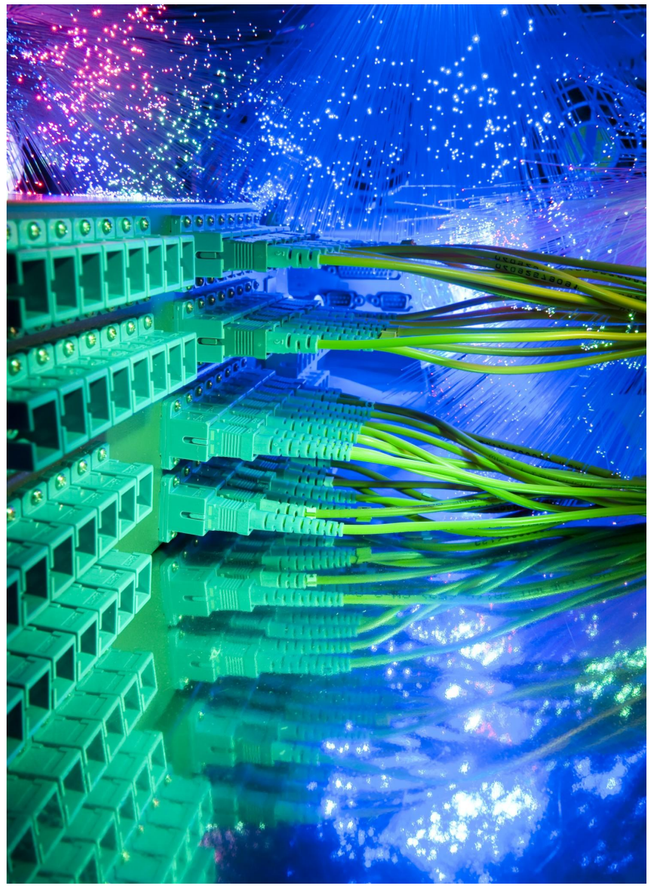
/root

hot

attach & detach

sub-hour billing

- 1 minute increments
- 10 minute minimum



Routing, Gateways and VPNs, oh my!

- New Advanced Routing Capabilities
- Powerful, fine-grained control over packet routing

Compute Engine in Action

What's Cool about Compute Engine

Sebastian Stadil, Founder & CEO

SCALR

A few Scalr customers

Live on GCE

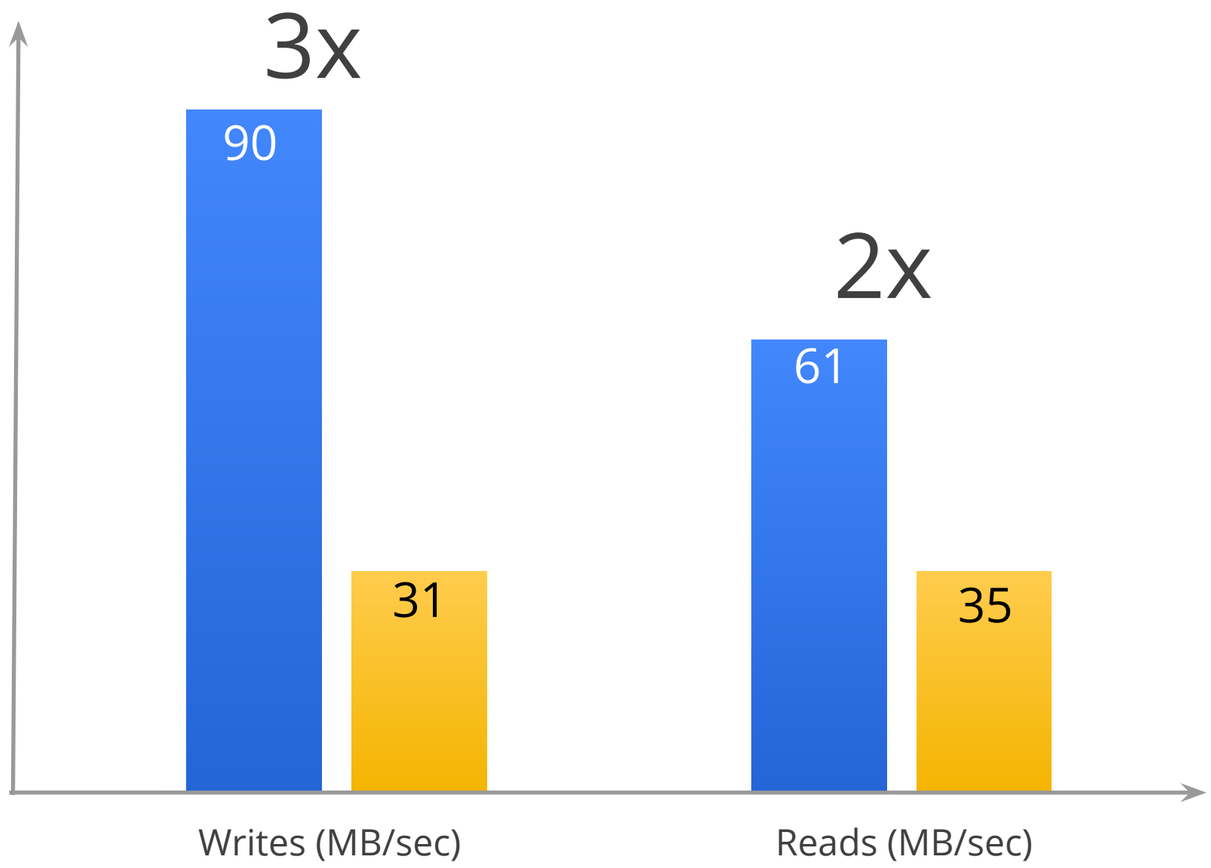
“Google Compute Engine rocks.”

Ralf Rottmann (@ralf)

Grandcentrix for Eurovision

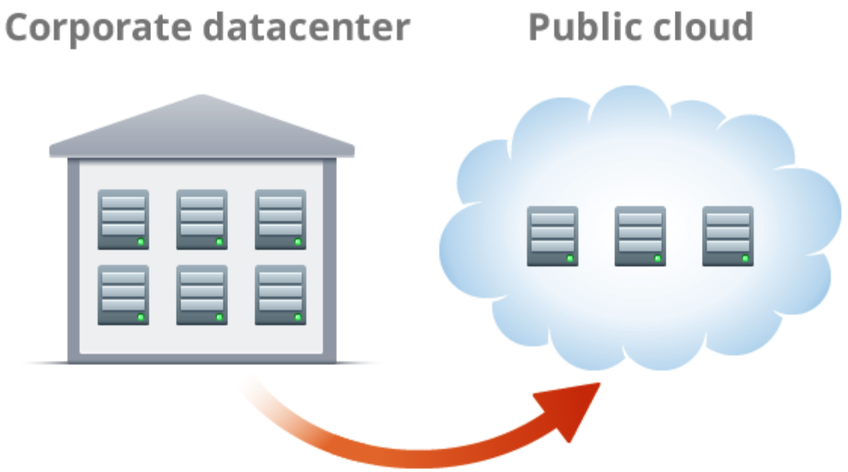
Benchmarks - sequential IO

vs well known competitor



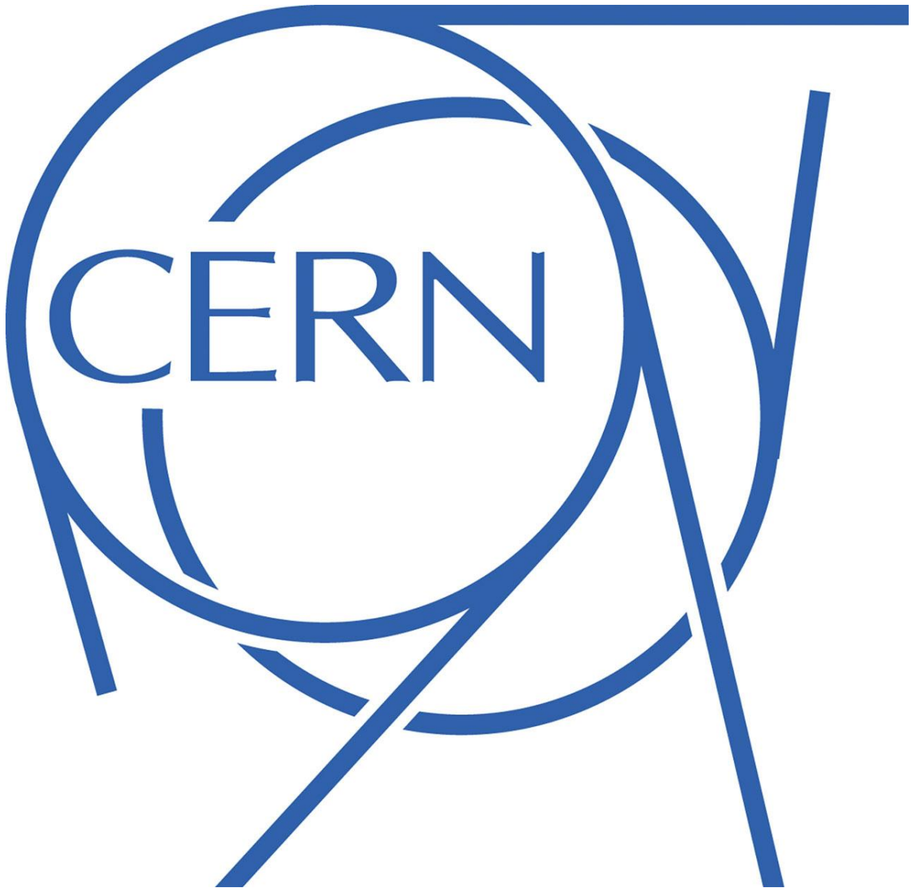
source: github.com/Scalr/perf-benchmarks

Using GCE Routes for Cloudbursting

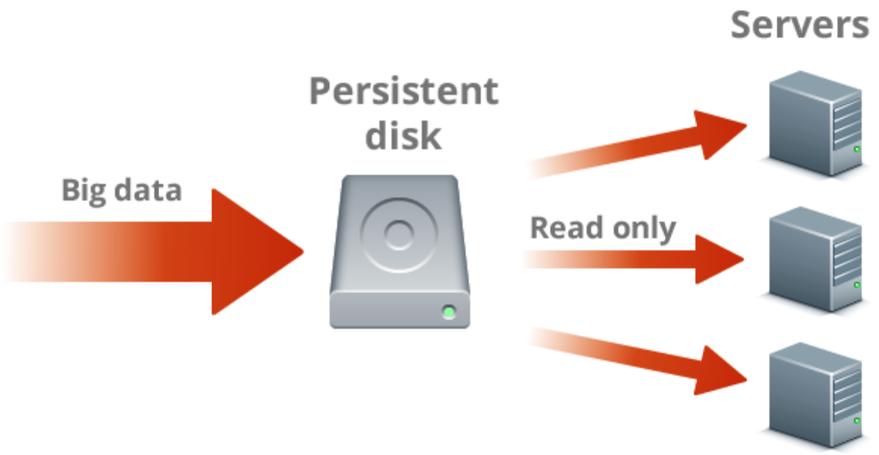


Example use case

Big data



Use GCE multi-mount disks for big data



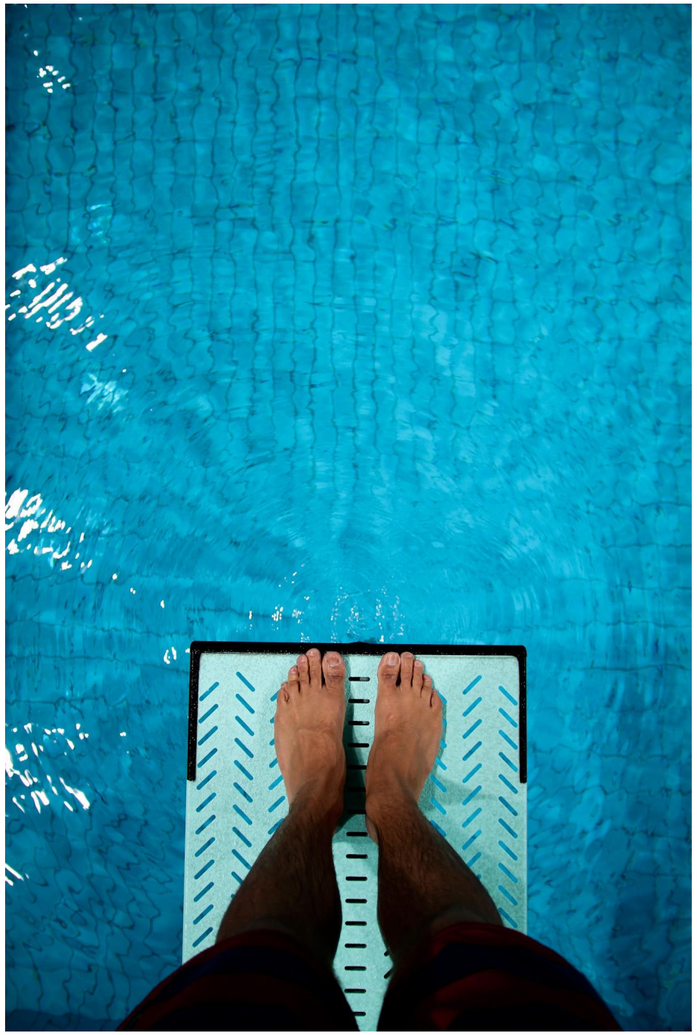
HA with GCE global and local resources

By the minute pricing

Thank You!

scalr.com/gce?utm_source=myawesomeiotalk

Sebastian Stadil



Deep Dive Sessions

- Speed, Efficiency, and Control
- Supercharge Your Google Compute Engine App with Persistent Disk
- When Bad Things Happen to Good Clusters
- Codelab: Computing the Cosmos
- Cloud Platform Sandbox

Sign up online

cloud.google.com/compute

Early Access to New Features

Apply http://goo.gl/GSqJo

- Load Balancing
- Monitoring

Thank You!

cloud.google.com/compute

Martin Gannholm

Navneet Joneja

Google
Developers