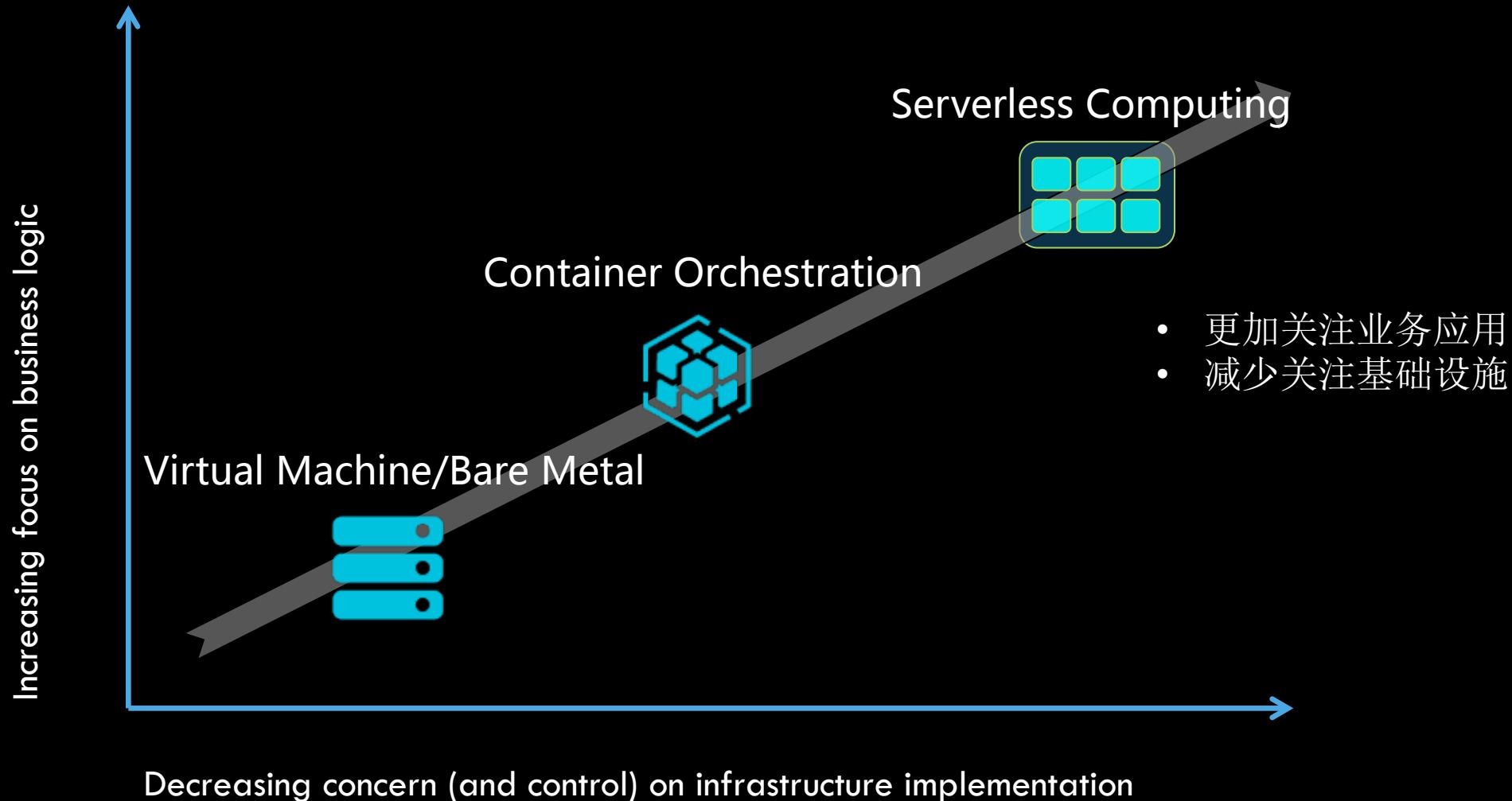


Serverless Kubernetes: Container in Cloud Native Way

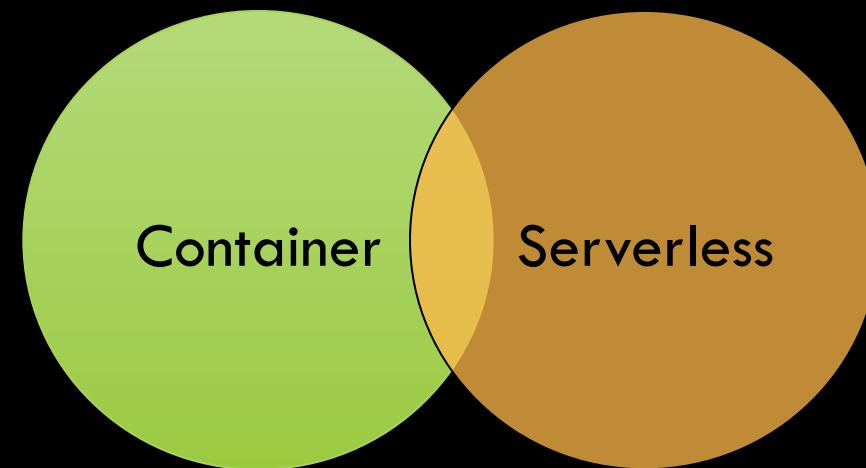
阿里云容器服务团队 张维

KUBECON CHINA 2018

应用部署演化 : Going native with cloud



Why Serverless + Container ?



- 执行部署一致性
- 快速交付
- 敏捷化
- 免运维
- 高弹性
- 按需付费

A short history of Serverless Container

产品名称	厂商	发布日期	Kubernetes API支持
Hyper.sh	 HYPER.SH	2016.11	Y(2018.5支持)
Azure Container Instances		2017.7	N
AWS Fargate		2017.11	计划2018年支持
Huawei CCI		2018.2	Y
Alibaba Cloud Serverless Kubernetes		2018.5	Y

Serverless Kubernetes vs. 传统Kubernetes集群

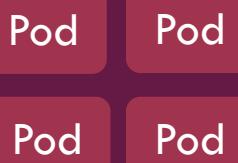
经典Kubernetes容器服务
- 按照集群节点数量付费

Serverless Kubernetes容器服务
- 按照应用使用资源付费
- 无需管理服务器节点

经典Kubernetes集群

容器调度与编排

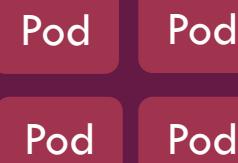
ECS



ECS

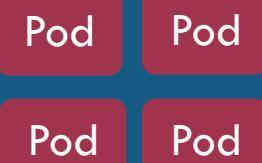


ECS

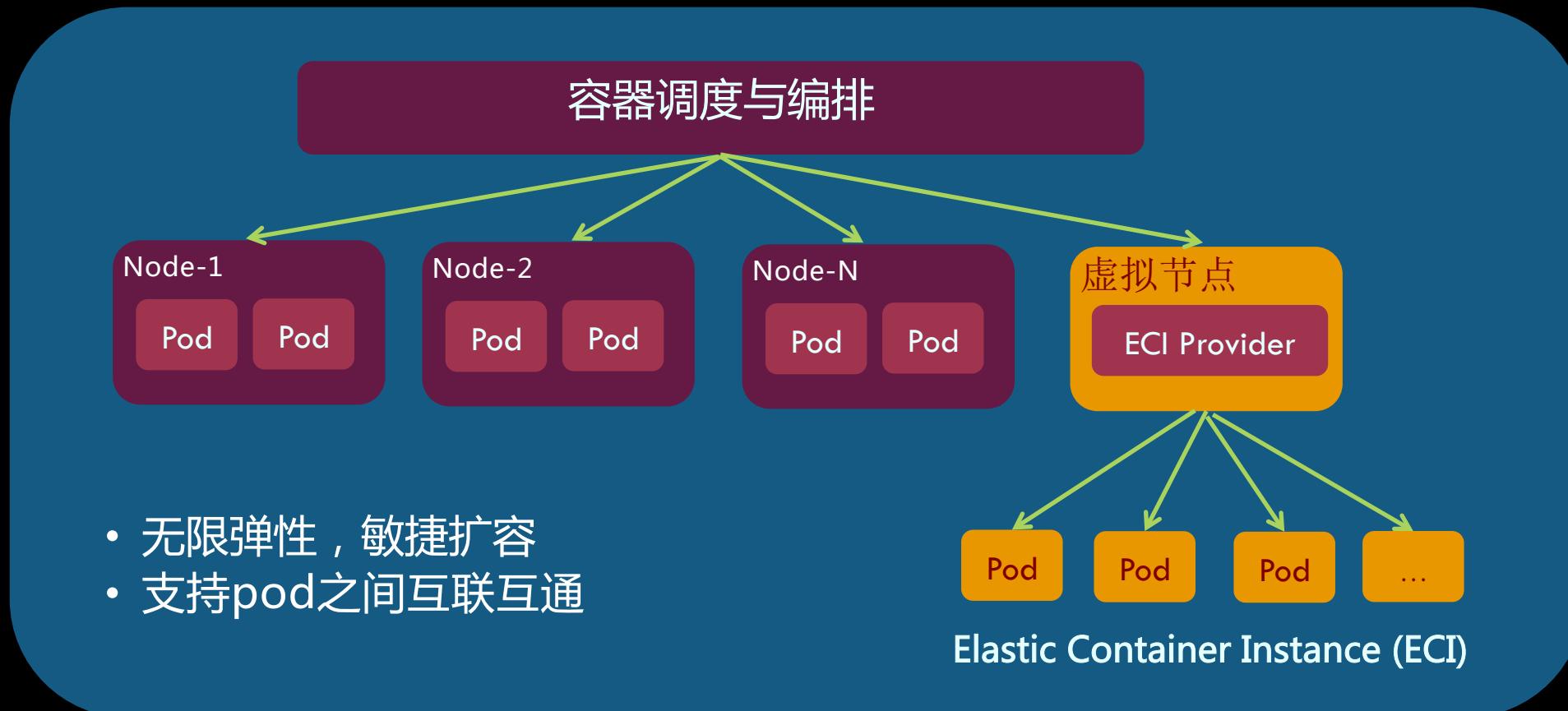


容器调度与编排

Serverless Kubernetes集群

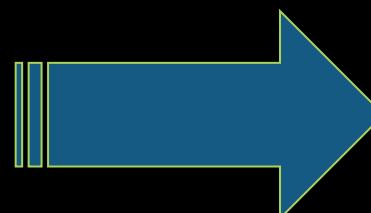


Kubernetes + Serverless addon混合集群



无需管理服务器 Without managing servers

- 容量规划：节点数量选择和扩容
- 规格实例选择、配置安全组
- 配置复杂的管理工具
- 配置网络
- 操作系统选择
- 系统软件升级、安全补丁更新
- 系统监控和长期维护

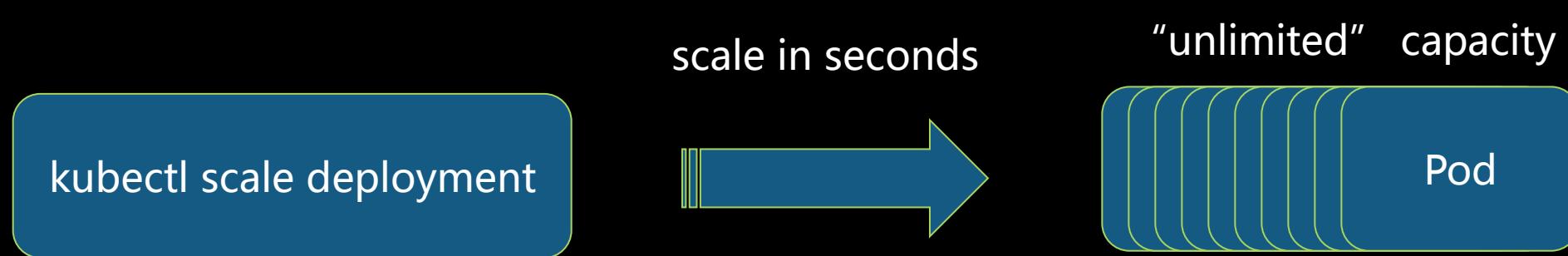


用户只需关注容器应用

- Zero server ops
- Focus on application

极致弹性 Scale your pods elastically

- 直接基于pod扩容，而不是node，不再受限于node数量
- 无需预留计算容量



按需付费 On demand pricing

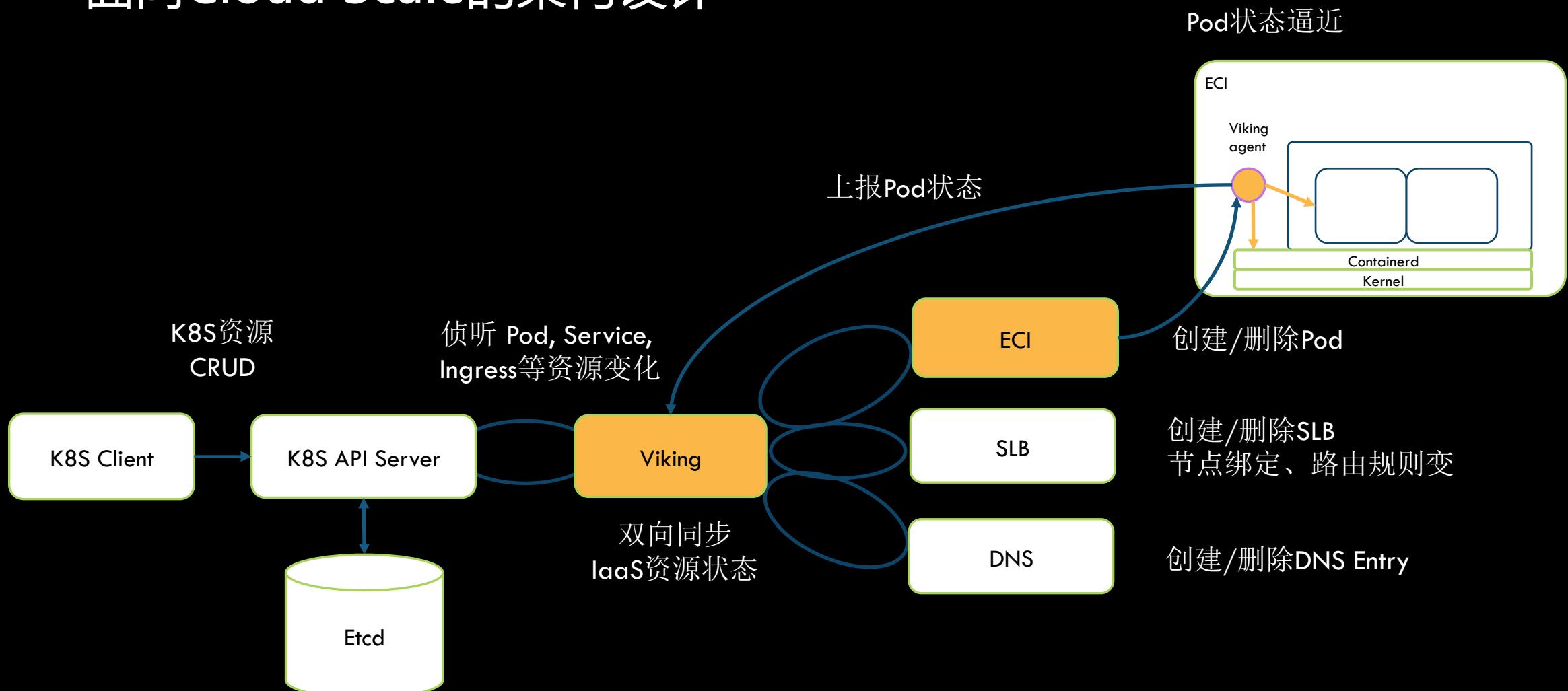
- 降低服务运行成本：无需再为闲置的计算资源付费 (No Cost when Idle)
- 灵活选择容器资源规格 (Fine-grained cost model)
- 提高资源利用率

CPU (vCPU)	Memory (GB)
1	Min. 2 and Max. 8GB, in 1GB increments
2	Min. 4 and Max. 16GB, in 1GB increments
4	Min. 8 and Max. 32GB, in 1GB increments
6	Min. 12 and Max. 48GB, in 1GB increments
8	Min. 16 and Max. 64GB, in 1GB increments

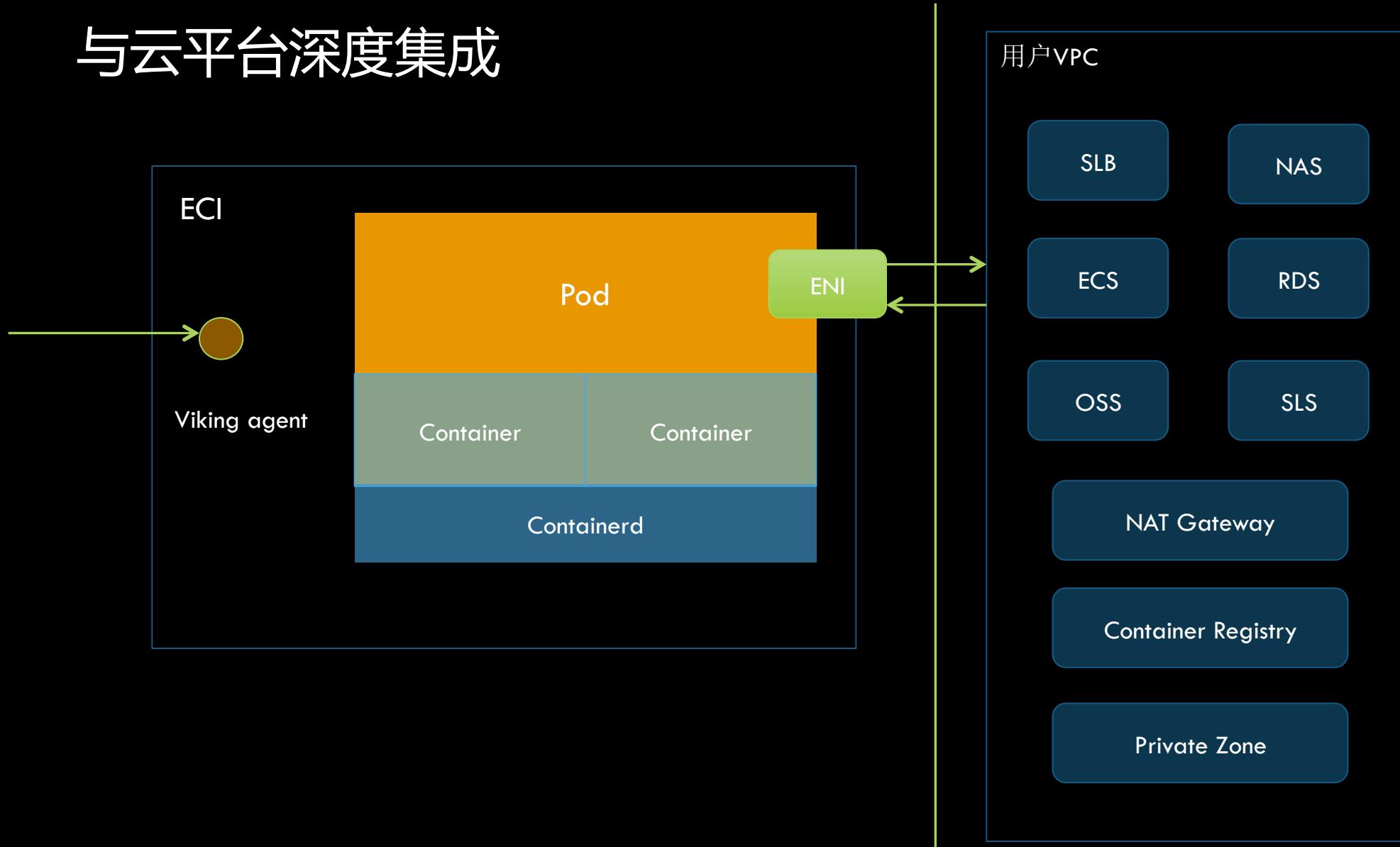
社区兼容 Kubernetes compatible

- **Workload**: Deployment, StatefulSet, Job, Bare Pod
- **Pod**: Restart Policies, VolumeMounts, Env, InitContainers , Heath check ...
- **Service**: LoadBalancer, Headless, Service Discovery(PrivateZone)
- **Ingress**: Aliyun 7-Layer LoadBalancer
- **Volumes**: emptyDir, NFS, SecretVolume, ConfigMapVolume
- **Secret, ConfigMap**
- **ServiceAccount**
- **Logs, Exec, Attach, Top**
- **Scaling, HPA**
- **Helm**

面向Cloud Scale的架构设计



与云平台深度集成



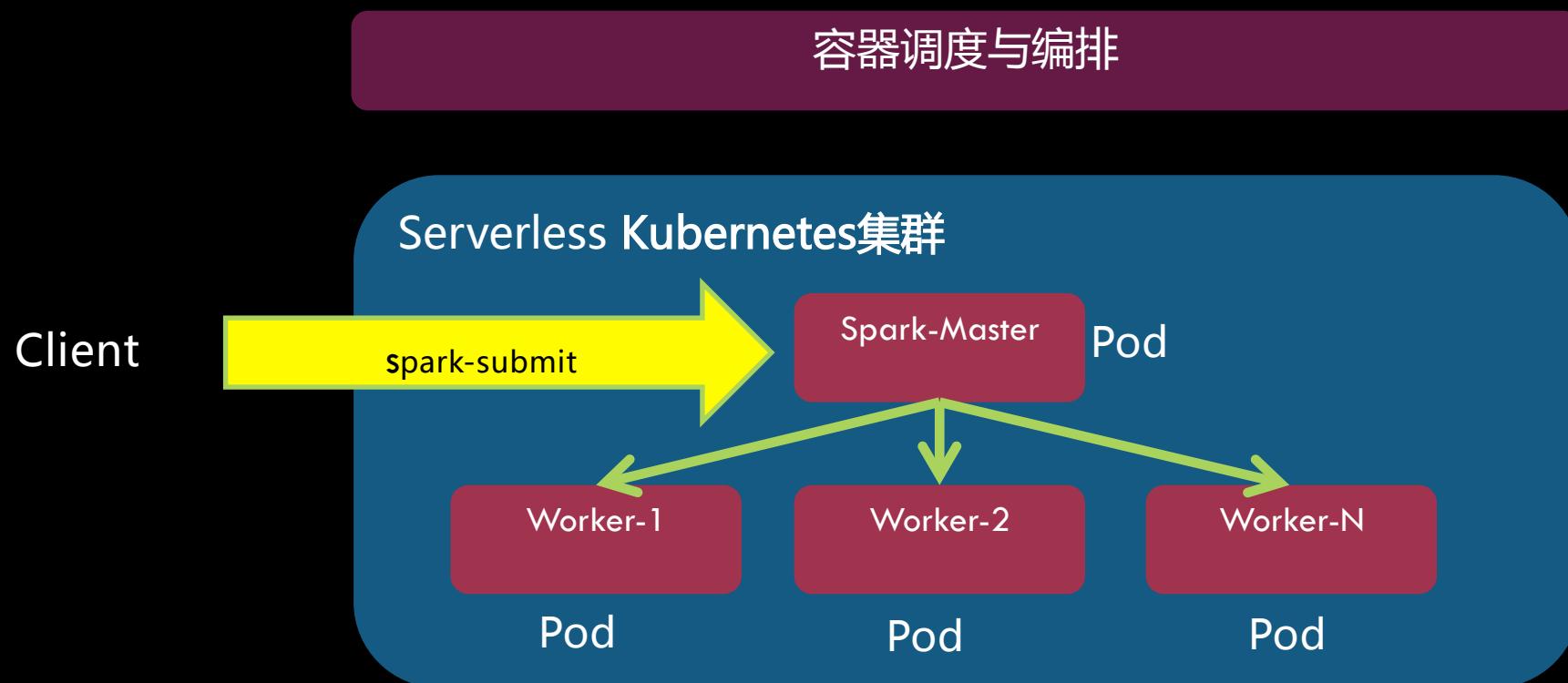
使用场景 Use cases

- Multimedia processing
- IoT sensor messages processing
- Stream processing at scale
- Chat bots
- Batch jobs or scheduled tasks
- HTTP REST APIs and web application
- Mobile backends
- Continuous Integration Pipeline
- Data Analytics
- ...



Demo: 基于Serverless Kubernetes的Spark数据处理

- 一键部署Spark集群
- 无需管理服务器节点
- 灵活弹性，无限扩容



开始使用 Get Started

- 现开放区域：**杭州、上海、美西**，公测期间免费，欢迎试用
- 计划12月份正式对全体用户开放，开始商业化
- 控制台：<https://cs.console.aliyun.com>
- 快速入门指南和Demo：<https://yq.aliyun.com/articles/591115>
- 示例参考：<https://github.com/AliyunContainerService/serverless-k8s-examples>



Thank you!