



QCon 全球软件开发大会
INTERNATIONAL SOFTWARE
DEVELOPMENT CONFERENCE

BEIJING 2018

多云应用管理平台架构设计

演讲者 / 迟连义

主办方 **Geekbang** **InfoQ**
极客邦科技

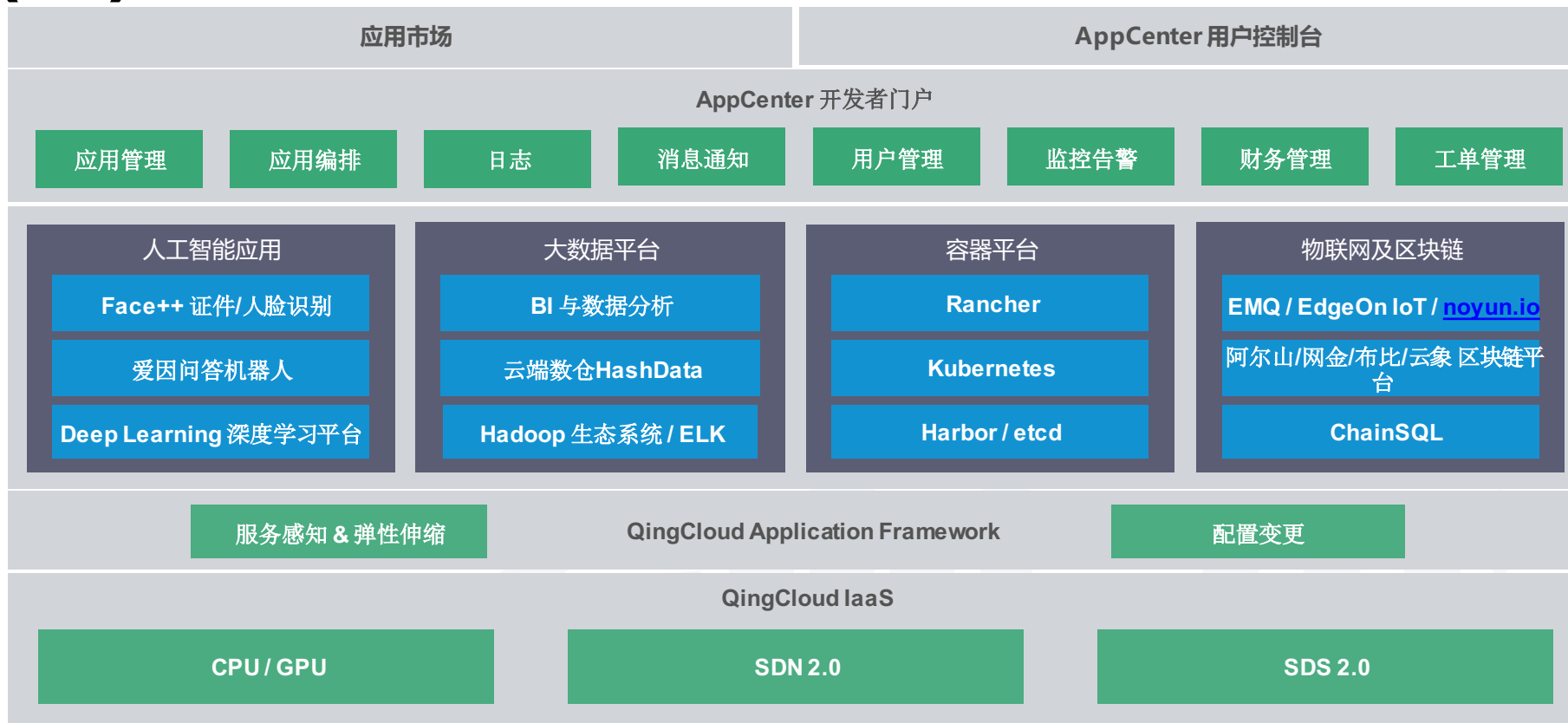
大纲

- 背景
- 功能
- 架构
- 应用场景

背景

- 多云是趋势
- 应用程序管理
- 建立生态

(硬)背景



OPENPITRIX

多云 + 应用 + 开源

Run any **application** at any **scale** on any **infrastructure**

功能

多云平台支持

AWS、Azure、Kubernetes、
QingCloud、OpenStack等

01

02

多应用类型支持

传统应用、微服务应用、
Severless 应用

OPENP!TRIX

可商业运营

计量计费、统计、报表

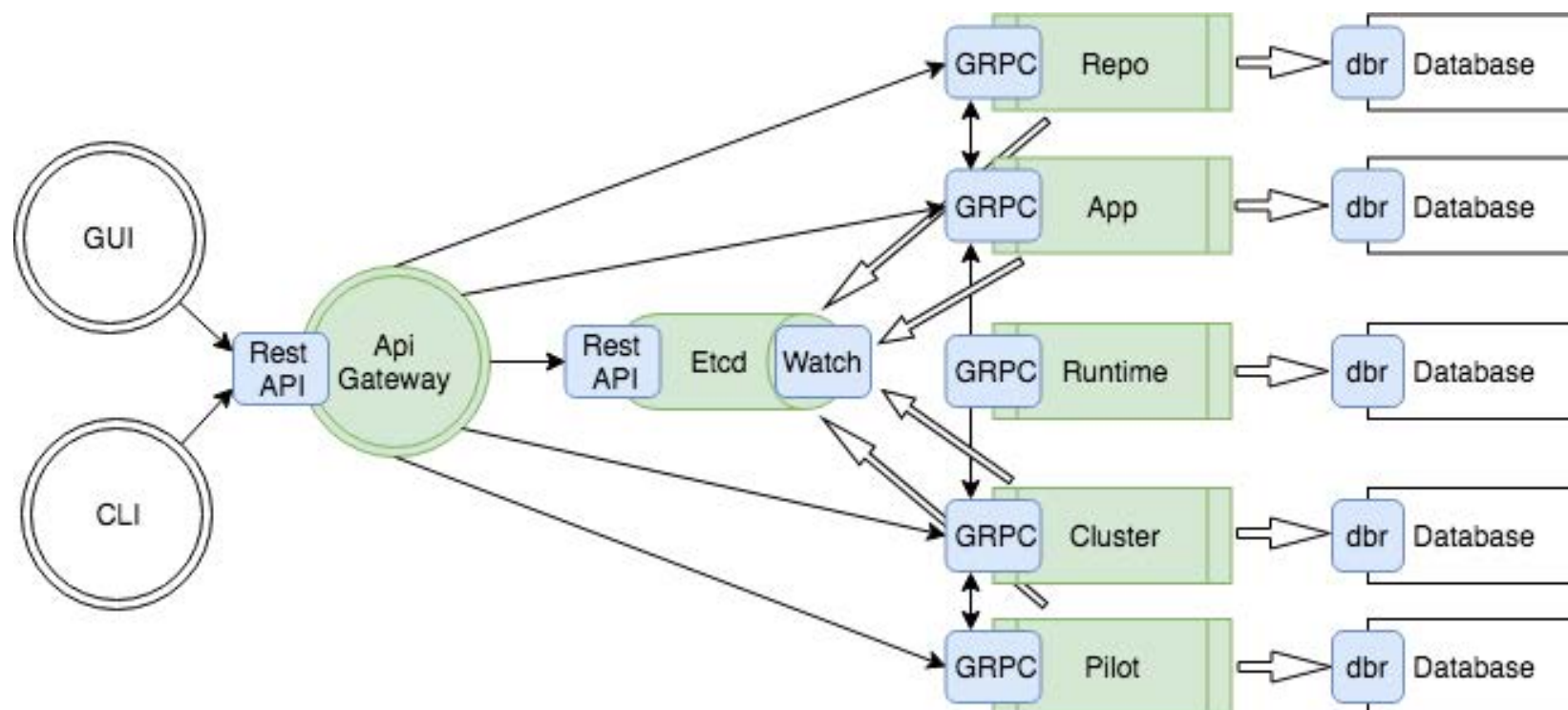
04

03

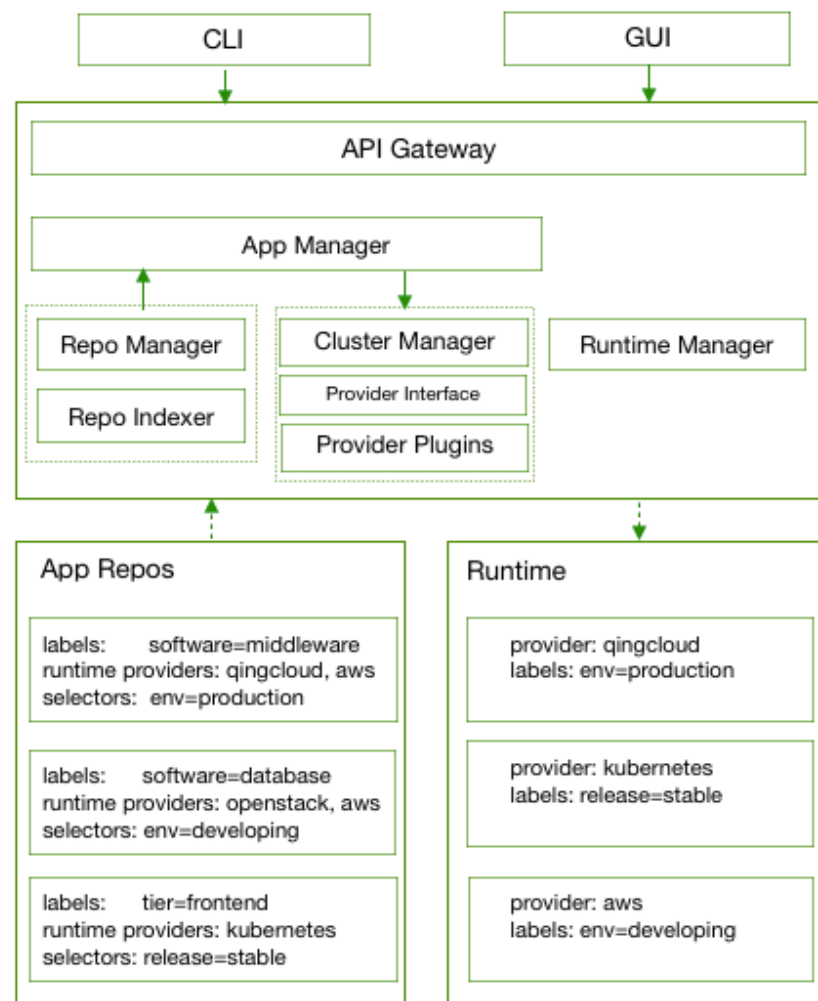
可扩展、插拔

包括云平台支持、应用类型支持

微服务架构



架构概览



Application Management Platform on Multi-Cloud Environment.

🔍 Search apps in Openpitrix...

CATEGORIES

- Software Infrastructure
- Business Software
- Development
- Operation and Maintenance
- Security
- Analysis
- Uncategories

Newest

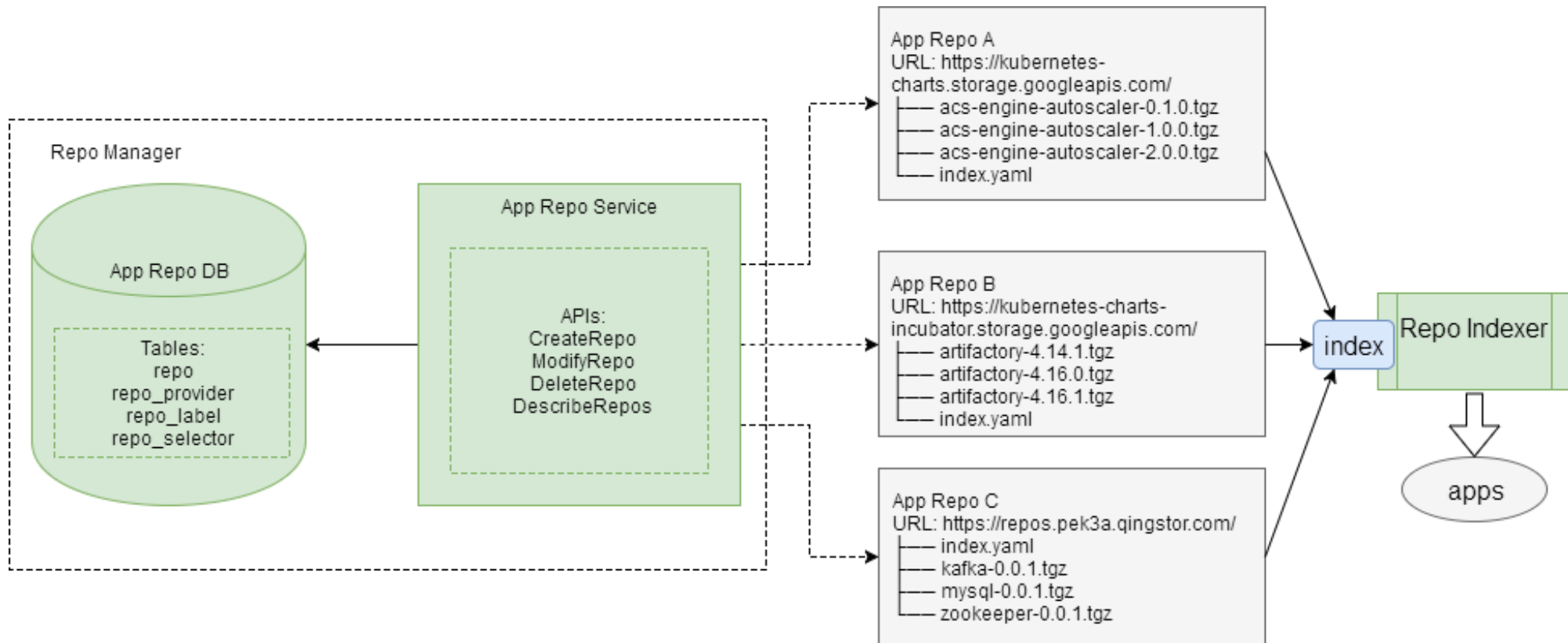
 Redis Cloud Enterprise-Class Redis for Developers	 ObjectRocket for MongoDB High-Performance MongoDB with Fanatical Support™ and DBAs	 JawsDB Maria MariaDB, the open source drop-in replacement for MySQL now available on Heroku
---	--	---

Software Infrastructure

more...

 Redis Cloud Enterprise-Class Redis for	 Storj Distributed object storage	 Treasure Data Big Data Hadoop Analytics
 Heroku Redis Reliable and powerful Redis	 Heroku Postgres Reliable and powerful	 openredis Dependable Redis Hosting.

Repo 子服务







Repos

🔍 Search App ID or Keywords

 **Create**

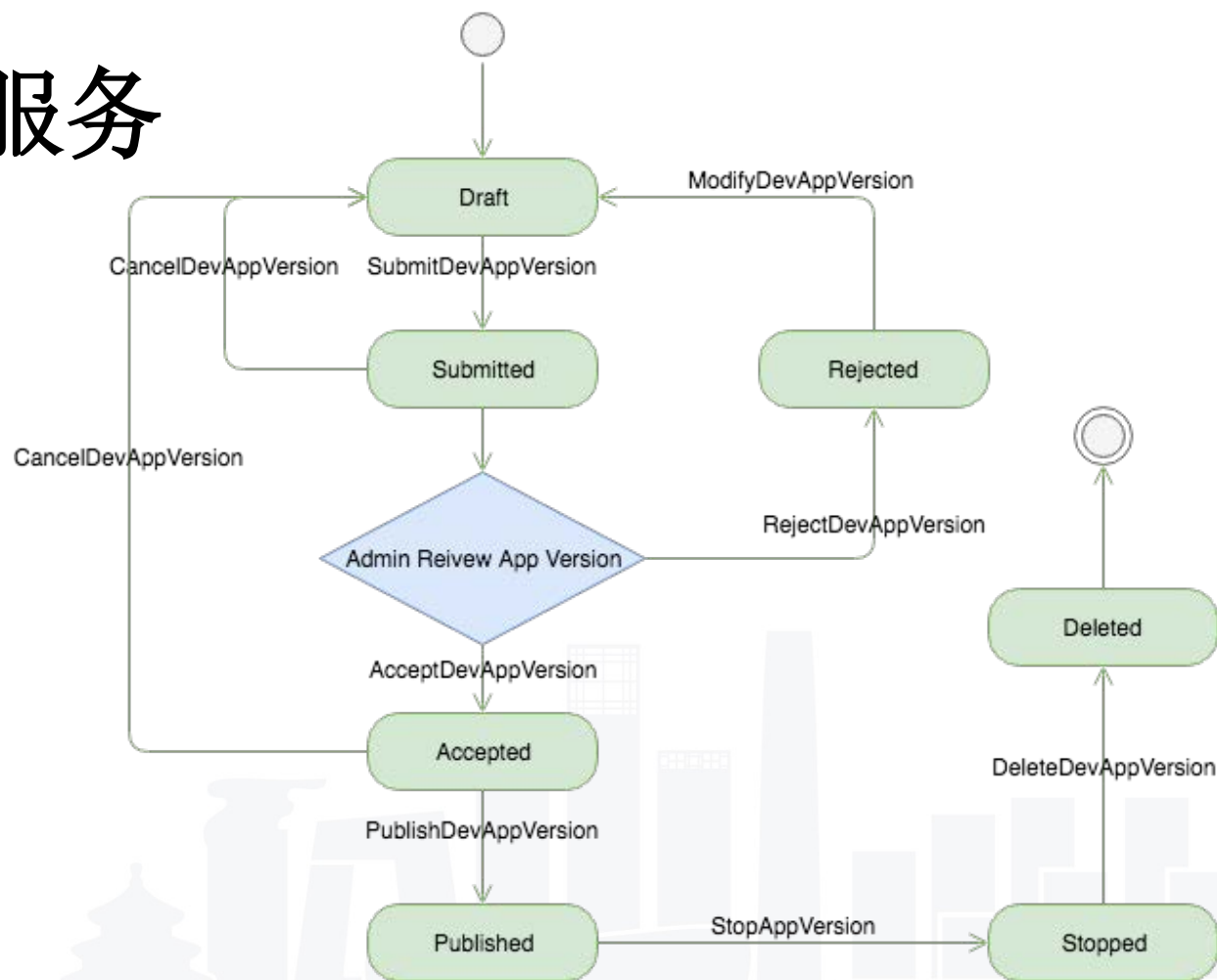
Public Repos (2)

<h4>QingCloud Pek2 Devops Apps</h4> <p>Support multiple clouds such as AWS, Azure, Kubernetes, QingCloud, OpenStack, VMWare and so on.</p> <p>owner Sam CICD true</p>	Runtime Provider  QINGCLOUD	Apps  120	...
<h4>Production Service Catalog</h4> <p>Support multiple clouds such as AWS, Azure, Kubernetes, QingCloud, OpenStack, VMWare and so on.</p> <p>database 5 nodes ha IAM., CICD true apache v2.3.1.42 database 5 nodes ha IAM., CICD true apache v2.3.1.42</p>	Runtime Provider  kubernetes	Apps  31	...

Private Repos (3)

<h4>KubeCloud Testing</h4> <p>Creator: samantha@yunify.com</p> <p>owner Sam CICD true apache v2.3.1.42</p>	Runtime Provider  kubernetes	Apps  431	...
--	---	---	-----


App 子服务



OPENPITRIX Catalog Deployment Management Wayne ▾

Overview Apps Clusters Runtimes Repos Users Roles Categories

Apps Total: 192 Repos: 5 Lasted 2 Weeks: 40



Search App ID or Keywords C Create

App Name	Latest Version	Status	Categories	Visibility	Repo	Developer	Updated At	Actions
Redis Cloud <small>db895e8c-</small>	0.0.1	Active	Devops	Public	Pek3a Testing	Samantha	2018/01/09	...
mLab MongoDB <small>3dfb931f-2314-41</small>	2.1.0	Active	Business Software	Private	Private Zone Staging	Ethan	2018/01/09	...
JawsDB Maria <small>05499785-3899-68</small>	1.3.2	Active	-	Public	Alpha cloud zone1	Simon	2018/01/09	...
Heroku Postgres <small>80b7493d-87c2-4c</small>	3.4	Active	-	Public	Samantha's private	Jordan	2018/01/09	...
openredis <small>42e5df8f-838c-49</small>	5.2.03.3	Active	Business Software	Private	Roy Test	Reno	2018/01/09	...
Bucketeer <small>4ba78604-</small>	4.3.2	Active	Business Software	Public	Alpha cloud zone1	Spark	2018/01/09	...
Storj <small>6e9d31ad-</small>	11.2.143.0	Active	-	Public	Pek3a Testing	Jeff	2018/01/09	...
Citius Data <small>9858963a-153f-42</small>	4.2.5	Active	-	Public	Samantha's private	Helen	2018/01/09	...

OPENPITRIX About · Help · Terms OpenPitrix © 2018

部署问题

➤ 规范问题 -- 如何定义一个应用

➤ 解决：

➤ 微服务应用：Helm 规范

➤ 传统应用：沿用青云 AppCenter 规范

package.json	# A json file containing app information
cluster.json.tpl	# A manifest tpl file
config.json	# A json file containing configuration values
LICENSE	# OPTIONAL: The license or markdown file or link
README.md	# OPTIONAL: A human-readable README file
locale/zh-cn.json	# OPTIONAL: Containing language translation

config.json

```
{
  "key": "MYSQL",
  "label": "MYSQL",
  "description": "MySQL properties",
  "type": "array",
  "properties": [
    {
      "key": "cpu",
      "label": "CPU",
      "description": "CPUs of each node",
      "type": "integer",
      "default": 1,
      "range": [1,2,4,8,16],
      "required": "yes"
    },
    {
      "key": "memory",
      "label": "Memory",
      "description": "memory of each node (in MB)",
      "type": "integer",
      "default": 2048,
      "range": [2048,8192,16384,32768,49152],
      "required": "yes"
    }
  ],
}
```



第2步: MySQL数据库设置

CPU* 1核 2核 4核 8核 16核

每个节点的CPU数量

内存* 2 G 8 G 16 G 32 G 48 G

每个节点的内存大小 (单位MB)

数量*

集群中的节点数量

实例类型* 性能型 超高性能型

创建的实例类型, 例如超高性能, 高性能

cluster.json.tpl

```
{
  "name": "{{.cluster.name}}",
  "description": "{{.cluster.description}}",
  "subnet": "{{.cluster.subnet}}",
  "nodes": [{
    "role": "zk",
    "container": {
      "type": "docker",
      "image": "gcr.io/google_samples/k8szk:v2"
    },
    "count": "{{.cluster.role_name.count}}",
    "cpu": "{{.cluster.role_name.cpu}}",
    "memory": "{{.cluster.role_name.memory}}",
    "services": {
      "init": {
        "nodes_to_execute_on": 1,
        "post_start_service": false,
        "cmd": "/opt/zookeeper/bin/init-service.sh"
      },
      "start": {
        "cmd": "/opt/zookeeper/bin/start-service.sh"
      }
    }
  }
}
```


部署问题

➤ 映像问题 -- 应用映像如何分发到多云环境

➤ 解决：

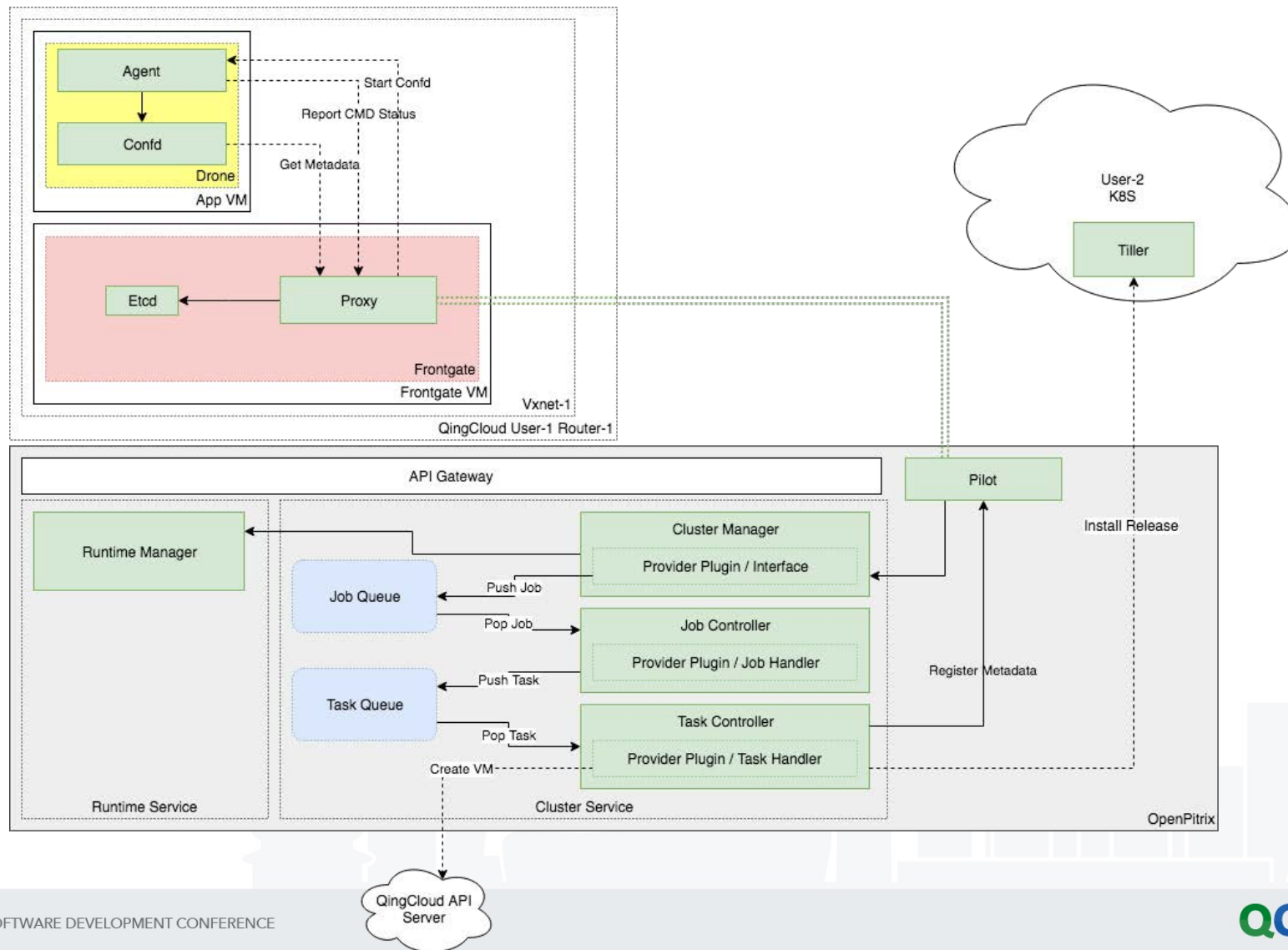
- 微服务应用：Docker image 分发方式
- 传统应用：Vm image 由平台自动创建并 share

部署问题

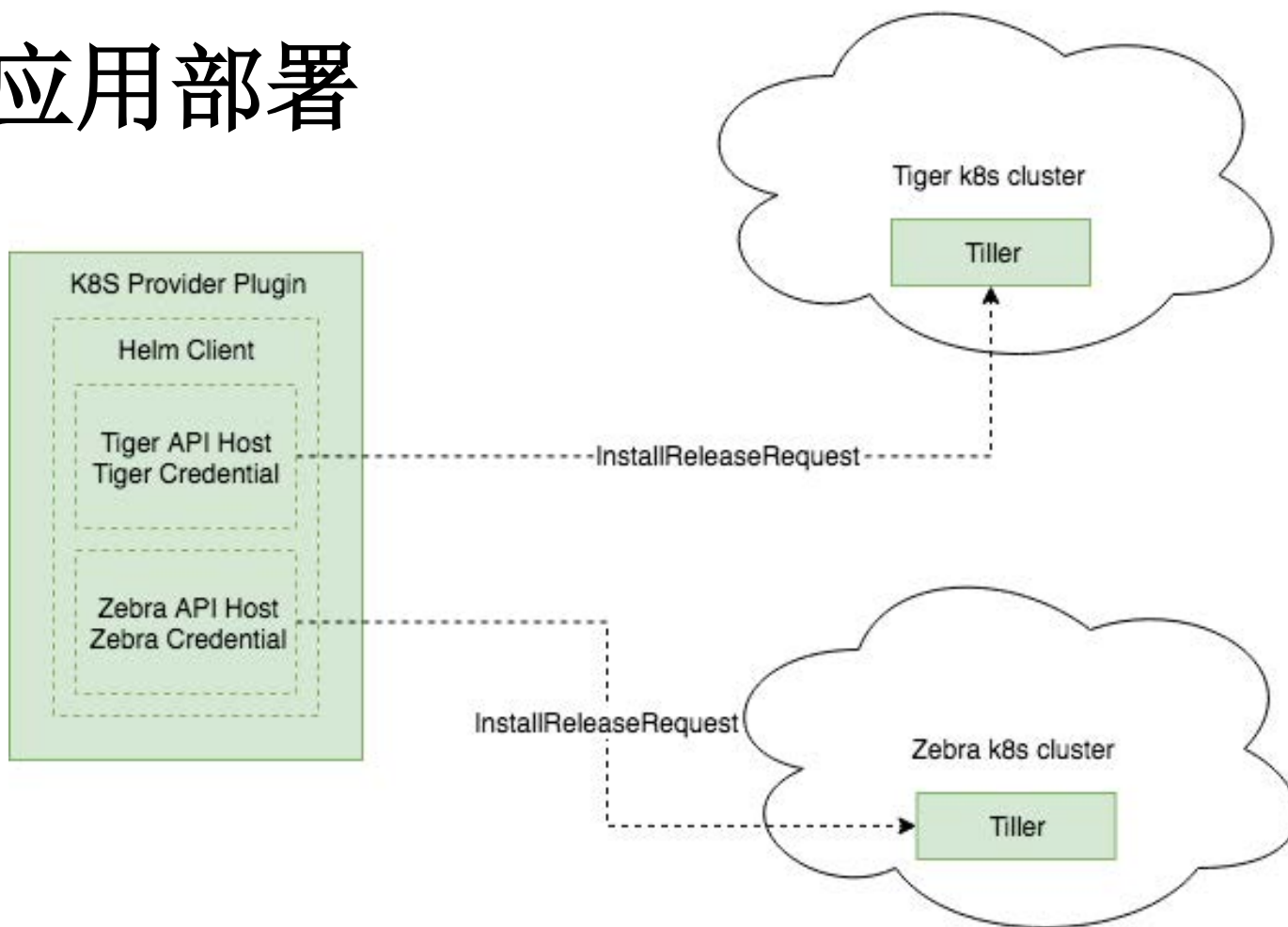
➤ 网络问题 -- 如何操作云主机执行命令

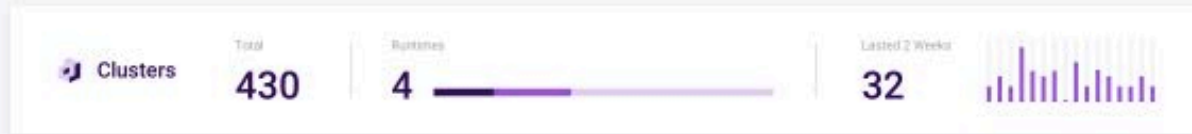
➤ 解决：

- 微服务应用：经由 Kubernetes 的 api server
- 传统应用：经由 Pilot + Frontgate + Drone 通路



容器应用部署





Search App ID or Keywords

Cluster Name	Status	App	Runtime	Node Count	User	Updated At	Actions
Redis Cloud d8e95e9c-	Active	Redis Cloud 0.0.1	Pek3a Testing	3	Samantha	2018/01/09	...
mLab MongoDB 3d7b031f-2374-41	Active	mLab MongoDB 2.1.0	Private Zone Staging	2	Simon	2018/01/09	...
JawsDB Maria 8549a205-3859-48	Active	JawsDB Maria 1.3.2	Alpha cloud zone1	5	Ethan	2018/01/09	...
Heroku Postgres 8c57493d-8f02-4c	Active	Heroku Postgres 3.4	Samantha's private	3	Steven	2018/01/09	...
openredis 4285d78f-8d4c-49	Active	openredis 5.2.00.0	Ray Test	2	Bink	2018/01/09	...
Bucketeer 6da79ed4-	Active	Bucketeer 4.3.2	Alpha cloud zone1	4	Crystal	2018/01/09	...
Storj 3e9d37ad-	Active	Storj 11.2.143.0	Pek3a Testing	5	Bink	2018/01/09	...
Citus Data 785d955e-153f-42	Active	Citus Data 4.2.0	Samantha's private	6	Carlos	2018/01/09	...

应用场景

- 多云（混合云）一站式应用管理平台
- 云管平台（CMP）整合
- 可以作为Kubernetes的一个应用管理系统

关于 OPENPITRIX

- 官网：<https://openpitrix.io/>
- 开源：<https://github.com/openpitrix>
- Slack：openpitrix.slack.com





关注QCon微信公众号，
获得更多干货！

Thanks!



INTERNATIONAL SOFTWARE DEVELOPMENT CONFERENCE

主办方 **Geekbang** & **InfoQ**
极客邦科技