

# 快速部署高可用的 Cloud Native 技术栈

马全一 <maquanyi@huawei.com>

# Who Am I?



## Quanyi Ma

DevOps & Open Source Expert  
Senior Architect & Full Stack Developer

Email: [maquanyi@huawei.com](mailto:maquanyi@huawei.com)

Twitter: @genedna

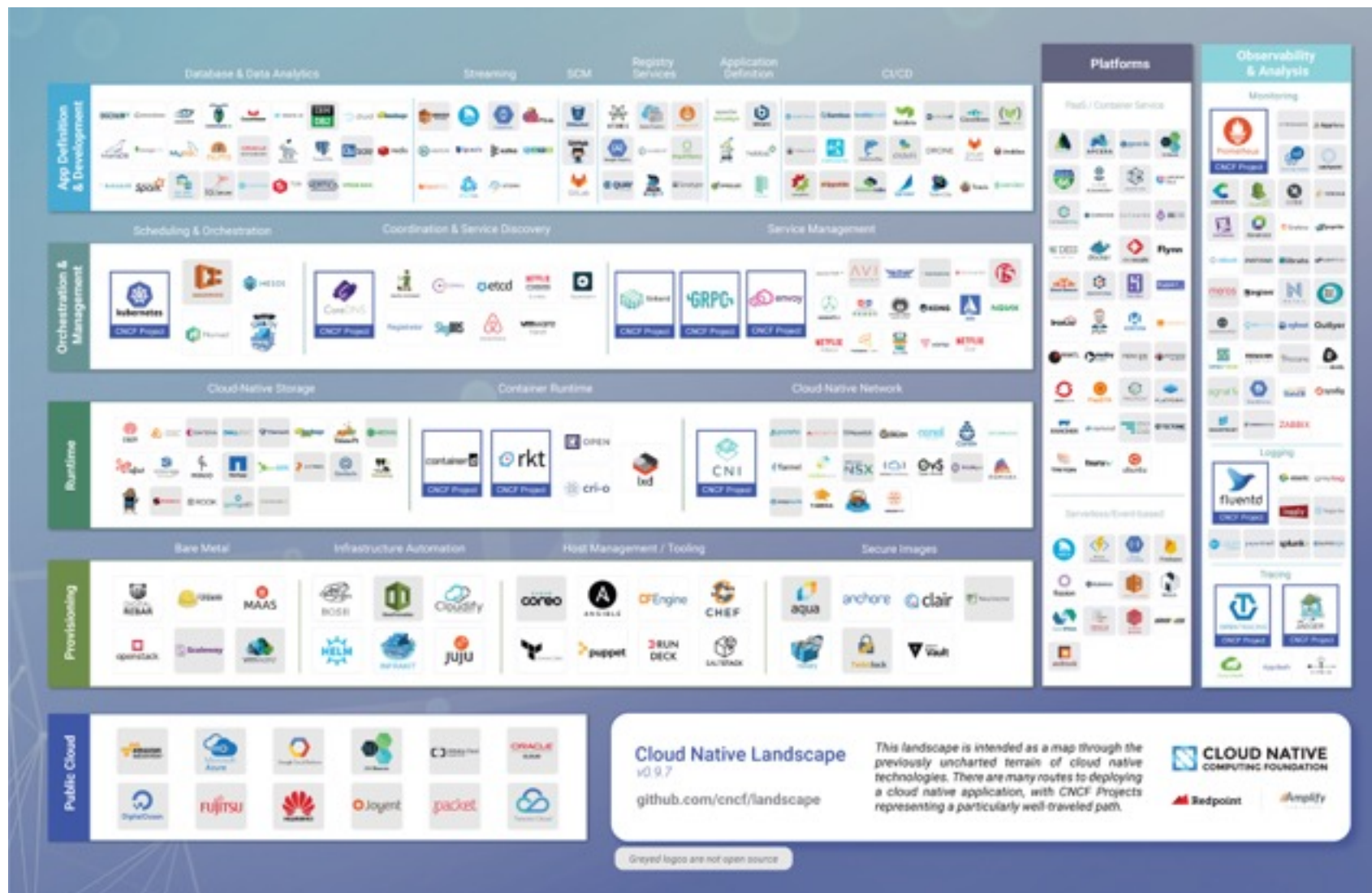
Github: <https://github.com/genedna>

主办:





# Cloud Native Landscape

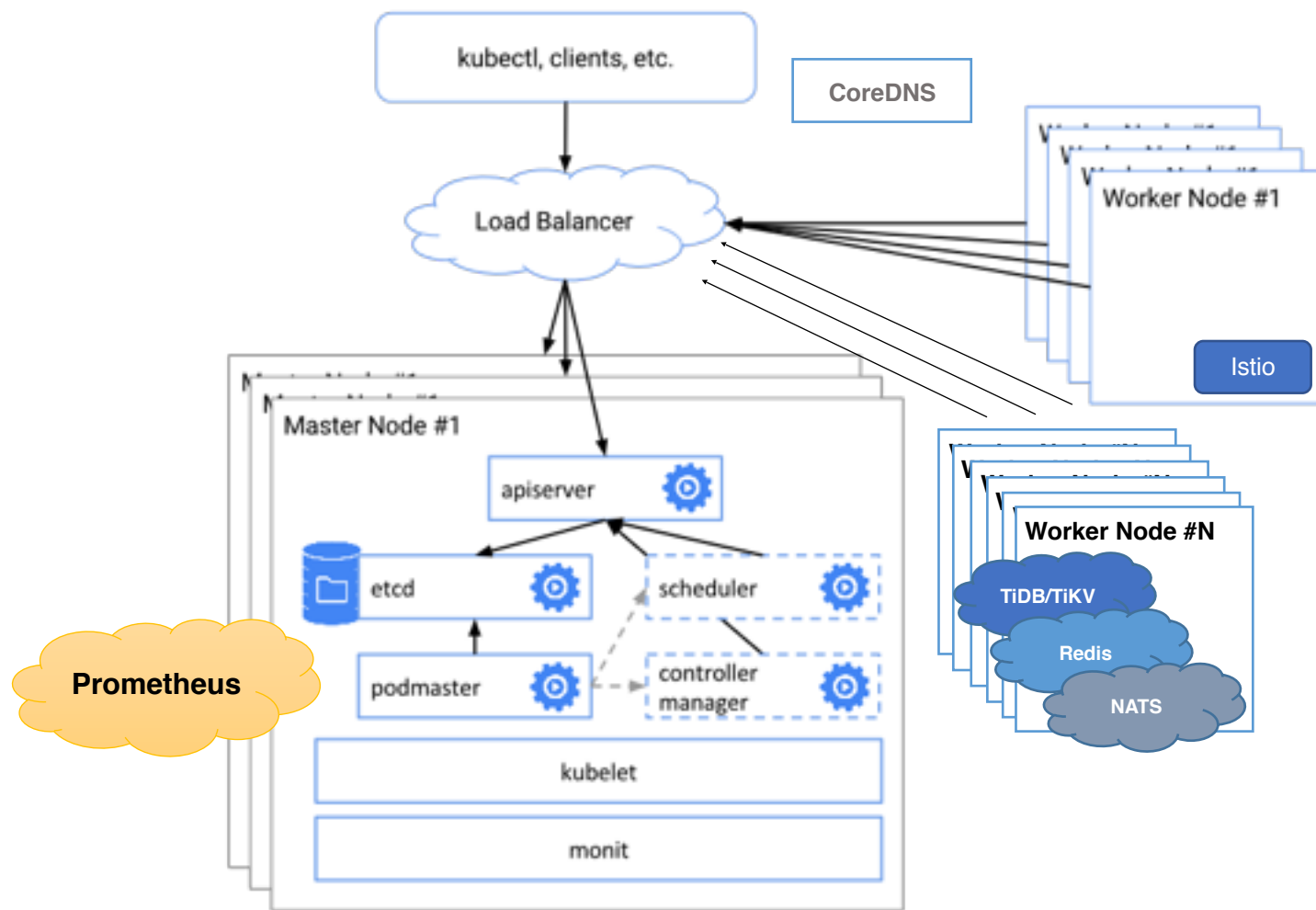


1. Why don't have any definition about Cloud Native Application?
2. What's Cloud Native Application?

The [CNCF](#) Cloud Native Landscape Project is intended as a map through the previously uncharted terrain of cloud native technologies. This attempts to categorize many of the most popular projects and product offerings in the cloud native space. It is under development by [CNCF](#) with assistance from [Redpoint](#) and [Amplify](#). **There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.**

主办:





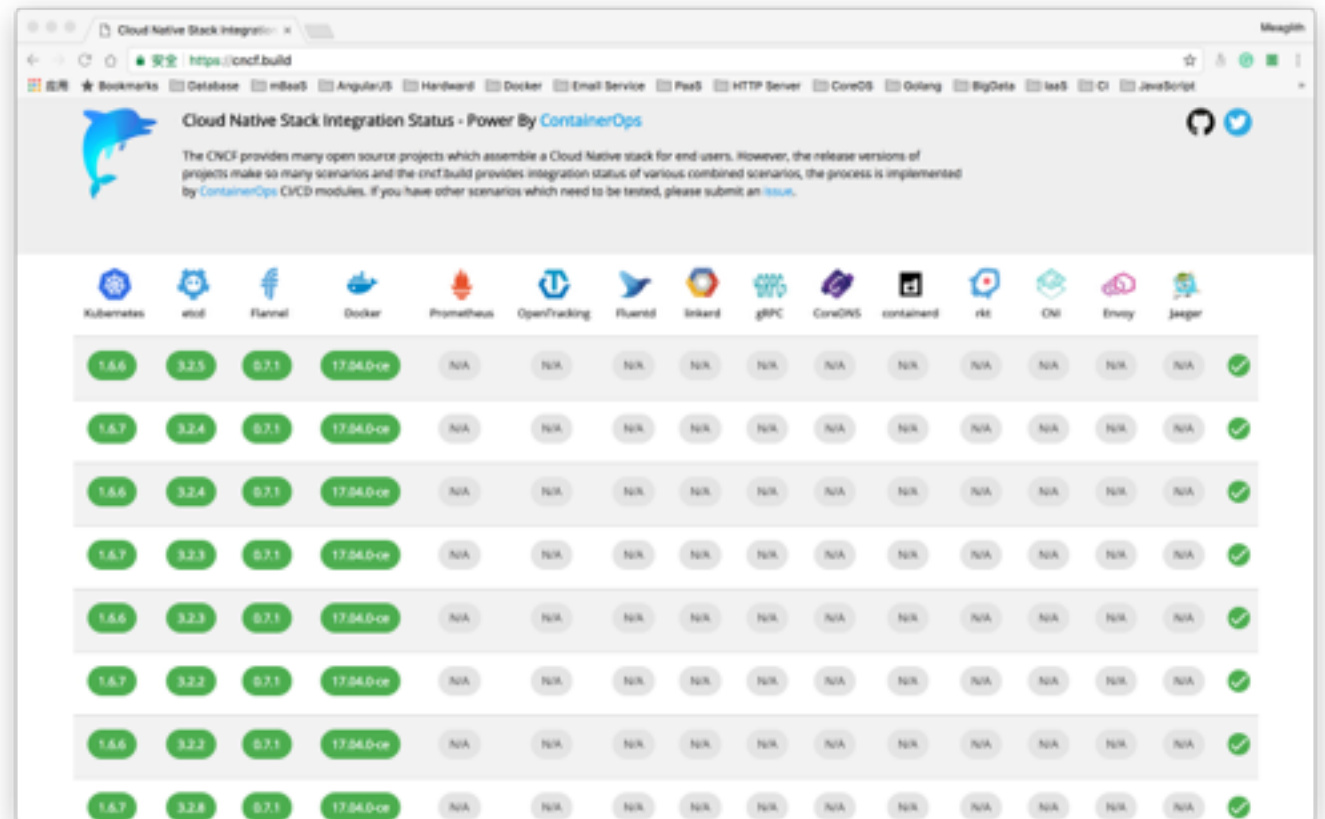
*Kubernetes* 是 *Cloud Native* 技术栈的基石，所以 *Kubernetes* 与其它组件的兼容性测试应该是 *Cloud Native Foundation CI* 的重点。

⌚ Last updated: 15 minutes ago

Project	Build	Release	Deployments					
			AWS	Azure	Bluemix	GCE	GKE	Packet
 <b>Kubernetes</b> Orchestration	Stable Head	v1.87	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✗ FAILED</span>	<span>✓ SUCCESS</span>
		97hgb2	<span>✗ FAILED</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
 <b>Prometheus</b> Monitoring	<span>✗ FAILED</span>	v3.0.1	<span>✓ RUNNING</span>	<span>✗ FAILED</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✗ SUCCESS</span>	<span>✓ SUCCESS</span>
		12eeef9	<span>✗ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
 <b>OpenTracing</b> Tracing	<span>✓ SUCCESS</span>	v1.41	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>
		wef24x	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✗ FAILED</span>	<span>✗ FAILED</span>	<span>✓ SUCCESS</span>
 <b>Fluentd</b> Logging	<span>✓ SUCCESS</span>	v4.8.1	<span>✓ RUNNING</span>	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
	<span>✗ FAILED</span>	90df1d	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ RUNNING</span>	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>	<span>✓ RUNNING</span>
 <b>Linkerd</b> Service Mesh	<span>✓ SUCCESS</span>	v4.99	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ RUNNING</span>	<span>✓ RUNNING</span>
		uio02d	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✗ FAILED</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
 <b>gRPC</b> Remote Procedure Call	<span>✓ SUCCESS</span>	v2.9	<span>✓ RUNNING</span>	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
		14eeef9	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✗ FAILED</span>	<span>✗ FAILED</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
 <b>CoreDNS</b> Service Discovery	<span>✓ SUCCESS</span>	v9.12	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>	<span>✓ RUNNING</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
		3jhoef3	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
 <b>containerd</b> Container Runtime	<span>✓ SUCCESS</span>	v2.99	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✗ FAILED</span>	<span>✓ SUCCESS</span>
		53jw3m	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
 <b>rkt</b> Container Runtime	<span>✗ FAILED</span>	2.99	<span>✗ FAILED</span>	<span>✗ FAILED</span>	<span>✗ FAILED</span>	<span>✗ FAILED</span>	<span>✗ FAILED</span>	<span>✗ FAILED</span>
		12eeef9	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>
 <b>CNI</b> Networking	<span>✗ FAILED</span>	2.99	<span>✓ RUNNING</span>	<span>✓ RUNNING</span>	<span>✗ FAILED</span>	<span>✗ FAILED</span>	<span>✓ SUCCESS</span>	<span>✗ FAILED</span>
		12eeef9	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>	<span>✓ SUCCESS</span>

cncf/cross-project 和 cncf/cross-cloud

# cncf.build



Cloud Native Stack Integration Status - Power By ContainerOps

The CNCF provides many open source projects which assemble a Cloud Native stack for end-users. However, the release versions of projects make so many scenarios and the cncf.build provides integration status of various combined scenarios, the process is implemented by ContainerOps CNCD modules. If you have other scenarios which need to be tested, please submit an [issue](#).

Kubernetes	etcd	Flannel	Docker	Prometheus	OpenTracing	Fluentd	Inkarn	gRPC	CoreDNS	contaimd	istio	Ch	Envoy	Jaeger	
1.6.6	3.2.5	0.7.1	17.04.0-ce	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
1.6.7	3.2.4	0.7.1	17.04.0-ce	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
1.6.6	3.2.4	0.7.1	17.04.0-ce	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
1.6.7	3.2.3	0.7.1	17.04.0-ce	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
1.6.6	3.2.3	0.7.1	17.04.0-ce	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
1.6.7	3.2.2	0.7.1	17.04.0-ce	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
1.6.6	3.2.2	0.7.1	17.04.0-ce	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
1.6.7	3.2.8	0.7.1	17.04.0-ce	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓

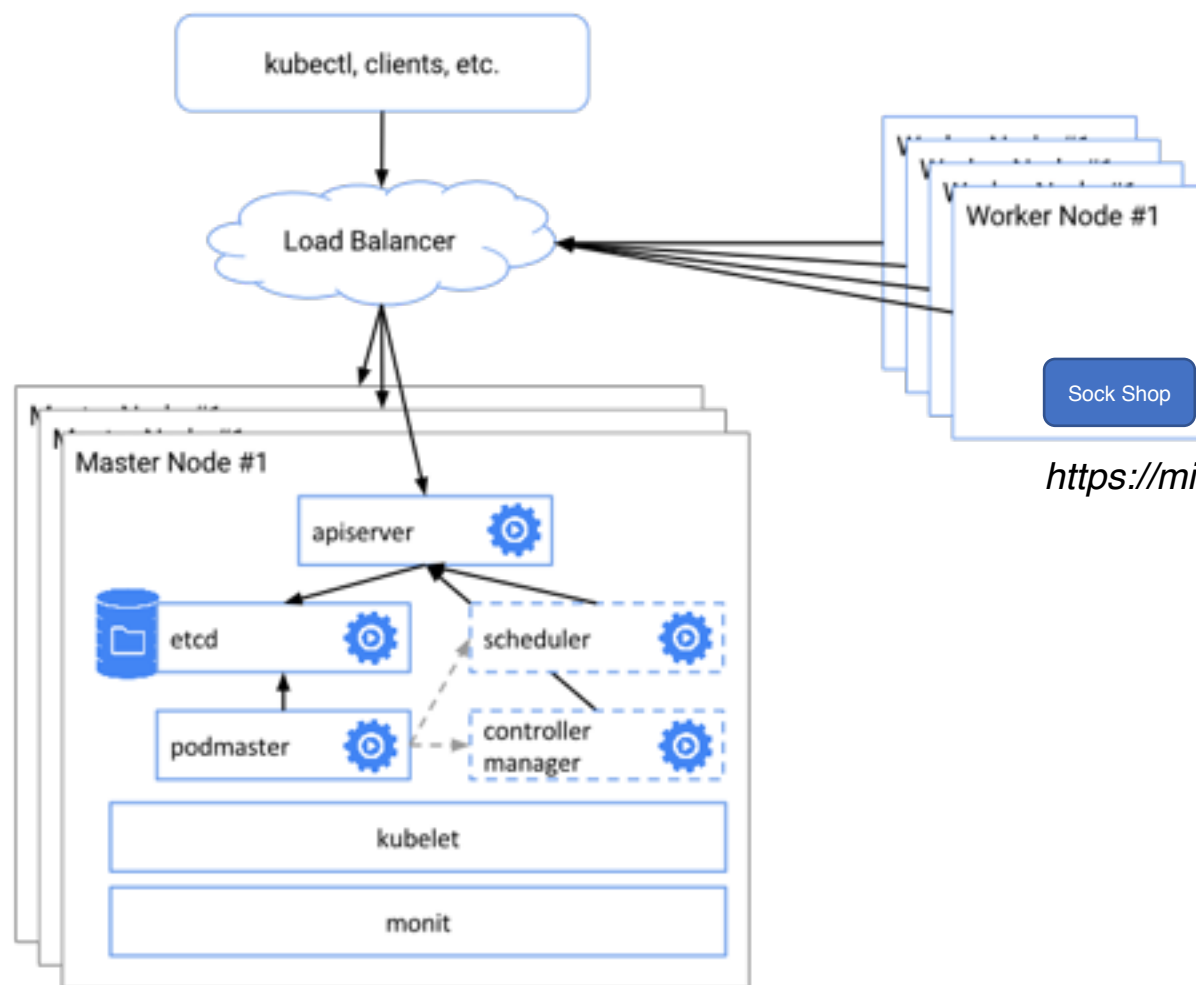


# Demo

主办：



# Kubernetes HA





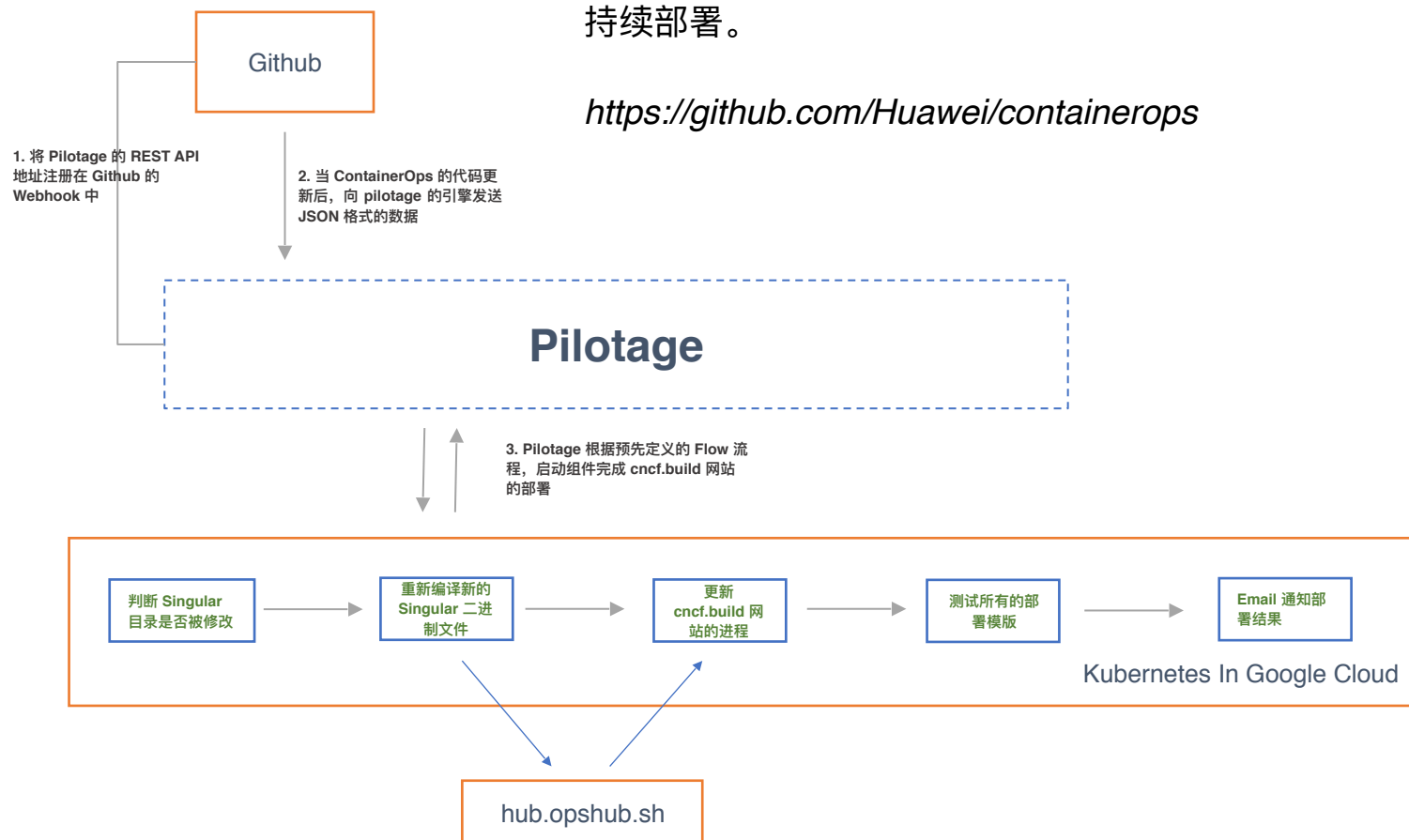
使用 *YAML* 格式文件描述  
*Cloud Native* 技术栈架构，  
使用 *Singular* 命令一键部署  
测试。

```
11  name: etcd
12  version: etcd-3.2.8
13  master: 3
14  minion: 0
15  components:
16  -
17    binary: etcd
18    url: https://binary.nyc3.digitaloceanspaces.com/etcd/3.2.8/etcd
19    package: false
20    systemd: etcd-3.2.8
21    ca: etcd-3.2.8
22  -
23    binary: etcdctl
24    url: https://binary.nyc3.digitaloceanspaces.com/etcd/3.2.8/etcdctl
25    package: false
26  -
27  name: flannel
28  version: flannel-0.7.1
29  master: 3
30  minion: 0
31  dependencies:
32  - etcd
33  components:
34  -
35    binary: flanneld
36    url: https://hub.opshub.sh/binary/v1/containerops/binary/binary/0.7.1/flanneld
37    package: false
38    systemd: flannel-0.7.1
```

***Singular deploy template cloud-native-stack.yml --verbose --timestamp --delete***

使用 *ContainerOps* 多个组件配合实现 *cncf.build* 持续部署。

<https://github.com/Huawei/containerops>



```
98 lines (98 sloc) | 4.93 KB
1 # Copyright 2018 - 2019 Huawei Technologies Co., Ltd. All rights reserved.
2 #
3 # Licensed under the Apache license, Version 2.0 (the "license");
4 # you may not use this file except in compliance with the license.
5 # You may obtain a copy of the license at
6 #
7 # http://www.apache.org/licenses/LICENSE-2.0
8 #
9 # Unless required by applicable law or agreed to in writing, software
10 # distributed under the license is distributed on an "AS IS" BASIS,
11 # WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
12 # See the license for the specific language governing permissions and
13 # limitations under the license.
14
15 url: containerops/singular/sd-singular-demon
16 title: Demo For ContainerOps Pilotage Web Hook(Singular Auto Upgrade)
17 version: 1
18 tag: latest
19 timeout: 0
20 stages:
21   -
22     type: start
23     name: start
24     title: Start
25   -
26     type: normal
27     name: detect-singular-code-change
28     title: Detect if there is any changes on singular's code in the last merge.
29     sequencing: sequence
30     actions:
31       -
32         name: detect-singular-code-change
33         title: Tell code changes from the last git merge.
34         jobs:
35           -
36             name: detect-singular-code-change
37             type: component
38             subject: prometheus/prometheus-build.yaml
39             endpoint: hub.opshub.sh/containerops/webhook-code-changed:demo5
40             resources:
41               cpu: 2
42               memory: 40
43             timeout: 0
44             environments:
45               - CO_DATA: "Vargate@singular"
46             outputs: ["CO_DATA_CHANGE"]
47   -
```

# Q&A

<https://cncf.build>

<https://github.com/Huawei/containerops>

主办：

