

BETRIEB VON CLOUD NATIVE APPS BEI EINEM CLOUD-PROVIDER

NILS ENGELBRECHT

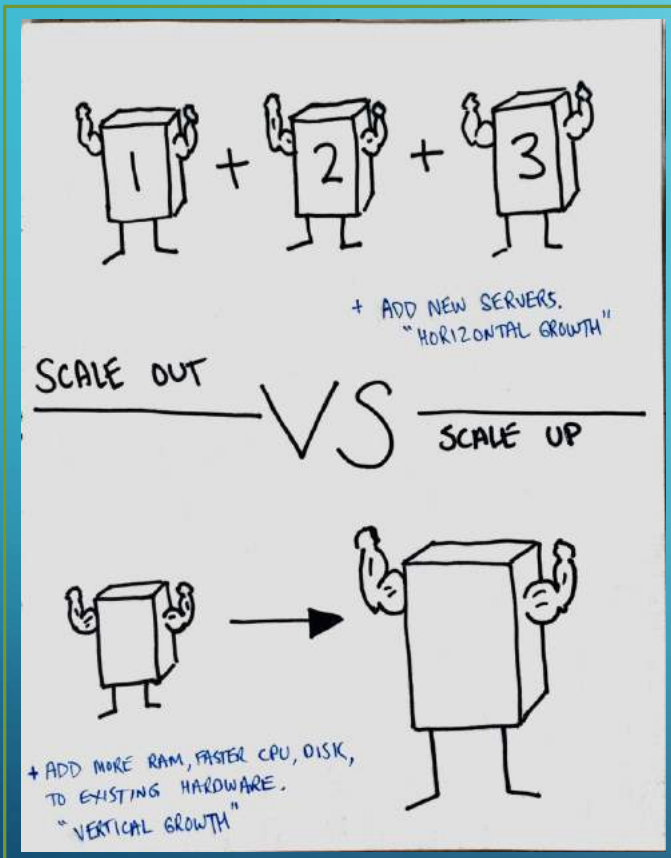
15.06.2018



AGENDA

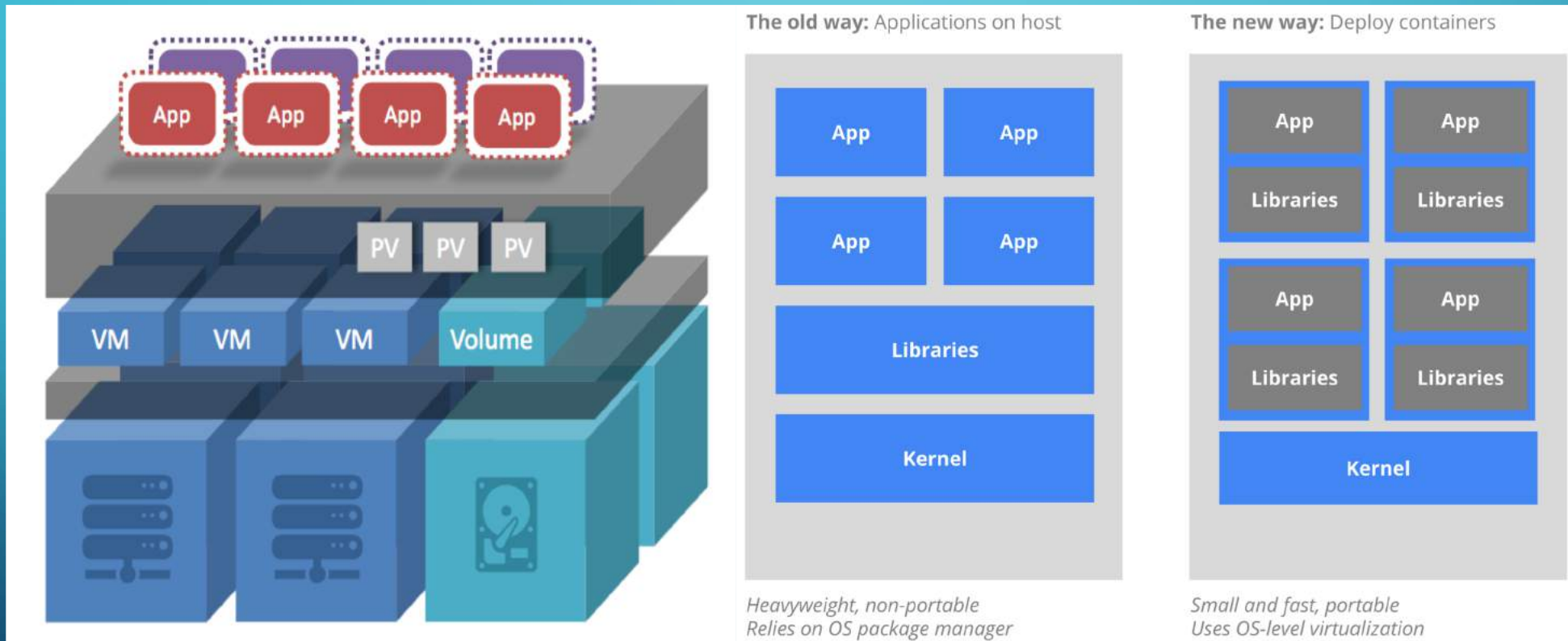
- Motivation (5 min)
- Grundlagen (15 min)
 - Containerisierung
 - Kubernetes
- Exemplarischer Betrieb einer Anwendung (20 - 30 min)
 - Lokal
 - AWS Cloud
- Alternativen (5 min)
- Fazit & Ausblick (5 min)

MOTIVATION



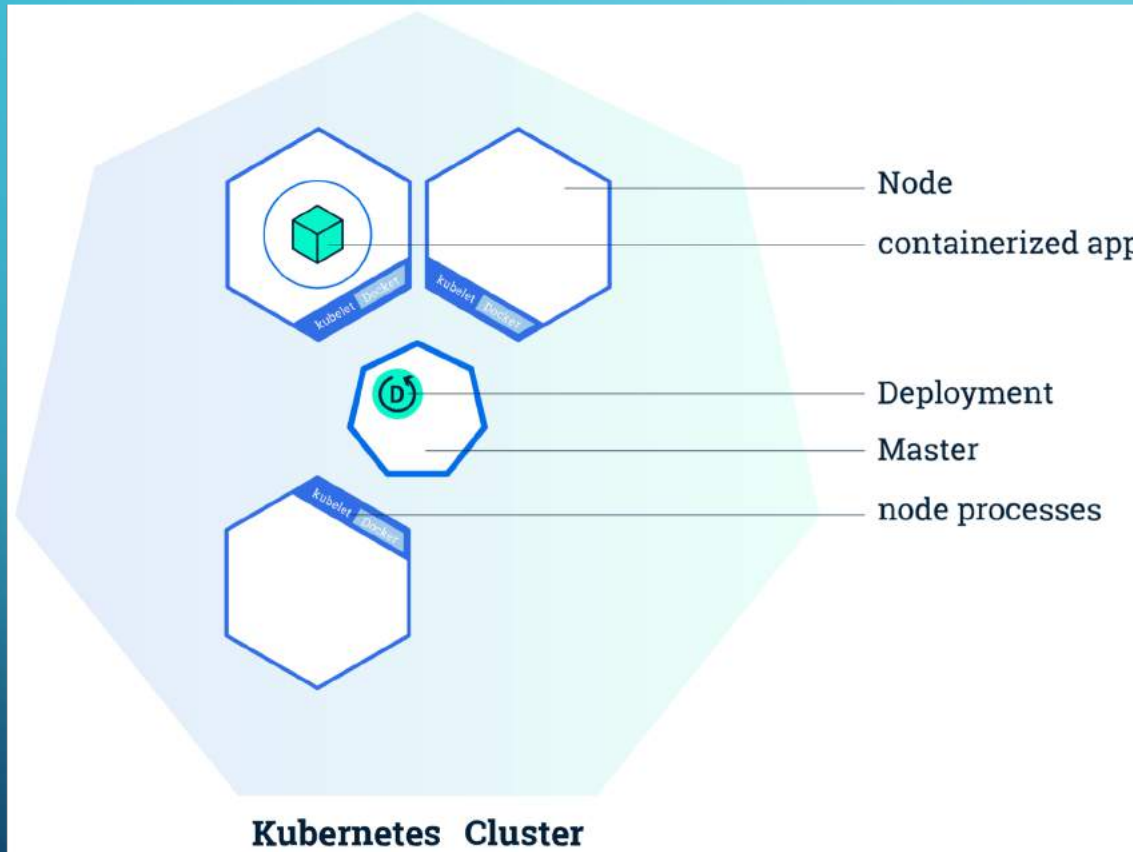
The diagram is titled "4.0" in large blue letters. It features various icons representing Industry 4.0: a factory, a robotic arm, a laptop, a server tower, a truck, a shopping cart, and people. Binary code (0s and 1s) is scattered throughout the diagram. Below the diagram, there is a teal square with the text "N26" and the text "The Mobile Bank". To the right of this is the word "NETFLIX" in large red letters, followed by three dots "...".

GRUNDLAGEN CONTAINERISIERUNG



GRUNDLAGEN

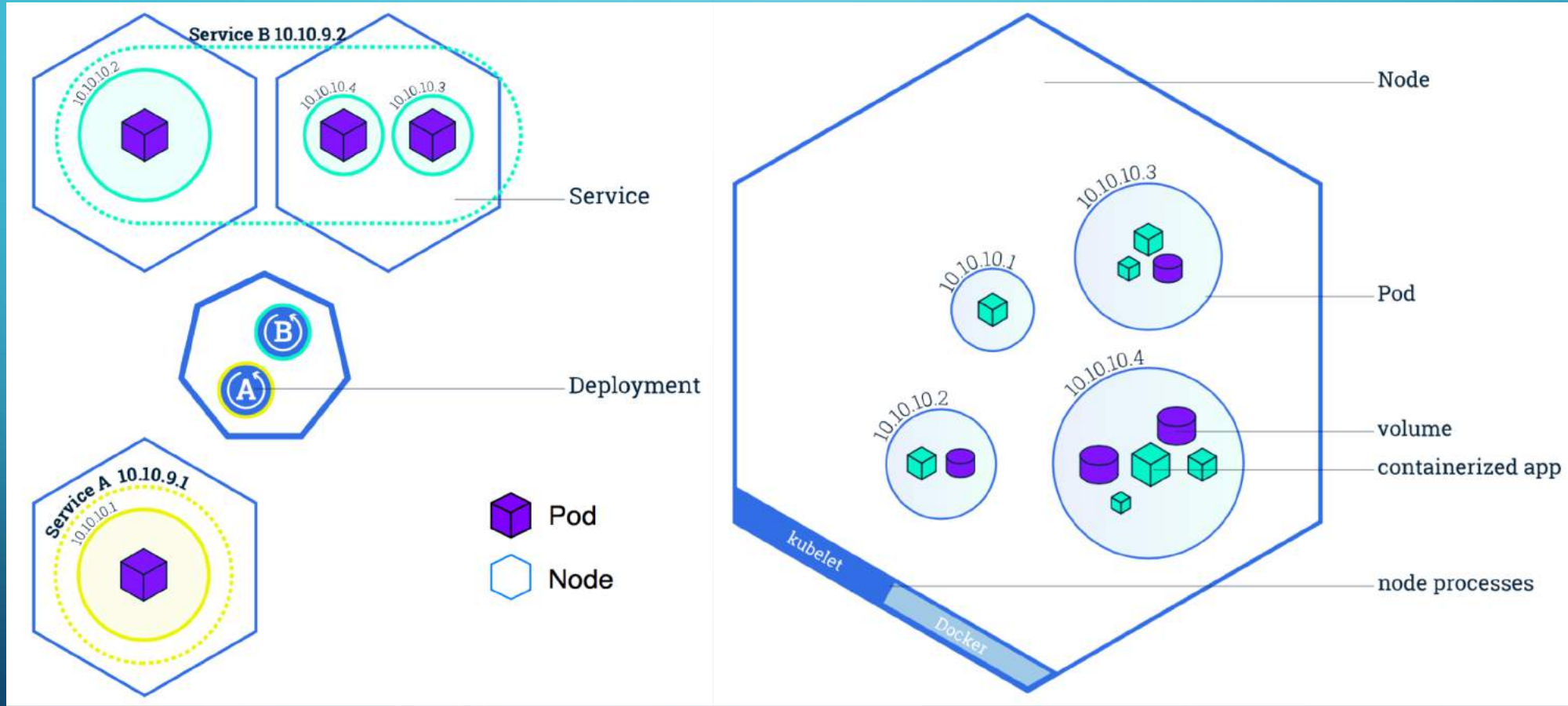
KUBERNETES



- Kubernetes = K8s
- Container-Orchestrierung
- 15 Jahre Google Entwicklung & Betrieb
- Open Source
- Basic Objects:
 - Pod
 - Service
 - Volume
 - Namespace

GRUNDLAGEN

KUBERNETES



EXEMPLARISCHER BETRIEB EINER ANWENDUNG

- Ziel: Anwendung erreichbar via Browser (und iOS App)
- Notwendig:
 - DB (mongodb)
 - Backend (Java Spring Boot)
 - Frontend (Angular)

EXEMPLARISCHER BETRIEB EINER ANWENDUNG

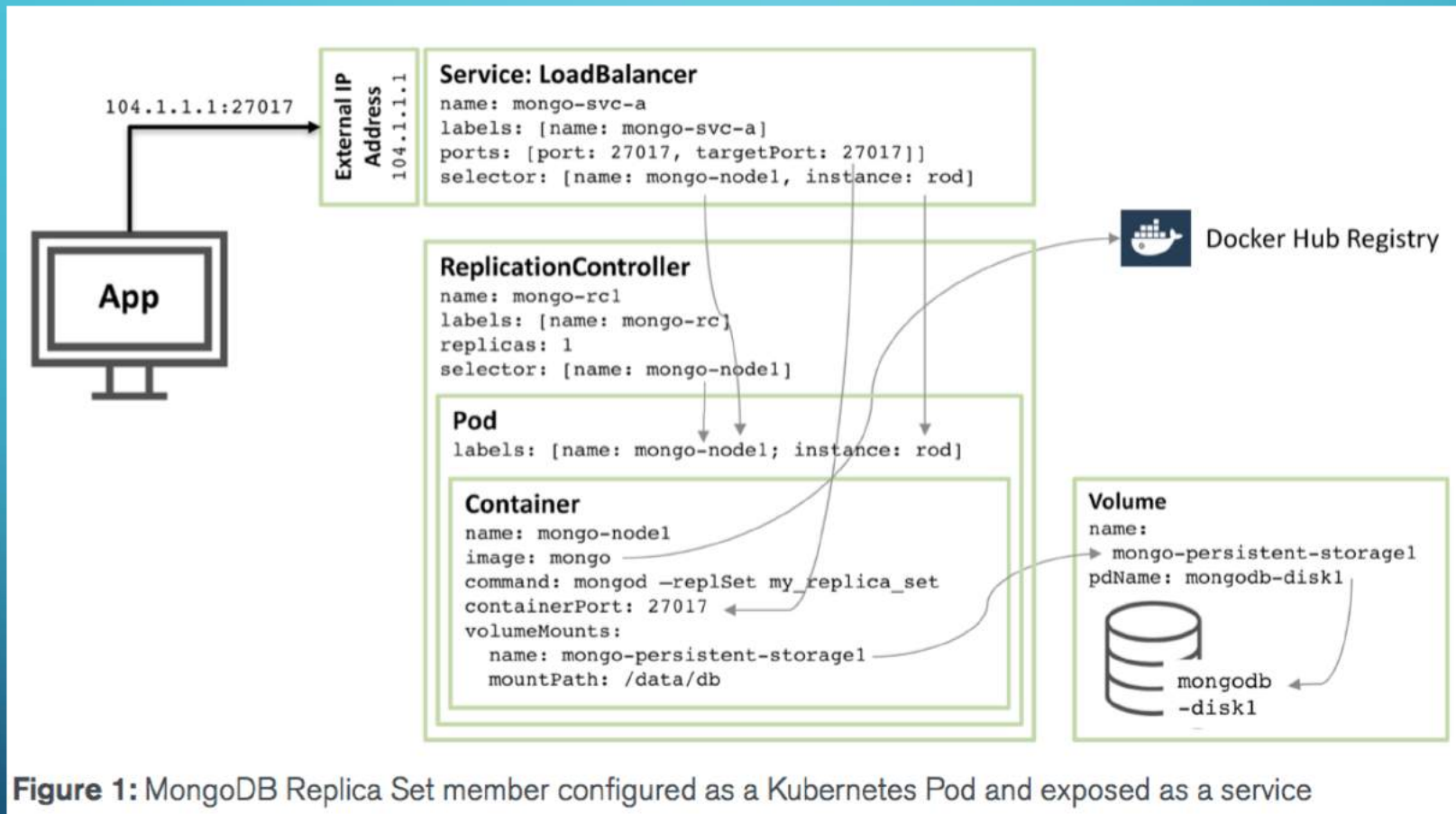
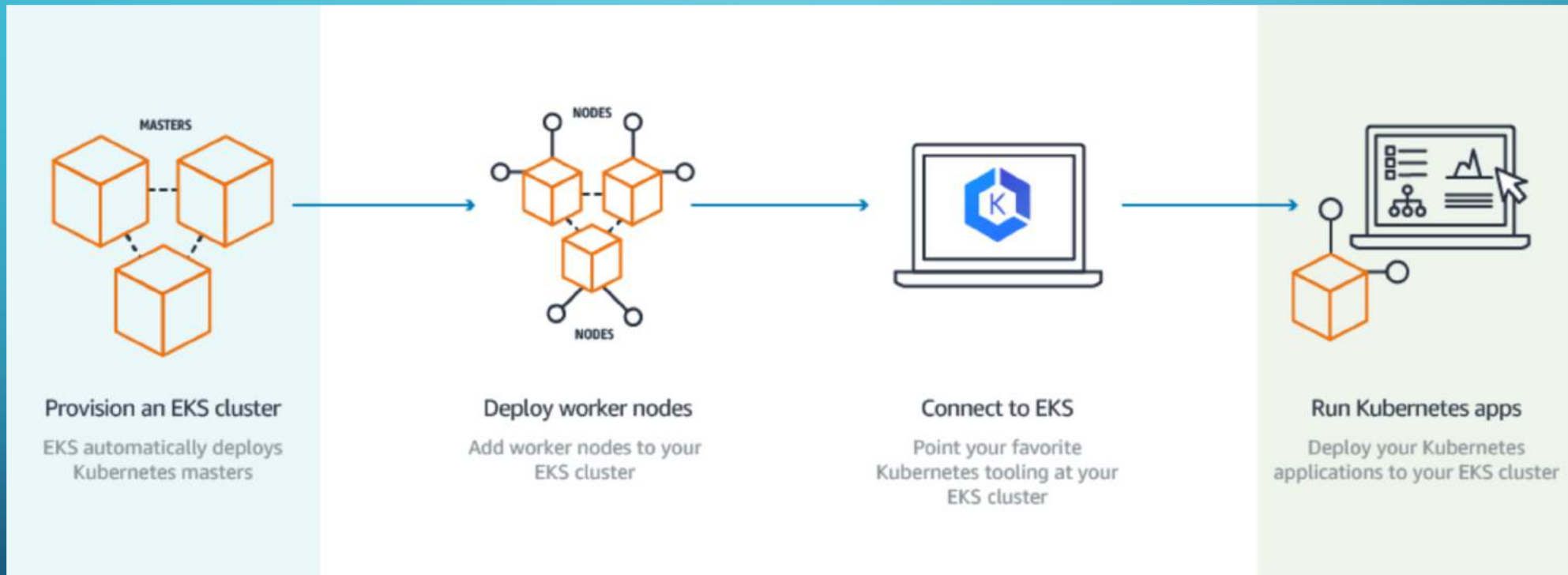


Figure 1: MongoDB Replica Set member configured as a Kubernetes Pod and exposed as a service

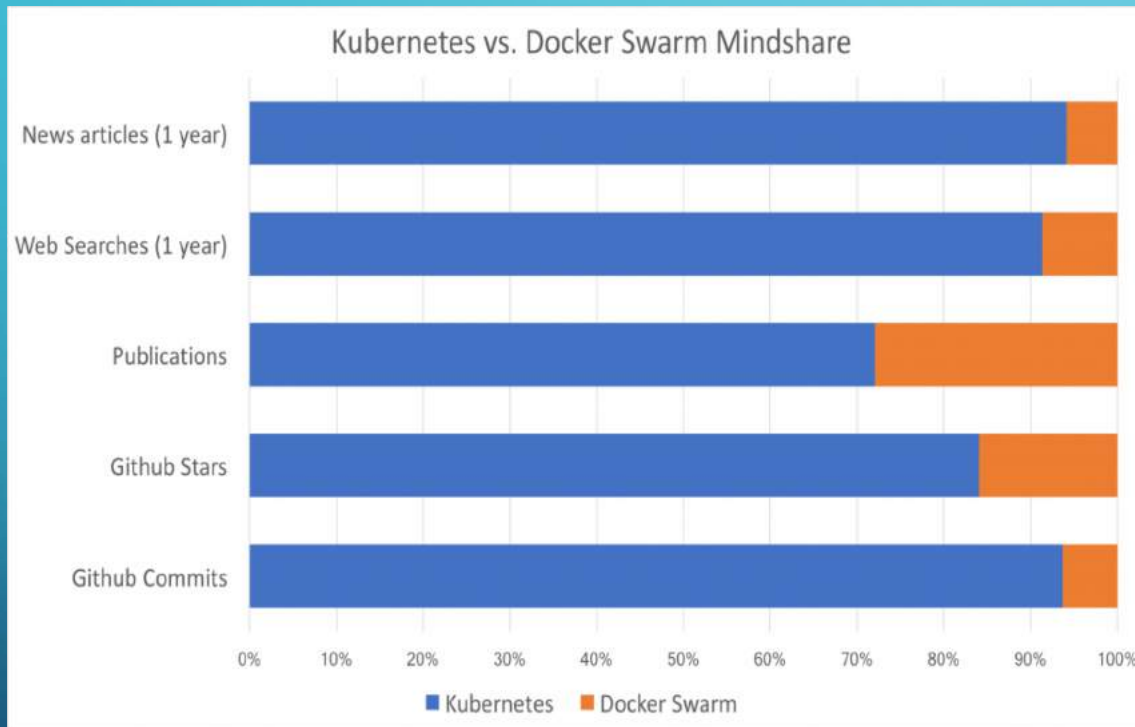
ALTERNATIVEN

AMAZON ELASTIC CONTAINER SERVICE FOR KUBERNETES (EKS)



ALTERNATIVEN

.. ZU KUBERNETES



- Direkter Betrieb EC2 (AWS)
- Vergleichbare Alternativen:
 - **Docker Swarm**
 - OpenShift (Red Hat)
 - Apache Mesos

FAZIT & AUSBLICK

- Installation & Betrieb von K8s sehr komplex
 - Dokumentation (zu) umfangreich: <http://www.kubernetes.io/>
 - Skalierbar & hochverfügbar
 - Community
-
- Micro-Service Architektur im Trend
 - Internet of Things & Industrie 4.0

The slide features a blue gradient background with white circuit-like lines in the corners. The main text is centered and reads:

**VIELEN DANK FÜR DIE AUFMERKSAMKEIT!
FRAGEN?**

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QUELLEN

<https://kubernetes.io/docs/>

<https://www.mongodb.com/blog/post/running-mongodb-as-a-microservice-with-docker-and-kubernetes>

<https://mohammaddarab.com/sql-server-scale-uo-vs-scale/>

<https://www.gernbotschaft.com/tag/industrie-4-0/>

<http://www.stickpng.com/img/icons-logos-emojis/tech-companies/netflix-logo>

<https://aws.amazon.com/de/eks>