



GOPS 2016
Shanghai

GOPS

全球运维大会

2016

重新定义运维

上海站

会议时间： 9月23日-9月24日

会议地点： 上海·雅悦新天地大酒店

主办单位：



开放运维联盟
OOPSA Open OPS Alliance



高效运维社区
Great OPS Community

指导单位：



数据中心联盟
Data Center Alliance



CaaS在微服务开发运维中的最佳实践

李斌 阿里云容器服务



目录

- ➔ 1 从单体应用到微服务
- 2 容器即服务
- 3 基于CaaS平台的微服务实践



单体应用？

- 特点

- 单一应用代码完成所有功能：包括用户界面、处理逻辑和数据访问

- 优势

- 好多...

- 劣势

- 也不少



<http://www.starwars.com/databank/death-star>

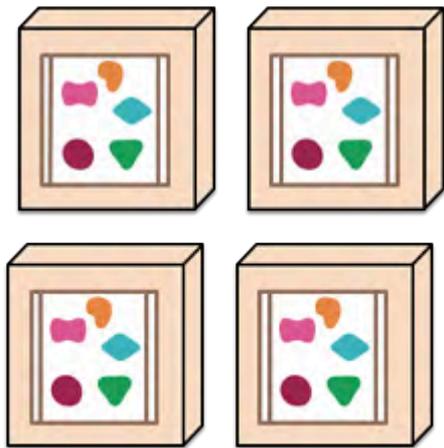


微服务呢？

A monolithic application puts all its functionality into a single process...



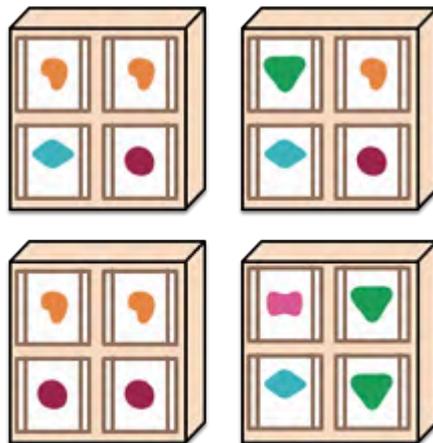
... and scales by replicating the monolith on multiple servers



A microservices architecture puts each element of functionality into a separate service...



... and scales by distributing these services across servers, replicating as needed.



<http://martinfowler.com/articles/microservices.html>



目录

1 从单体应用到微服务

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3 基于CaaS平台的微服务实践

理想与现实

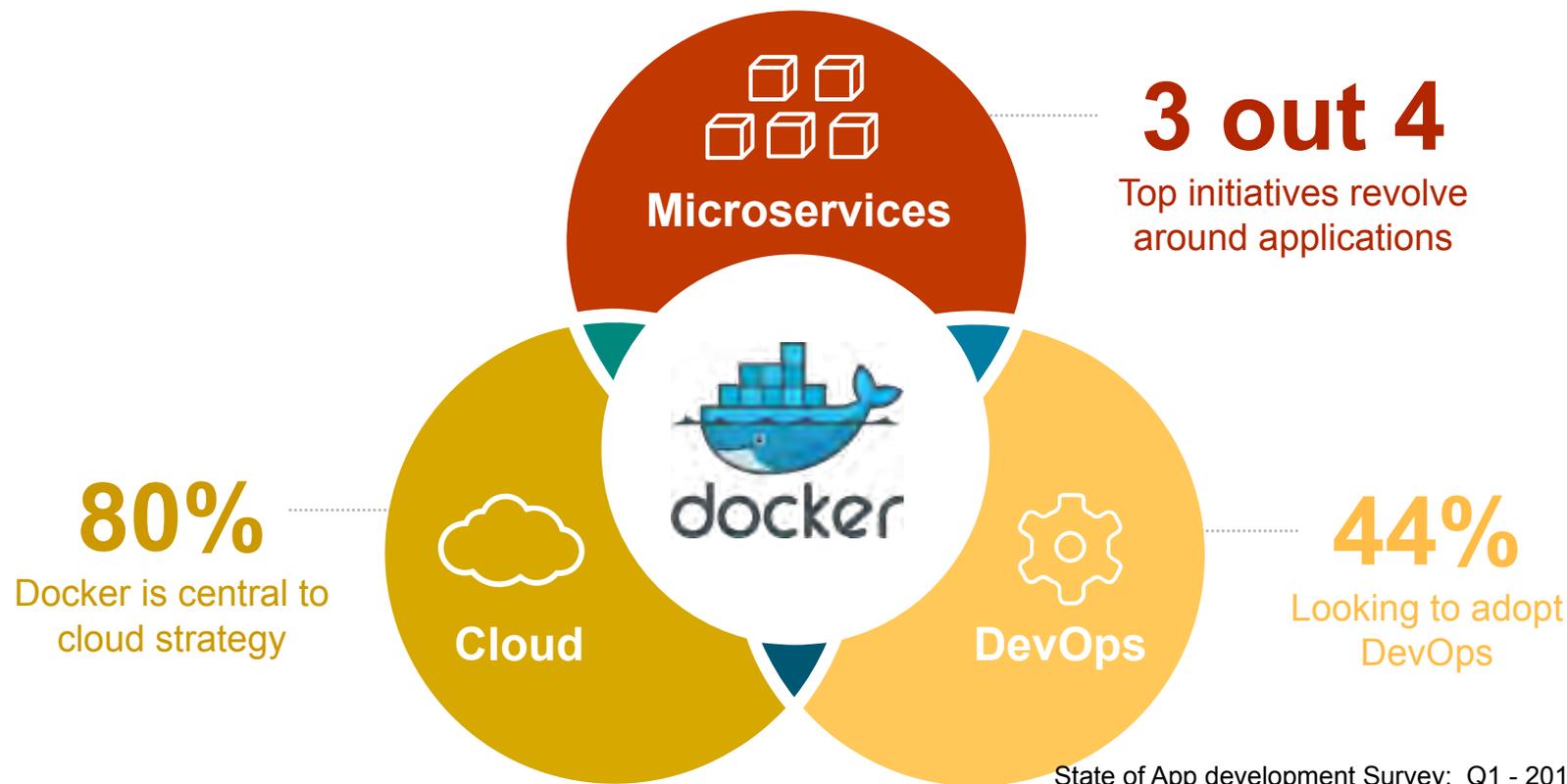


<http://www.starwars.com/>

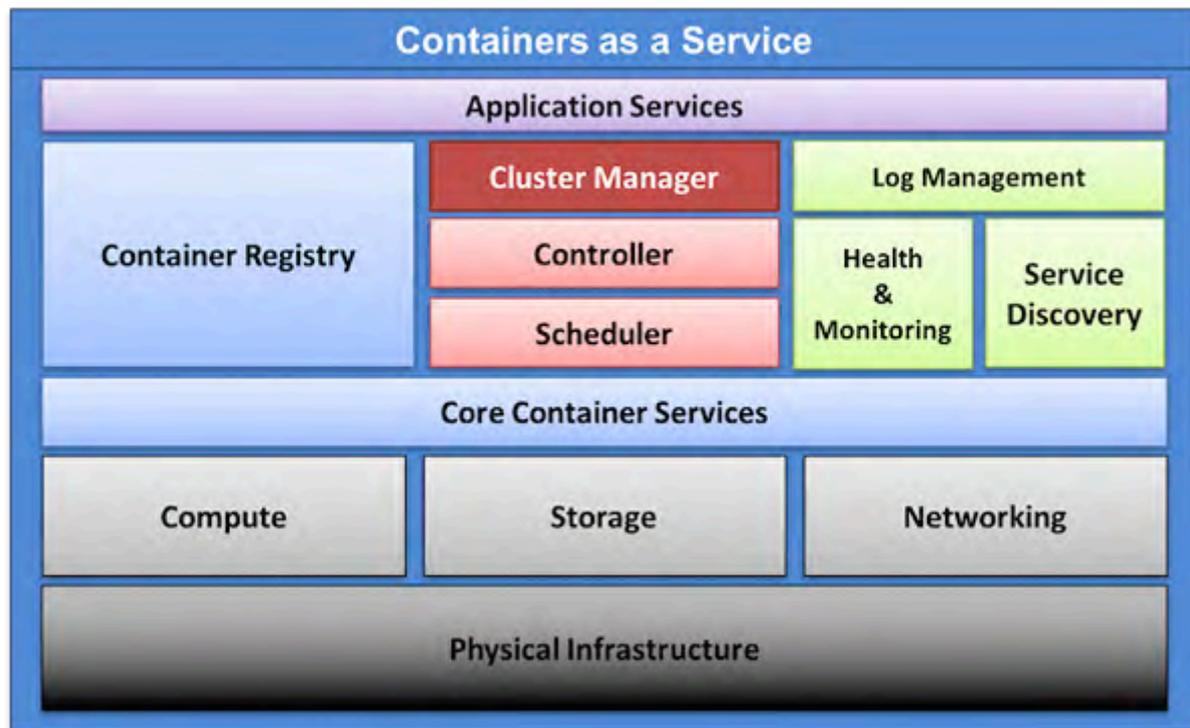


<http://www.mikebonnell.com/>

微服务和Docker



容器即服务CaaS



<http://www.forbes.com/sites/janakirammsv/2016/05/16/confusion-as-a-service-is-ruling-the-container-land/>



目录

1 从单体应用到微服务

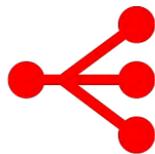
2 容器即服务CaaS

➔ 3 基于CaaS平台的微服务实践

如何支持微服务应用的开发和运维？



服务发现



服务路由



发布策略



弹性伸缩



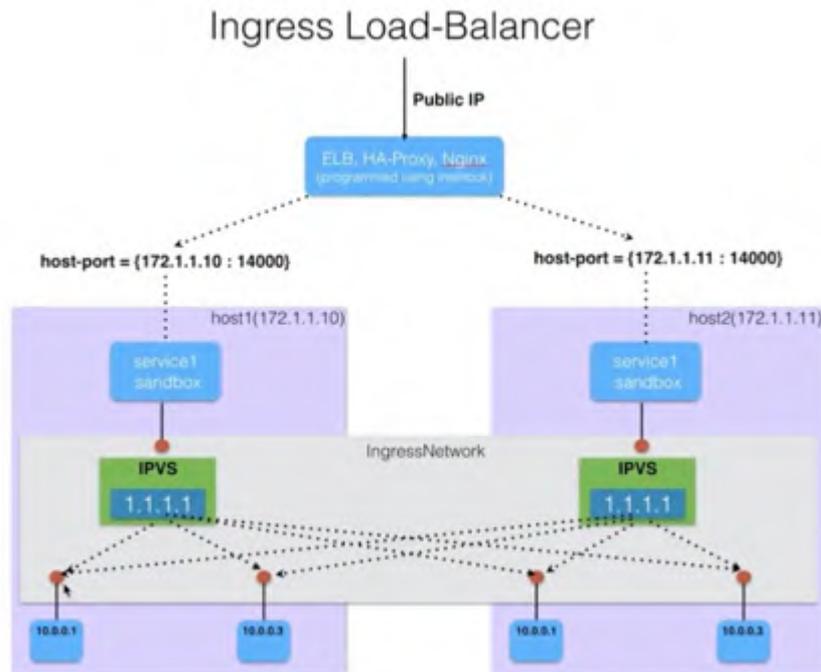
服务管控



SLA保证

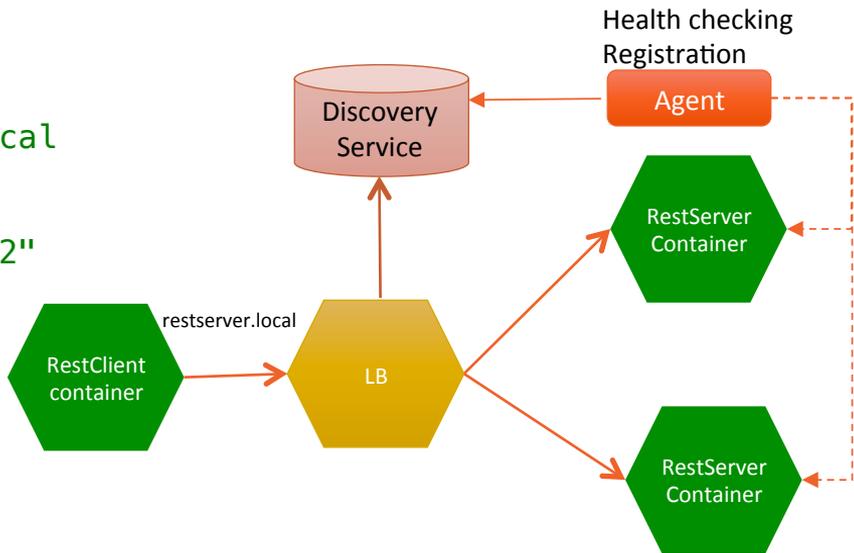
Routing Mesh

- 每个服务一个VIP
- IPVS实现负载均衡
- 动态/手工分配PublishedPort
- 每个worker参与路由



服务发现与负载均衡

```
server:  
  image: test_service  
  labels:  
    aliyun.routing.port_80: restserver.local  
    aliyun.scale: "2"  
    aliyun.probe.url: http://container:80  
    aliyun.probe.initial_delay_seconds: "2"  
    aliyun.probe.timeout_seconds: "2"  
client:  
  image: test_app  
  external_links:  
    - "restserver.local"
```



日志集中和分析

- Container logging support
 - Stdout/Stderr
 - Log directories defined in label

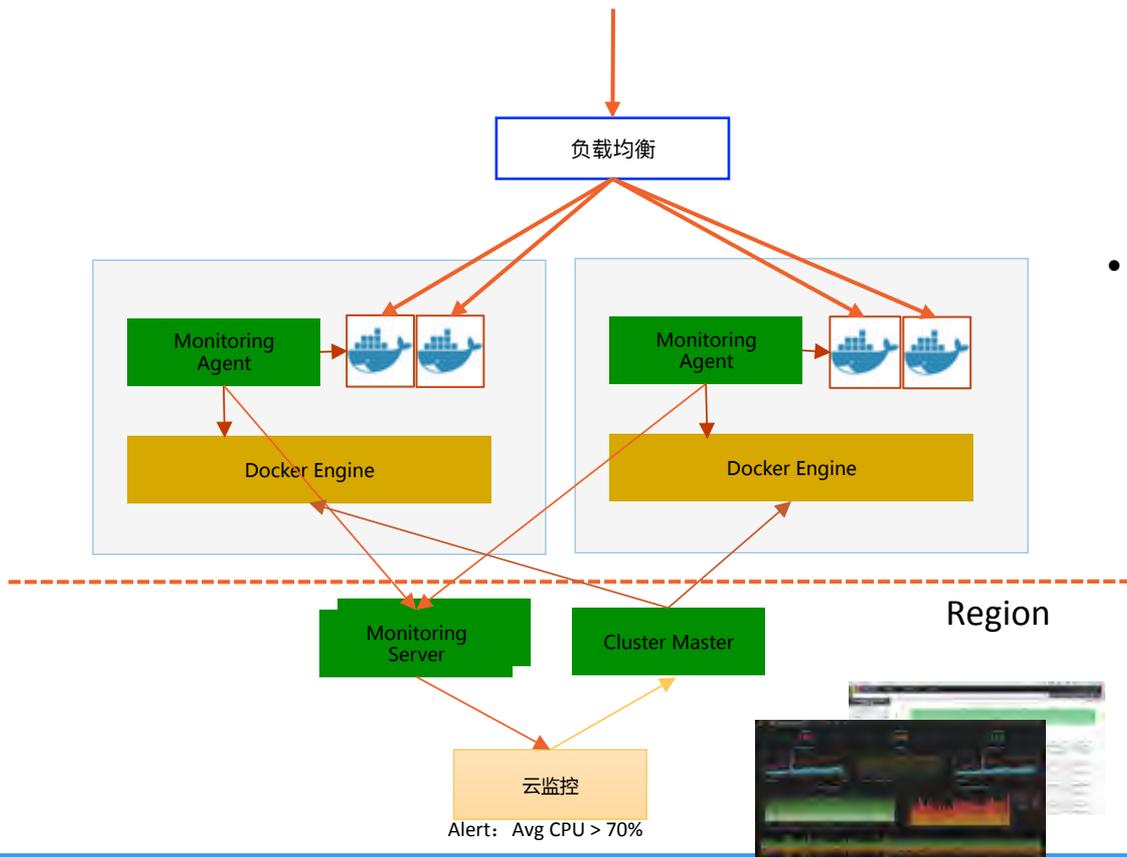
```
aliyun.log_store_db: stdout  
aliyun.log_store_db: /var/log/mysql/
```

- 与日志分析工具集成
- 支持ELK等开源方案

The screenshot displays a container management interface. At the top, under '基本信息' (Basic Information), the service name is 'wordpress', the location is 'log', and the version is 'wordpress:latest'. A green status indicator shows it is running. Below this, the '日志服务' (Log Service) section shows a log stream named 'acilog-log-stdwordpress' with a '查看详情' (View Details) link. A table below lists various containers, including 'log_wordpress_1' which is 'Up 5 minutes' and in a '正常' (Normal) state. The table columns include Name/ID, Status, Health, Image, Port, Container IP, and Host IP.

The screenshot shows a log viewer interface. At the top, a bar chart displays log volume over time, with a significant spike at 47:01:50. Below the chart, the '匹配日志' (Matched Logs) section shows a list of log entries. Each entry includes a timestamp (e.g., 18年03月25日 14:04:20:09), an IP address (10.118.115.77), and the log message content. The messages include WordPress installation status and Apache2 configuration warnings.

监控与弹性伸缩



- 声明式方式定义弹性伸缩策略

```
aliyun.auto_scaling.max_cpu: 70  
aliyun.auto_scaling.step: 2
```

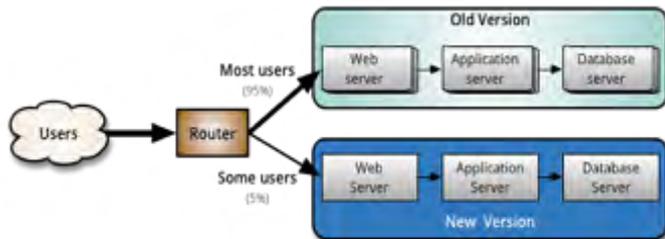
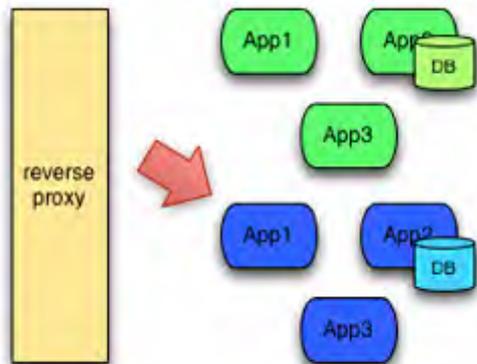
SLA保证



image courtesy to: exotel.in

- 自定义命令/HTTP等健康检查
- 按照资源约束调度和再平衡
- 当节点故障自动重调度、服务亲和性和跨可用区调度约束等机制保证可用性

微服务上线发布策略



小节





Thanks

高效运维社区
开发运维联盟

荣誉出品





想第一时间看到高效运维公众号的好文章么？

请打开高效运维公众号，点击右上角小人，并如右侧所示设置即可：



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2016年12月16日-17日
北京国际会议中心

