

# 容器技术对OpenStack企业用户的价值和实践场景

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**RANCHER**

# 公有云

# 私有云



# 公有云 容器服务

Amazon ECS

Google GKE

Rackspace Carina

Docker Cloud

*Not yet seen explosive growth*

# Docker容器 使用

Early 2015: 100M  
downloads

Nov 2015: 1B  
downloads

June 2016: 4B  
downloads

# Don Duet: 高盛（Goldman Sachs）在一年之内要把公司90%计算搬到容器上



来自:

<http://blogs.wsj.com/cio/2016/02/24/big-changes-in-goldmans-software-emerge-from-small-containers/>

容器在私有云场景正飞速成长

# OpenStack成为私有云场景容器平台



# OpenStack容器FAQ

Mesos, Kubernetes, Swarm, 哪个框架会赢?

Mesos DCOS会替代OpenStack吗?

容器是否最终都会运行到AWS上去?

企业用户使用OpenStack和容器有哪些主要场景?

OpenStack可以做哪些改进把容器支持得更好?

“We do both, Docker and Kubernetes, for things like running and starting,” Mr. Duet said. “Kubernetes is arguably a better scheduler...if you are going to run 1,000 containers on 1,500 computers...It is designed much more for that. Docker’s own product is great if you want to run five containers on three machines. We have both problems.”

<http://blogs.wsj.com/cio/2016/02/24/big-changes-in-goldmans-software-emerge-from-small-containers/>





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# Docker 'swarm mode' aims to steal Kubernetes' thunder



The newest revision of Docker's core product aims to widen its appeal by adding a native app orchestration and clustering system

InfoWorld | Jun 20, 2016

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Docker Swarm beats Kubernetes? Not so fast



Review: Docker Swarm soars, and the sky's the limit

on IDG Answers ↗

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Agile companies

grow revenue

37% faster.





## The Dawn of the Orchestration-for-All Era: Docker welcomes the creators of the Aurora project

By [Solomon Hykes](#)

March 3, 2016



 [acquisition](#), [aurora project](#), [Conductant](#), [docker](#), [docker news](#)

Behind every tech giant is a treasure of innovative technology kept under wraps to preserve a strategic advantage.

At Docker, we believe our job is to democratize these technologies by integrating them in tools that are easy to use and help people create new things. We did this for Linux containers, to help make applications more portable. We are also doing it with hypervisors and unikernels with the help of the [Unikernel Systems](#) team. Today we are proud to take a new step in this direction by [acquiring Conductant, Inc.](#)

I am delighted to welcome the Conductant team to the Docker family. [Bill Farner](#), [David Chung](#) and [John Sirois](#) have made key contributions to operating and scaling production systems at Google, Twitter and Zynga, with Bill having the additional distinction of being the creator of the [Aurora Project](#). As an ops engineer by trade, I am particularly delighted to add such valuable talent and experience to the collective DNA of the Docker team.

Aurora is a popular extension of the Apache Mesos clustering system optimized for extremely large-scale production environments. It is widely recognized as the most scalable and operationally-robust



Puppet Enterprise ▾ Version: 2016.2 (latest) ▾

## Puppet Enterprise 2016.2

(↓ expand all ↓)

- + Overview
  - + Release notes
  - » Puppet platform documentation
  - + Quick start guides
  - + Managing Windows nodes
  - + Installing
  - + Upgrading
  - + Migrating to PE 2016.2
  - + Configuring PE
  - + Monitoring infrastructure state
  - + Managing nodes
  - + Managing access
  - Orchestrating applications
  - Application orchestration
- © 2016 Rancher Labs, Inc

# Application orchestration: Overview

- » What is application orchestration?
- » Why use application orchestration?
- » Language extensions for application orchestration: An overview
  - » The application definition
  - » Application components
  - » Service resources
- » Application orchestration is a Puppet Enterprise feature
- » Documentation links

Application orchestration provides Puppet language extensions and command-line tools to help you configure and manage multi-service and multi-node applications.

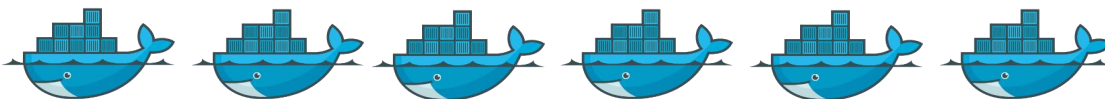
## What is application orchestration?



**Mesos** 在网络存储方面功能还较薄弱，不能跟**OpenStack**相比

# Magnum可否将来支持AWS?





## Magnum++ 或 企业容器云： 新一代的私有云、混合云

Linux

Linux

Linux

Linux

Linux



vmware®



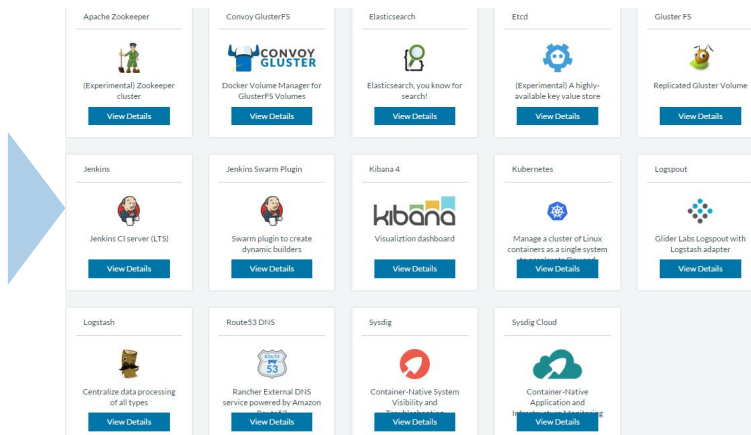
## 容器企业 投产四种 场景

1. 新一代的私有云、混合云环境
2. 企业应用商店和一键部署
3. 多环境，多资源池的DevOps流水线
4. 构建轻量级PaaS服务

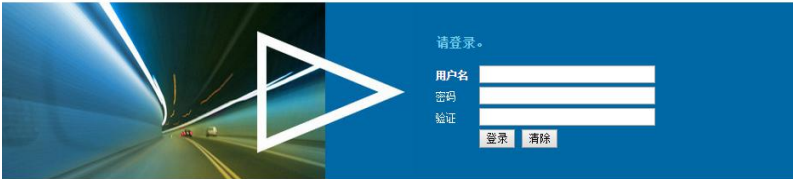


# 场景2：企业应用商店和一键部署应用

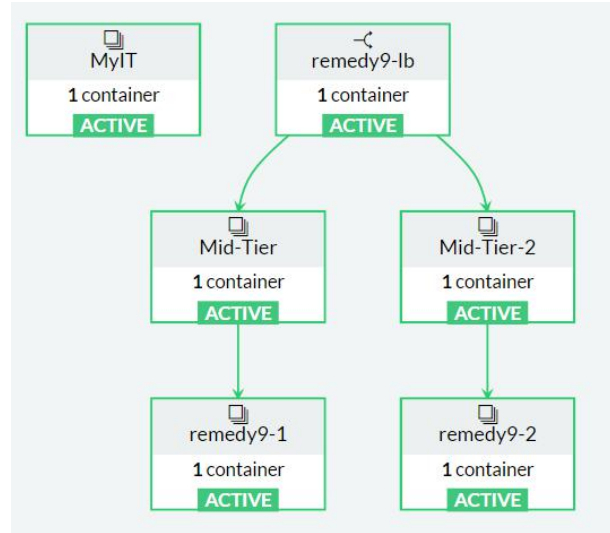
应用上架



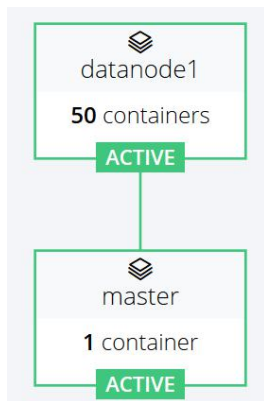
一键部署



## BMC Remedy, 安装包有十几GB



# Hadoop 集群和一键部署



Configured Capacity:	4.8 TB
DFS Used:	2.93 GB (0.06%)
Non DFS Used:	293.83 GB
DFS Remaining:	4.51 TB (93.96%)
Block Pool Used:	2.93 GB (0.06%)
DataNodes usages% (Min/Median/Max/stdDev):	0.00% / 0.00% / 0.29% / 0.08%
Live Nodes	50 (Decommissioned: 0)
Dead Nodes	0 (Decommissioned: 0)
Decommissioning Nodes	0
Total Datanode Volume Failures	0 (0 B)
Number of Under-Replicated Blocks	0
Number of Blocks Pending Deletion	0
Block Deletion Start Time	2015/12/1 下午7:18:08

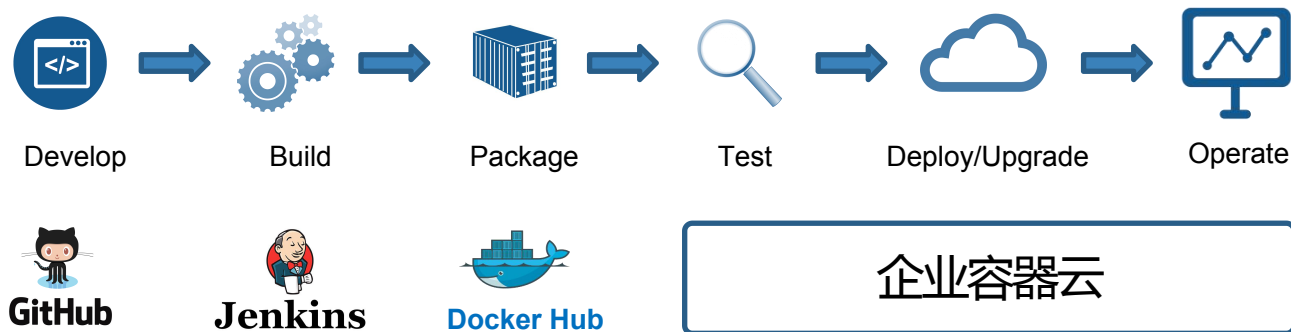
\_ Shell: `hadoop-1_master_1`

```
hadoop-1_master_1 ~$ llx lsreporg 0 2015-12-01 19:25 /Paragon_1
root    Oid 000a
user    Oid 000b
root    Oid 000c
hadoop-1_master_1 /usr/local/hadoop-2.7.1.0$ time bin/hadoop fs -ls /
Found 2 items
hadoop-1  3  kibi  reporging  0  2015-12-01 19:25 /Paragon_1
hadoop-1  7  kibi  reporging  100000000  2015-12-01 19:25 /Paragon_1/rw1000
root    Oid 000d
user    Oid 000e
root    Oid 000f
hadoop-1_master_1 /usr/local/hadoop-2.7.1.0$
```

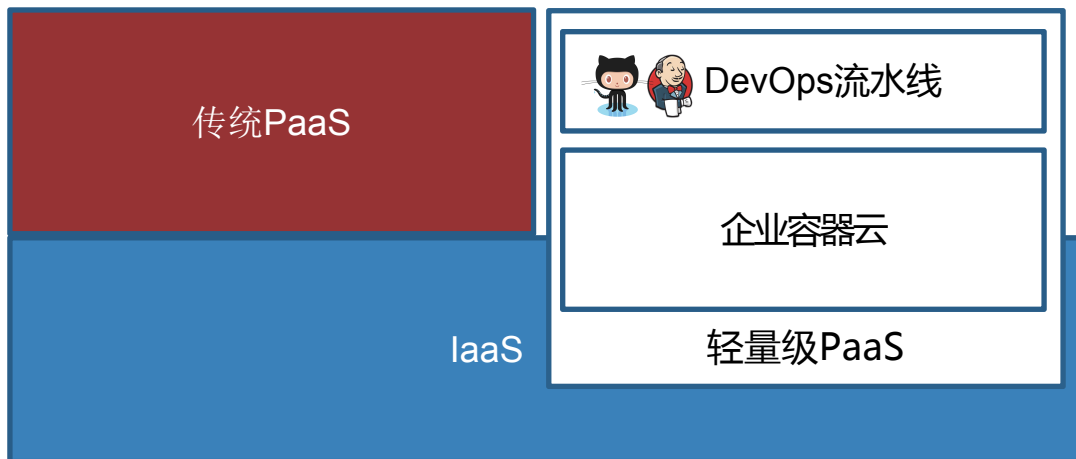
Connected

Close

# 场景3：多环境，多资源池的DevOps流水线



# 场景4：构建轻量级PaaS服务



# 浏览器：桌面可替换



浏览器



# 企业容器云：基础设施可替换



企业容器云



# OpenStack 简化?

网络: 6 NICs => 1 NIC 外置DHCP

容器化安装和升级

容器化存储

容器化负载均衡



**OpenStack + 容器 =**  
**企业私有云的未**  
**来？**



# Thank you

[rancher.com](https://rancher.com)

[#ranchermeetup](https://twitter.com/ranchermeetup)

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