

Go: The Cloud Native Language

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This presentation is available at:
<https://github.com/andrealmar/talks>



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COMPUTING FOUNDATION

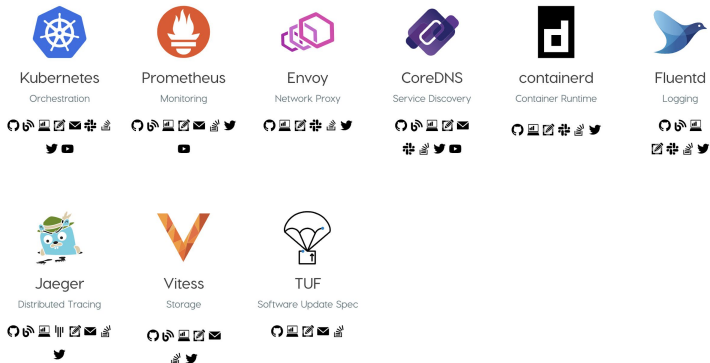
\$whoami

- Site Reliability Engineer / DevOps Engineer
- Speaker
- DevOps BH - Meetup Organizer
- DevOpsDays BH - Organizer
- TDC BH 2019-2020 - Organizer & Technical Committee Member
- CNCF BH - Organizer

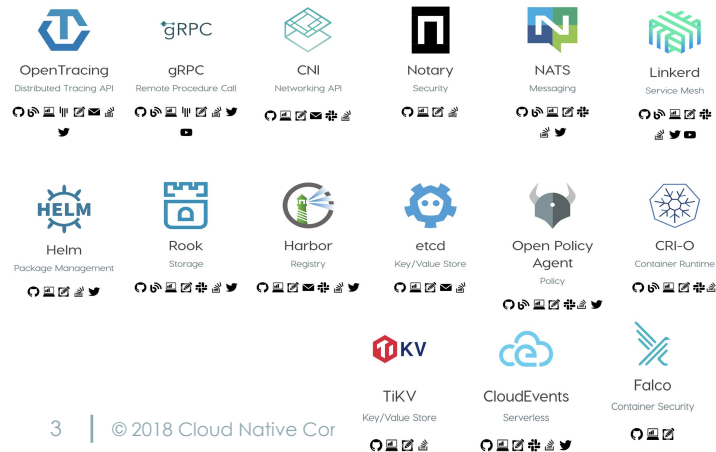


Projects

Graduated



Incubating



Members

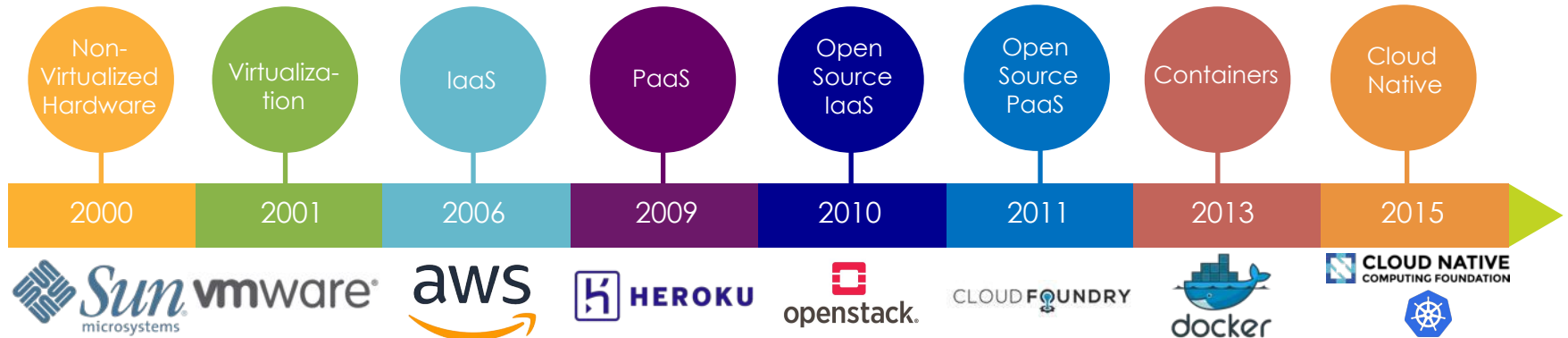


From Virtualization to Cloud Native



kubernetes

- Cloud native computing uses an open source software stack to:
 - segment applications into *microservices*,
 - package each part into its own *container*
 - and dynamically *orchestrate* those containers to optimize resource utilization




App Definition and Development


Orchestration & Management

Runtime

Provisioning



CLOUD NATIVE Landscape
A map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.



l.cncf.io

Special

Database

Streaming & Messaging

Application Definition & Image Build

Continuous Integration & Delivery

Platform

Observability and Analysis

Scheduling & Orchestration

Coordination & Service Discovery

Remote Procedure Call

Service Proxy

API Gateway

Service Mesh

Cloud Native Storage

Container Runtime

Cloud Native Network

Automation & Configuration

Container Registry

Security & Compliance

Key Management

Kubernetes Certified Service Provider

Kubernetes Training Partner

Certified Kubernetes - Distribution

Certified Kubernetes - Hosted

Certified Kubernetes - Installer

PaaS/Container Service

Monitoring

Logging

Tracing

Chaos Engineering

Serverless

Members

Cloud Native



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Cloud Native

The MODERN WAY to develop software



Cloud Native

It is NOT Lift & Shift



Cloud Native Apps characteristics

Always Available

Elasticity

Redundancy

Automation

Modular Design

Stateless



Go (Golang)



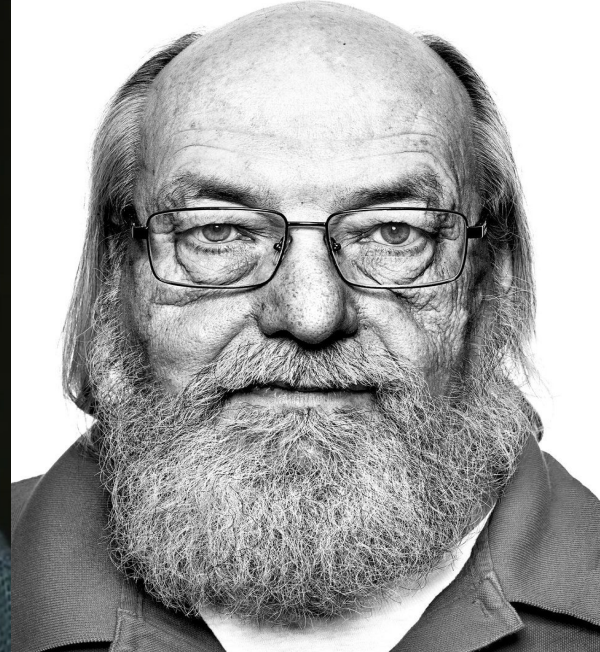
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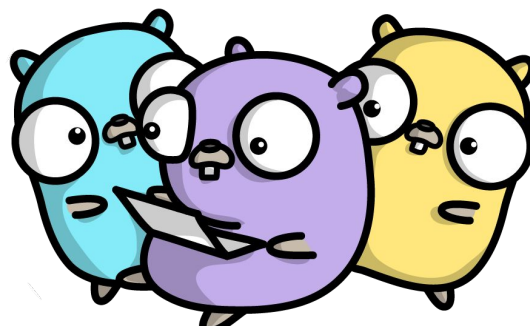
Robert Griesemer



Rob Pike



Ken Thompson



Simplicity

Programming Happiness

Compilation (Fast & Cross)

Standard Library

Garbage Collection





Derek Collison 

@derekcollison



Prediction: Go will become the dominant language for systems work in IaaS, Orchestration, and PaaS in 24 months. [#golang](#)

11:00 AM · Sep 11, 2012 · [Twitter Web Client](#)

115 Retweets **128** Likes



CNCF Graduated Projects

Graduated



Kubernetes

Orchestration



Prometheus

Monitoring



Envoy

Network Proxy



CoreDNS

Service Discovery



containerd

Container Runtime



Fluentd

Logging



Jaeger

Distributed Tracing



Vitess

Storage



TUF

Software Update Spec



CNCF Incubated Projects

Incubating



OpenTracing

Distributed Tracing API



gRPC

Remote Procedure Call



CNI

Networking API



Notary

Security



NATS

Messaging



Linkerd

Service Mesh



Helm

Package Management



Rook

Storage



Harbor

Registry



etcd

Key/Value Store



Open Policy Agent

Policy



CRI-O

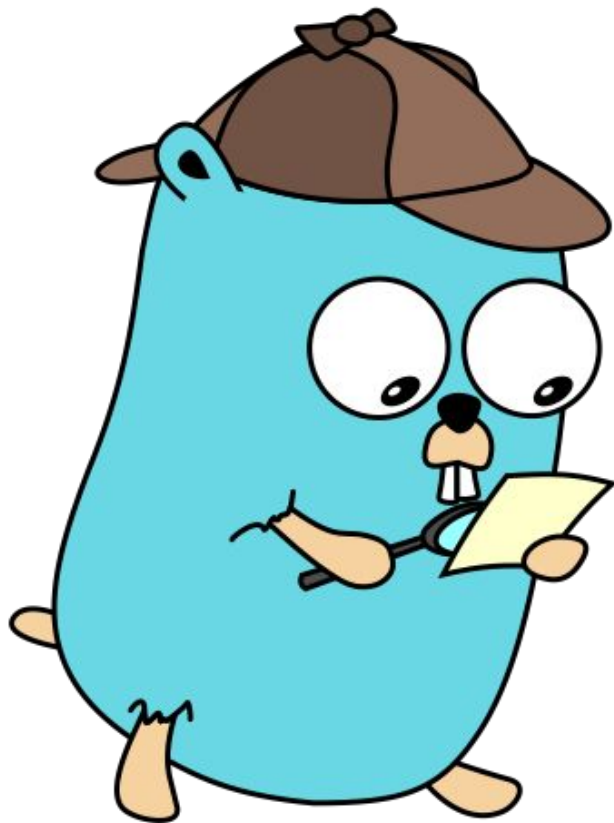
Container Runtime



Go is FAST!!!



Code Style and Linting



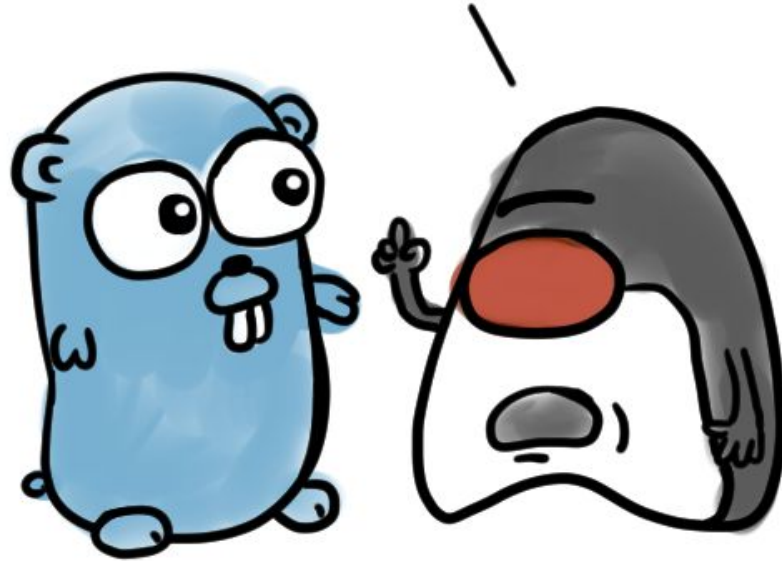
Doesn't need a runtime



JAVA the Hutt



I had my time, believe me.
Sooner or later they will
call you slow, verbose,
old fashioned...



Key Takeaways

Your Apps & Infrastructure MUST be:

- Horizontally scalable
- No single point of failure
- Resilient and self-healing
- Minimal operator overhead
- Decoupled from the underlying platform



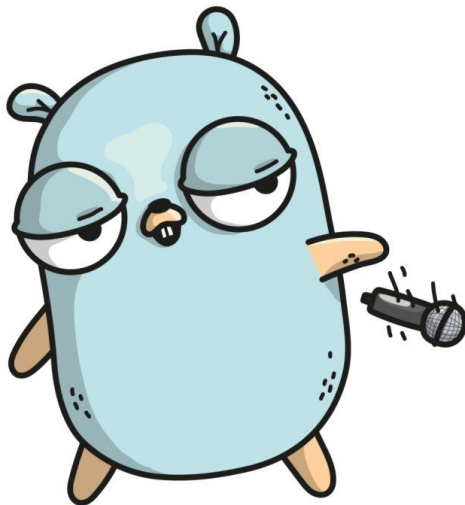
Key Takeaways

You are now a SOFTWARE ENGINEER



Key Takeaways

Please learn some Go



Please follow up with Andre Almar

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@andrealmar on Instagram

andrealmar.com

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