Expanding to Verticals, How Kubernetes Accelerates Cloud-Native Movement in Various Industries
HUAWEI CLOUD, Grow with Cloud Native

- **Join and contribute to Kubernetes**
  - 2015 Mar

- **As a founding member to co sponsor CNCF**
  - 2015 Dec

- **K8s based container services CCE**
  - 2016 Aug

- **world's first K8s certified service provider (KCSP)**
  - 2017 Sept

- **CCE as world's first certified K8s service**
  - 2017 Nov

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**CloudNativeLives**

- **Webinar**
  - 16

- **Audience**
  - 40000+

**66 Original technical articles**

- **Audience**
  - 3000+

- **66 talks in summits or meetups**

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**Contributions**

- Federation (Multi-clusters)
- Advanced scheduling
- IPVS LB
- Snapshot runtime tools
- Image tools
- Runtime spec
- Image spec
- Firmament
- Container Policy
- CNI-Genie

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**CNCF**

- PR 3000+
- No3 in CNCF

- 12 Maintainers
All Industries Benefit from Container Technologies

- Resource Utilization increases 50%
- Scales in seconds
- Provide consistency and portability
CCI: The First Kubernetes-based Serverless Container Services

- Provide native Kubernetes APIs for different AI training frameworks
- Uncompromised security and high performance container runtime from Kata and Docker
- Hardware acceleration solution contains: Bare metal NUMA + AI chipsets + IB high-speed network card
HUAWEI CLOUD helps Genomic Sequencing leverage Kubernetes

- Minimized resource consumption, high density computing, low operation and maintenance cost
- Second-level scaling, no waiting, 70% time-consuming reduction
- Fast migration, free installation and one-click rebuild, days to minutes

GeneContainerServices
Kubernetes clusters
Docker containers

Cost saving
Time saving
Effort saving

Bwa-mapping → Merge-bam → Merge-sam → Mark-dup
Kubernetes 帮助公有云将 AI 能力推到边缘
Extending AI to edge with Kubernetes

Devices
- Device Control
- Data Connection

Edge
- Intelligent Edge Fabric Edge
  - AI@Edge
  - PaaS@Edge
  - Serverless@Edge
- Lightweight OS/container engine
- Edge Hardware
  1. Huawei Intelligent Small Station Atlas 500 (AI Chipset), 2288 server, AR gateway
  2. Compatible with a wide range of third-party hardware (x86, ARM)

华为云
- Intelligent Edge Fabric Service
  - Workload management & algorithm pushing
  - Edge node management

Enterprise Intelligent
- EI Framework: ML/DL
- EI Visual Cognition
- EI Speech Semantics
- EI Big Data

Heterogeneous computing resources

云边协同

安平场景

工业场景

车联网场景
Build Vertical Open Ecosystem with Kubernetes

KubeGene
Website: kubegene.io
Github: github.com/kubegene/kubegene
Project Status: Preview

KubeEdge
Website: kubeedge.io
Github: github.com/kubeedge/kubeedge
Project Status: Preview