

# Shipping Mesos Cluster with Swarmkit

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# 我是谁?

- Docker/Mesos Contributor & Gopher 
- Beijing Mesos User Group Organizer
- DataMan Inc. Cofounder, CTO 
- Swan – Another container orchestration meta-framework for Mesos  Crane
- Crane – Another control plane based on docker built-in swarmkit  Swan

# 我们喜欢折腾,但 Mesos 足够复杂-Cont.

## Mesos Configuration

The Mesos master and agent can take a variety of configuration options through command-line arguments, or environment variables. A list of the available options can be seen by running `mesos-master --help` or `mesos-agent --help`. Each option can be set in two ways:

- By passing it to the binary using `--option_name=value`, either specifying the value directly, or specifying a path to a file (`--option_name=path/to/file`). The path can be absolute or relative.
- By setting the environment variable `MESOS_OPTION_NAME` (where `OPTION_NAME` is the option name with a `MESOS_` prefix added to it).

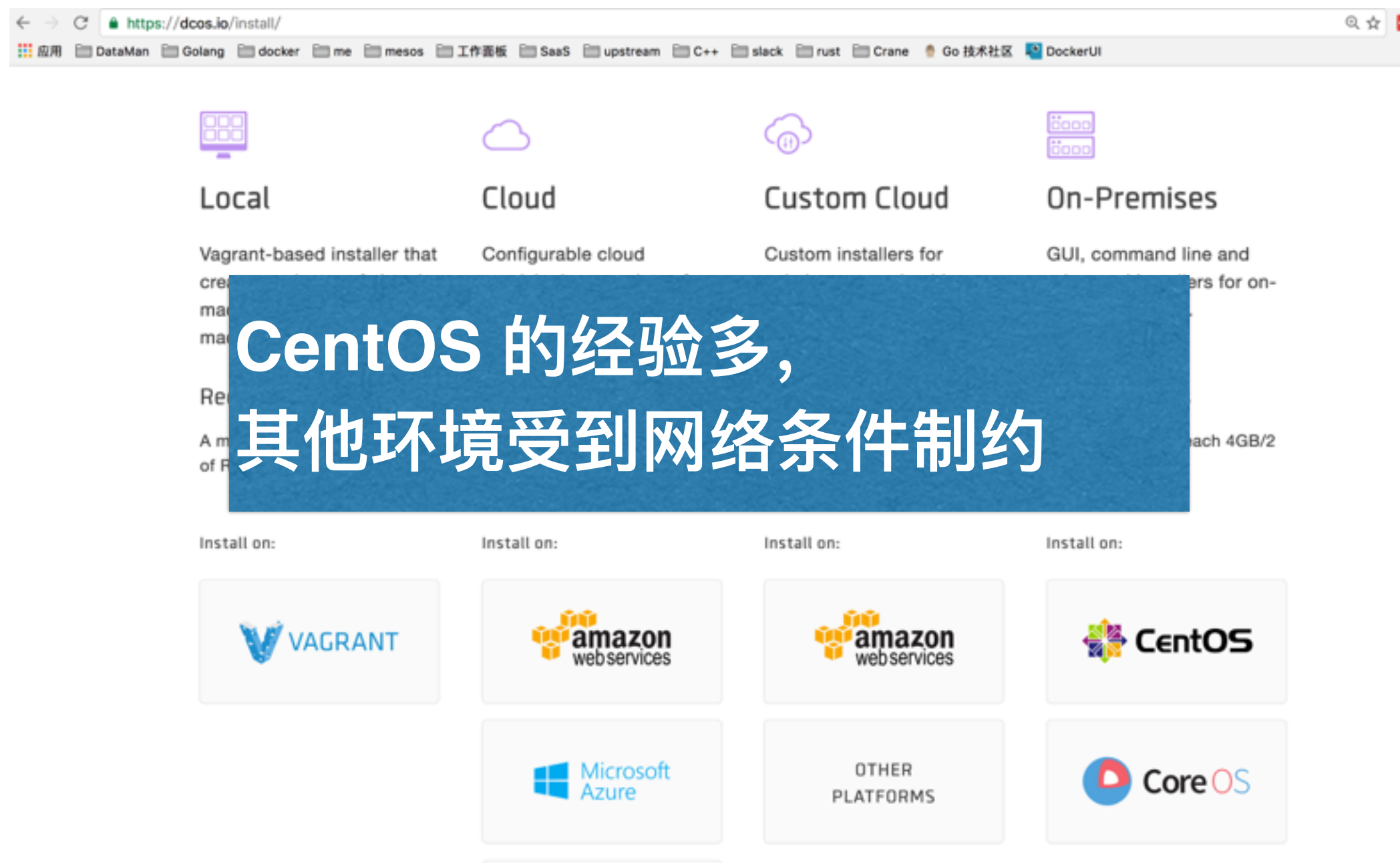
可以配置120+

Configuration values are searched for first in the environment, then on the command-line.

### Important Options

If you have special compilation requirements, please refer to `./configure --help` when configuring Mesos. Additionally, this documentation lists only a recent snapshot of the options in Mesos. A definitive source for which flags your version of Mesos supports can be found by running the binary with the flag `--help`, for example `mesos-master --help`.

# 我们喜欢折腾,但 Mesos 足够复杂-Cont.



# 我们喜欢折腾,但 Mesos 足够复杂-Cont.

- 环境一致性问题需要非常仔细检查 – Ansible

1.系统时钟 ntpd 有没有同步

2.zookeeper 配置需要正确

3.slave 的参数需要配置正确

## 配置Docker加速器

您可以使用如下的脚本将mirror的配置添加到docker daemon的启动参数中。

```
# 系统要求 CentOS 7 以上, Docker 1.9 以上。
sudo cp -n /lib/systemd/system/docker.service /etc/systemd/system/docker.service
sudo sed -i "s|ExecStart=/usr/bin/docker daemon|ExecStart=/usr/bin/docker daemon --registry-mirror=https://vwrzfgqh.mirror.aliyuncs.com|g"
/etc/systemd/system/docker.service
sudo systemctl daemon-reload
sudo service docker restart
```

业内Top 1的 IaaS厂商的配置永远是过期的，没人用？

# 我们喜欢折腾,但 Mesos 足够复杂-Cont.

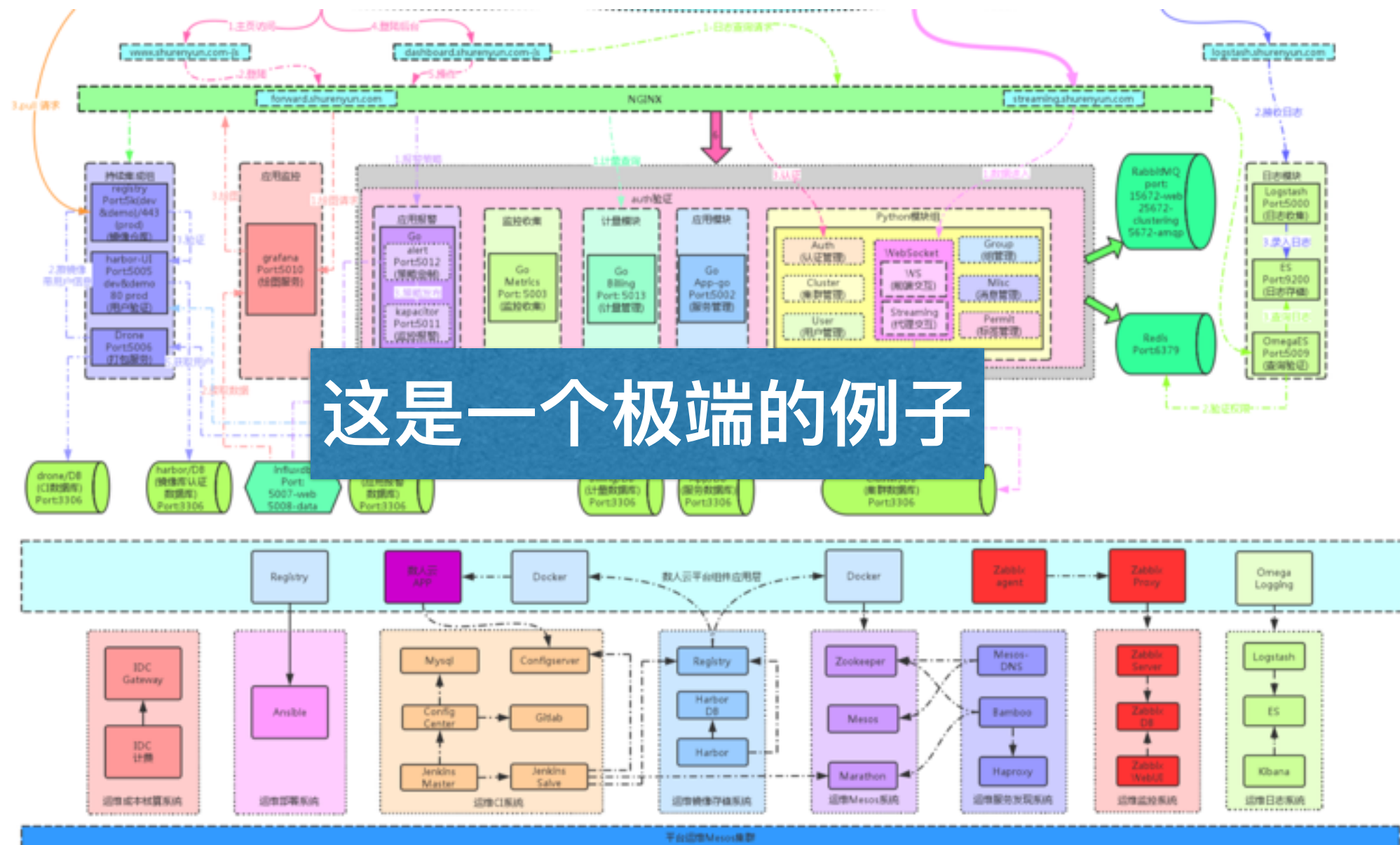
- 分布式部署方式多样, 需要尝试多遍才能熟悉

1.脚本配置安装 Mesos Cluster

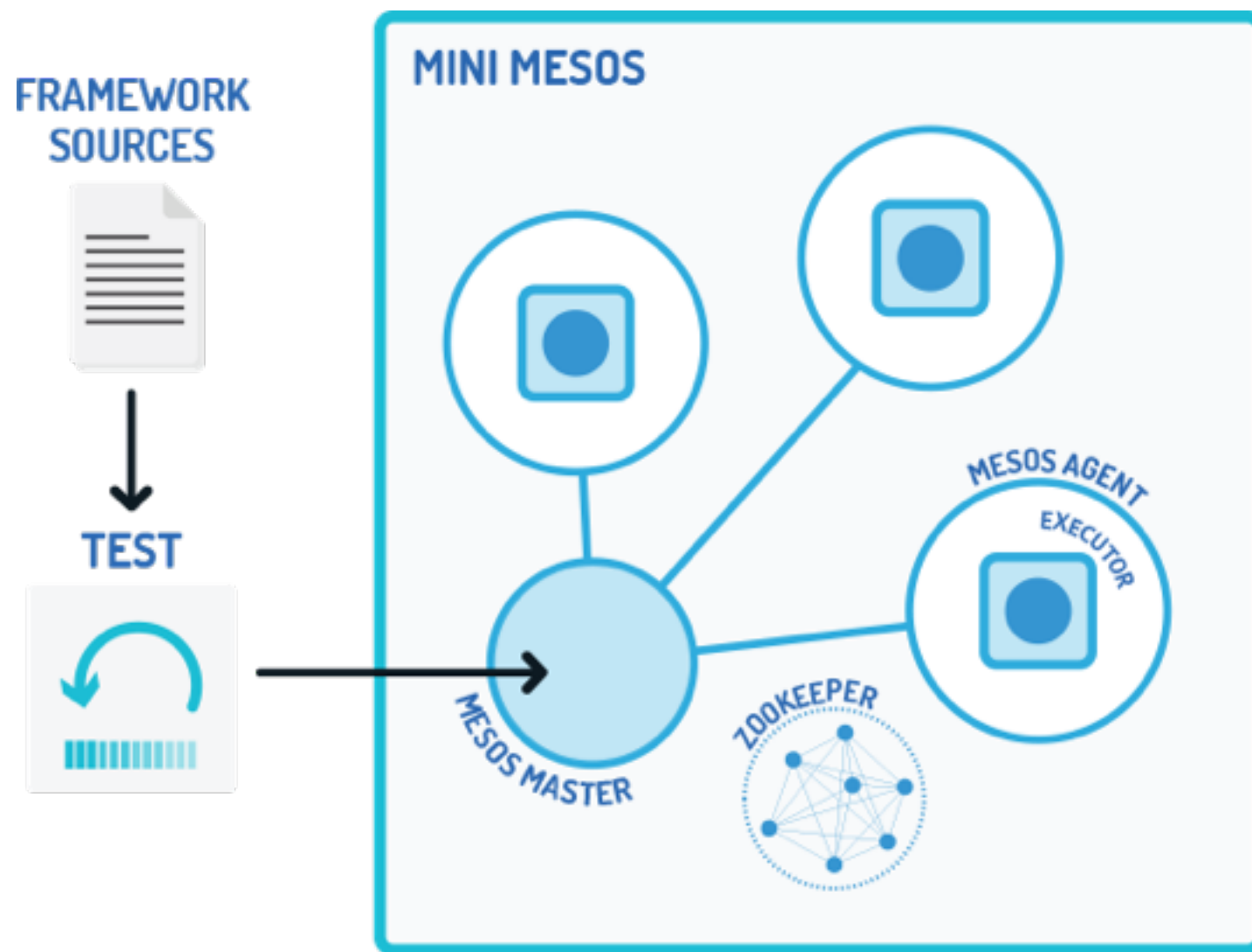
2.容器Compose安装 Mesos Cluster

3.Ansible 安装 Mesos Cluster

# 我们喜欢折腾,但 Mesos 足够复杂



# 尝试一： MiniMesos



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Container Solutions

# 尝试一： MiniMesos

ContainerSolutions / minimesos

<> Code Issues 20 Pull requests 3 Projects 0

Filters is:pr is:open Labels Mile

3 Open ✓ 207 Closed

- Changed alpine to debian:jessie-backports to fix shared library bug  
#511 opened on 18 Oct by frankscholten
- #431 Always map ports to host when running on Mac OS X  
#508 opened on 10 Oct by frankscholten
- WIP #456 Added initial api module • api  
#457 opened on 27 May by frankscholten

GitHub, Inc. [US] https://github.com/ContainerSolutions/minimesos/pull/508

DataMan Golang docker me mesos 工作面板 SaaS upstream C++ slack rust Crane Go 技术社区 DockerUI

frankscholten commented on 10 Oct minimesos contributor

@adam-sandor Can you have a look and test?

1 1

Merge branch 'master' into feature/map-ports-to-host-mac 71e78d5

xiaods commented an hour ago

why not yet review it?

Merge branch 'master' into feature/map-ports-to-host-mac bb0fc66

frankscholten commented 26 minutes ago • edited minimesos contributor

@xiaods Thanks for reminding!

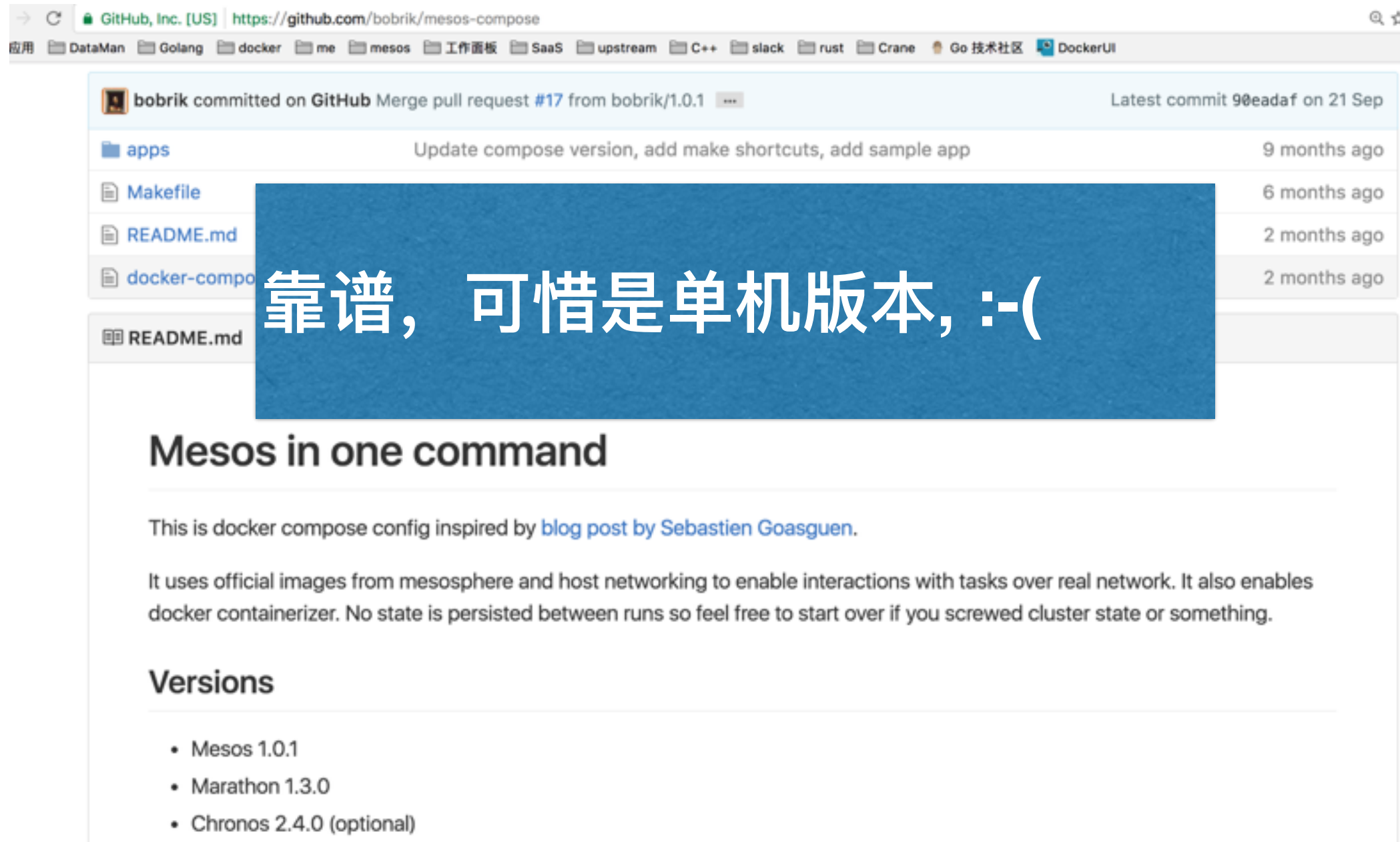
LGTM

default approved

frankscholten merged commit a6bffc into master 25 minutes ago 3 of 4 checks passed View details

Mac 环境下刚刚解决支持docker4mac, :-)

# 尝试二:用Docker Compose分发很方便



bobrik committed on GitHub Merge pull request #17 from bobrik/1.0.1 Latest commit 90eadaf on 21 Sep

| apps           | Update compose version, add make shortcuts, add sample app | 9 months ago |
|----------------|------------------------------------------------------------|--------------|
| Makefile       |                                                            | 6 months ago |
| README.md      |                                                            | 2 months ago |
| docker-compose |                                                            | 2 months ago |
| README.md      |                                                            |              |

## Mesos in one command

This is docker compose config inspired by [blog post by Sebastien Goasguen](#).

It uses official images from mesosphere and host networking to enable interactions with tasks over real network. It also enables docker containerizer. No state is persisted between runs so feel free to start over if you screwed cluster state or something.

## Versions

- Mesos 1.0.1
- Marathon 1.3.0
- Chronos 2.4.0 (optional)

# 尝试三:用Docker Swarmkit分发很方便

Docker 1.12

使用Swarmkit

使用 Docker的 Service API来管理服务;服务定义任务,任务由容器实现

服务生命周期内置

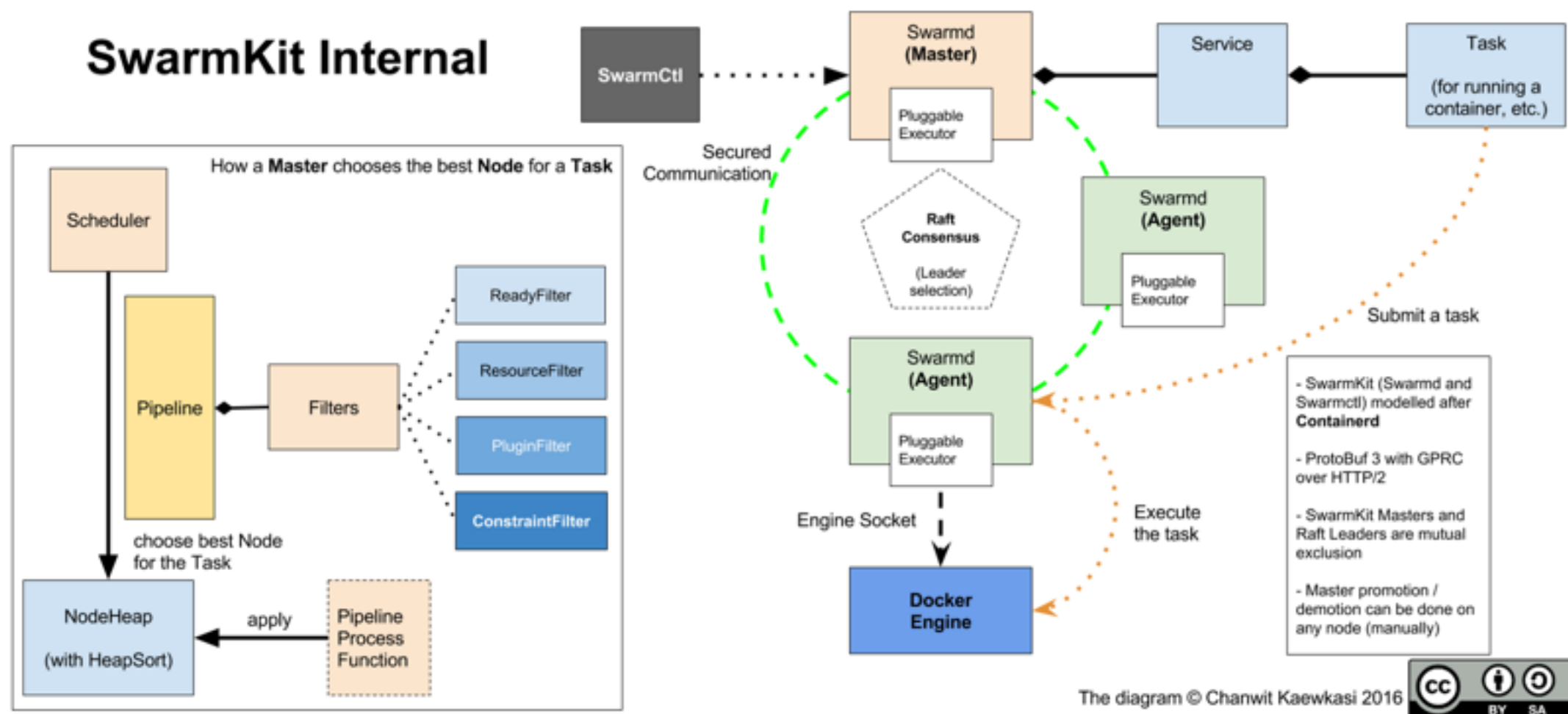
系统状态保存在内置raft store 上

直接支持对服务的负载均衡

集群内置CA运行, 所有通讯加密

网络状态内置, 通过gossip来传播

# 知己知彼:Swarmkit



# 好消息:Swarmkit Bug快修完了!

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Filters  Labels Milestones [New issue](#)

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30 Open 71 Closed Author Labels Milestones Assignee Sort

- docker daemon panic with swarmkit and lots of services(300+)** [area/swarm](#) [kind/bug](#) [priority/P1](#) [version/1.12](#)  
#28465 opened 11 hours ago by wrfly 1.13.0 2
- MongoDB cannot distinguish overlay-networked containers under Docker 1.13-rc1.** [area/swarm](#) [kind/bug](#) [priority/P0](#) [area/networking](#) [version/1.13](#)  
#28358 opened 3 days ago by phyllisstein 1.13.0 5
- Deadlock with docker-compose internal logs** [area/swarm](#) [kind/bug](#) [status/more-info-needed](#) [version/1.12](#)  
#28236 opened 6 days ago by presidento 4
- Swarm panic in keymanager.rotateKey: index out of range** [area/swarm](#) [kind/bug](#) [version/1.12](#)  
#28067 opened 12 days ago by adaphi 1.13.0 21
- Fast update service in loop broke swarm** [area/swarm](#) [kind/bug](#)  
#28039 opened 13 days ago by sblackstone 1
- Docker Service "UpdateStatus.State" Not Present** [area/swarm](#) [kind/bug](#) [version/1.12](#)  
#28012 opened 14 days ago by arhea 5
- Docker 1.12.2 joining a new swarm downgrades network to local scope on manager** [area/networking](#) 4

# 尝试三:用Swarmkit的方式安装 Mesos Cluster

- 使用镜像包装 Mesos 组件
- 通过 Docker Swarm mode 来分发 Mesos Cluster
- 最好是用 Docker 的 DAB (Distributed Application Bundles) – 一键部署

# Demo

# 重新思考：为什么需要启用 Docker的分发技术

- Simple, 3条命令就能创建一个Swarm mode cluster
- Fast, 发布 Mesos Cluster 很快, 避免重复的配置
- Standard, 制作标准的Mesos镜像重复使用

路还很长： only  
DevOps Environment

# 谢谢!



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