

# 企业级持续交付平台的微服务演进

[ ThoughtWorks 林帆 ]

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- ❖ 你以为微服务就是拆服务？
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林帆

ThoughtWorks DevOps 技术咨询师  
《CoreOS 实践之路》书作者

## 案例：企业级持续交付平台

- 2015年8月 -

- ❖ ~5人临时团队
- ❖ 1个Service (和其他开源服务)
- ❖ 不到10服务节点
- ❖ 接入项目数~50

⋮

- 2016年8月

- 
- ❖ ~20人，分为两个团队
- ❖ 超过20个Service
- ❖ 超过200服务节点
- ❖ 接入项目数超过1000



# Jenkins



The screenshot displays the Jenkins web interface. At the top, the Jenkins logo and name are visible, along with a search bar and a 'log out' button. Below the header, the breadcrumb navigation shows 'Jenkins' > 'Pipeline'. On the left sidebar, there are links for 'New Item', 'People', 'Build History', 'Edit View', 'Delete View', 'View Fullscreen', 'Manage Jenkins', 'My Views', and 'Credentials'. The 'Build Queue' section indicates 'No builds in the queue.' The 'Build Executor Status' section shows the status of the master and two hosts, all of which are 'Idle'. The main content area displays a grid of pipeline buttons, including 'A Baaaaaad Example Build Pipeline', 'Alert Build Pipeline', 'All', 'Beature Build Pipeline', 'Big Bang Build Pipeline', 'Bland Build Pipeline', 'Button Key Build Pipeline', 'Capacity Full Build Pipeline', 'Casion Build Pipeline', 'Chairs Build Pipeline', 'Charger Build Pipeline', 'Classes Build Pipeline', 'Cloudy Build Pipeline', 'Complex Build Pipeline', 'Condision Build Pipeline', 'Demo Build Pipeline', 'Dog Cat Build Pipeline', 'Door Window Build Pipeline', 'Exiting Build Pipeline', 'Filtering Build Pipeline', 'Foods Build Pipeline', 'Frinends Build Pipeline', 'Fruits Build Pipeline', 'Gag Black Build Pipeline', 'Green Bule Build Pipeline', 'Hexo Build Pipeline', 'Hotel Build Pipeline', 'Ins Build Pipeline', 'Interestin Build Pipeline', 'Lead Sales Build Pipeline', 'Light Up Build Pipeline', 'Living Room Build Pipeline', 'Loooooong Name Build Pipeline', 'Mango Build Pipeline', 'Messsy Build Pipeline', 'Modle Build Pipeline', 'Mug Build Pipeline', 'Named Build Pipeline', 'No moooooeeeeeeeee Build Pipeline', 'One Two Three Build Pipeline', 'Pastic Build Pipeline', 'Pipeline', 'Queueu Build Pipeline', 'Random Build Pipeline', 'Raning Build Pipeline', 'Relax Build Pipeline', 'Sky Build Pipeline', 'Sleep Walk Build Pipeline', 'Squid Build Pipeline', 'Squirrels Build Pipeline', 'Summary Build Pipeline', 'Sunny Build Pipeline', 'Supermarket Build Pipeline', 'Talking Loud Build Pipeline', 'Television Build Pipeline', 'Timing Build Pipeline', 'Tree Grass Build Pipeline', 'Ugly Build Pipeline', 'Unhappy Build Pipeline', 'Vegetable Build Pipeline', 'View Everything Build Pipeline', 'Wall Paper Build Pipeline', 'Warning Build Pipeline', 'White Bus Build Pipeline', and 'Words Build Pipeline'. The 'Pipeline' button is highlighted. Below the grid, the selected pipeline is shown with a title '#191 triggered by SCM changes by [redacted] started'. The changes section shows a commit hash 'f13435feb505a860012ad759cca27146456f8fe'. The pipeline steps are 'Build' (54 sec), 'CreateImage' (15 sec), 'Deploy' (1 sec), and 'Clean' (0 sec).

Jenkins

Jenkins > Pipeline

ENABLE AUTO REFRESH

add description

New Item

People

Build History

Edit View

Delete View

View Fullscreen

Manage Jenkins

My Views

Credentials

Build Queue

No builds in the queue.

Build Executor Status

master

1 Idle

2 Idle

Host

1 Idle

2 Idle

Host

1 Idle

2 Idle

A Baaaaaad Example Build Pipeline

Alert Build Pipeline

All

Beature Build Pipeline

Big Bang Build Pipeline

Bland Build Pipeline

Button Key Build Pipeline

Capacity Full Build Pipeline

Casion Build Pipeline

Chairs Build Pipeline

Charger Build Pipeline

Classes Build Pipeline

Cloudy Build Pipeline

Complex Build Pipeline

Condision Build Pipeline

Demo Build Pipeline

Dog Cat Build Pipeline

Door Window Build Pipeline

Exiting Build Pipeline

Filtering Build Pipeline

Foods Build Pipeline

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Gag Black Build Pipeline

Green Bule Build Pipeline

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Living Room Build Pipeline

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Messsy Build Pipeline

Modle Build Pipeline

Mug Build Pipeline

Named Build Pipeline

No moooooeeeeeeeee Build Pipeline

One Two Three Build Pipeline

Pastic Build Pipeline

Pipeline

Queueu Build Pipeline

Random Build Pipeline

Raning Build Pipeline

Relax Build Pipeline

Sky Build Pipeline

Sleep Walk Build Pipeline

Squid Build Pipeline

Squirrels Build Pipeline

Summary Build Pipeline

Sunny Build Pipeline

Supermarket Build Pipeline

Talking Loud Build Pipeline

Television Build Pipeline

Timing Build Pipeline

Tree Grass Build Pipeline

Ugly Build Pipeline

Unhappy Build Pipeline

Vegetable Build Pipeline

View Everything Build Pipeline

Wall Paper Build Pipeline

Warning Build Pipeline

White Bus Build Pipeline

Words Build Pipeline

Pipeline

#191 triggered by SCM changes by [redacted] started

Changes:

f13435feb505a860012ad759cca27146456f8fe

Build

54 sec

CreateImage

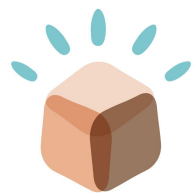
15 sec

Deploy

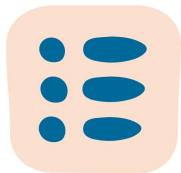
1 sec

Clean

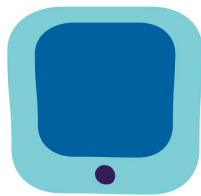
0 sec



MySQL



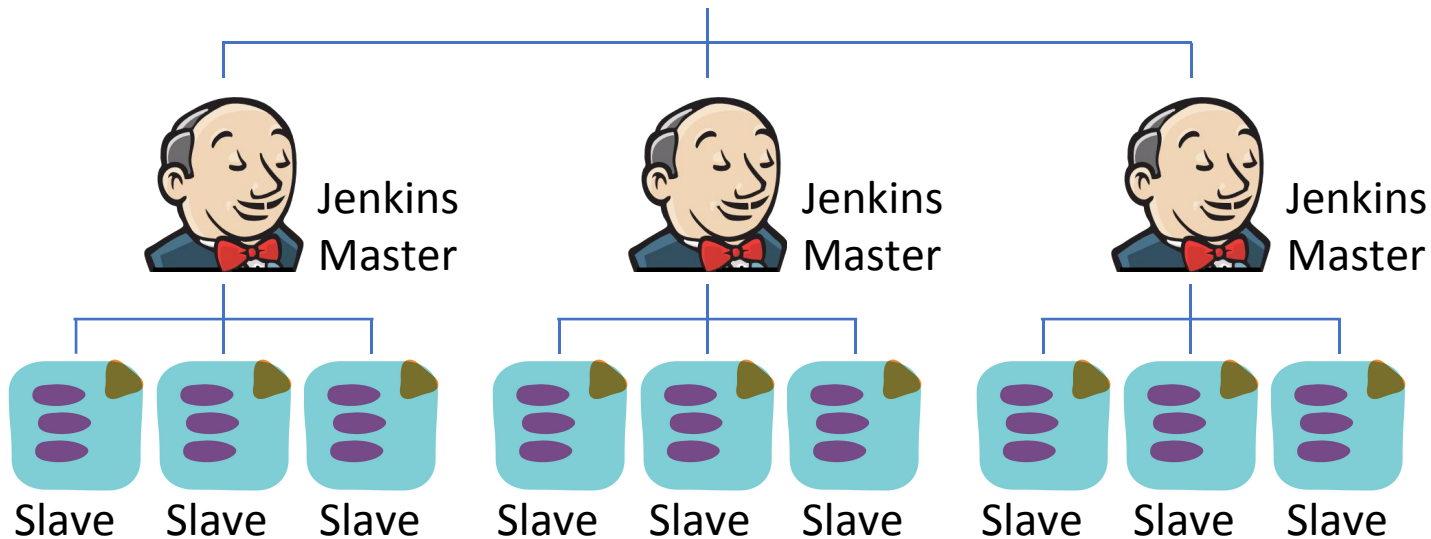
SonarQube

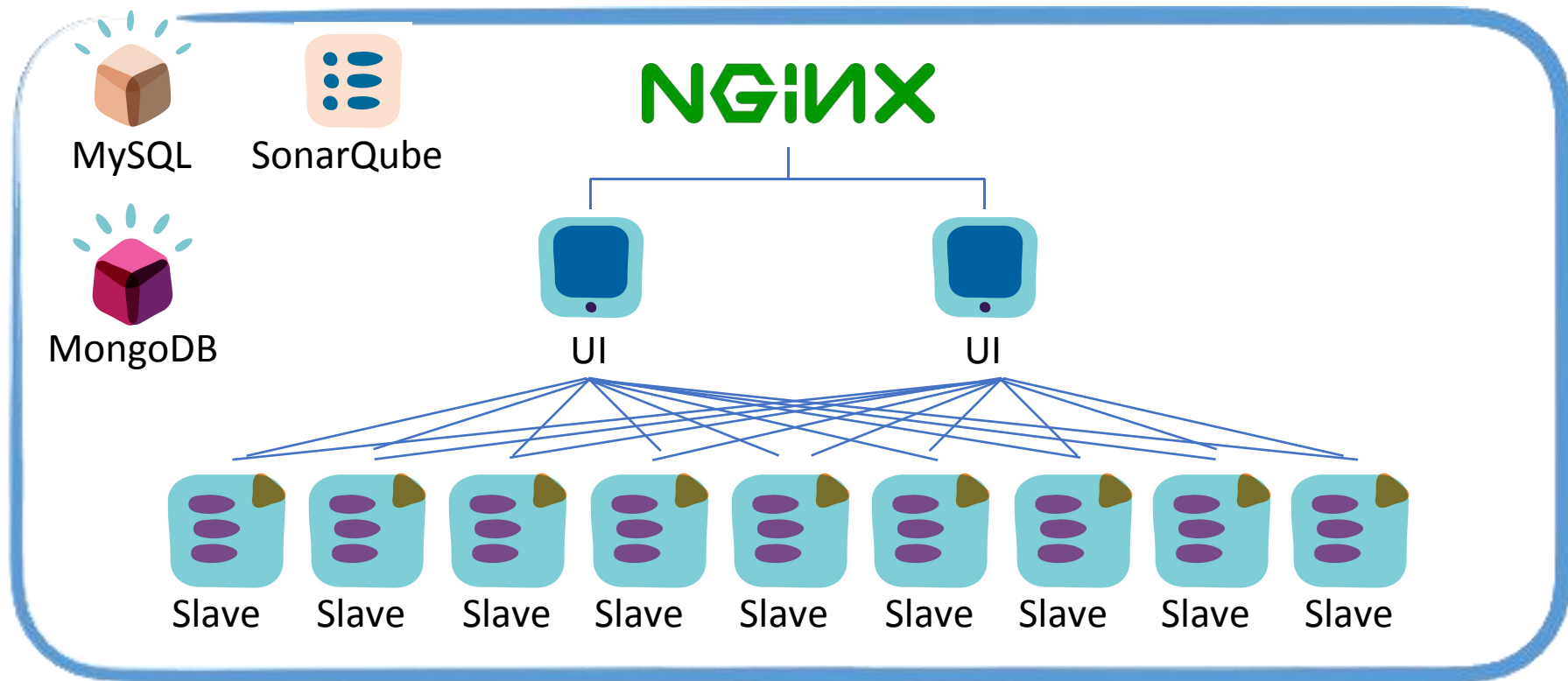


UI

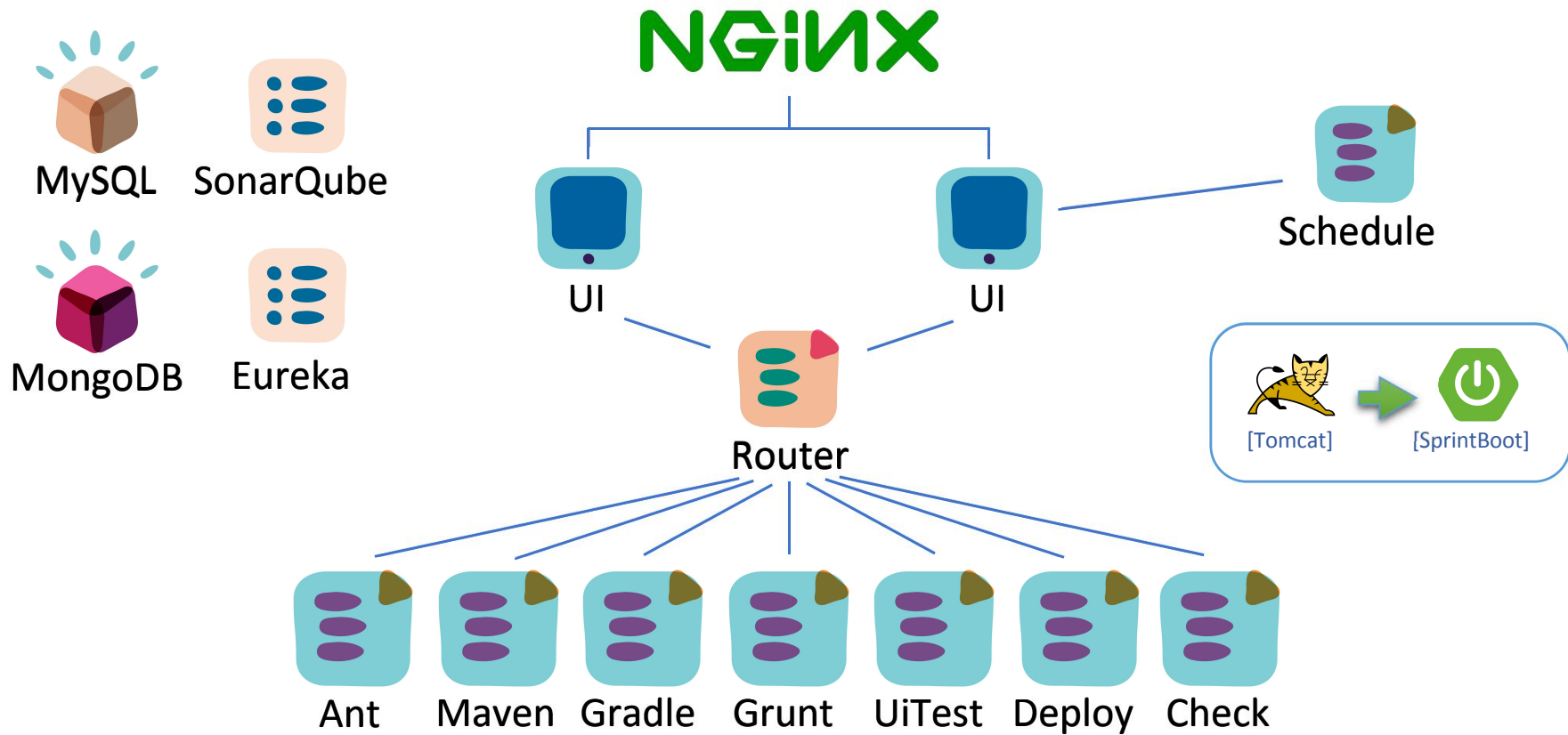


MongoDB

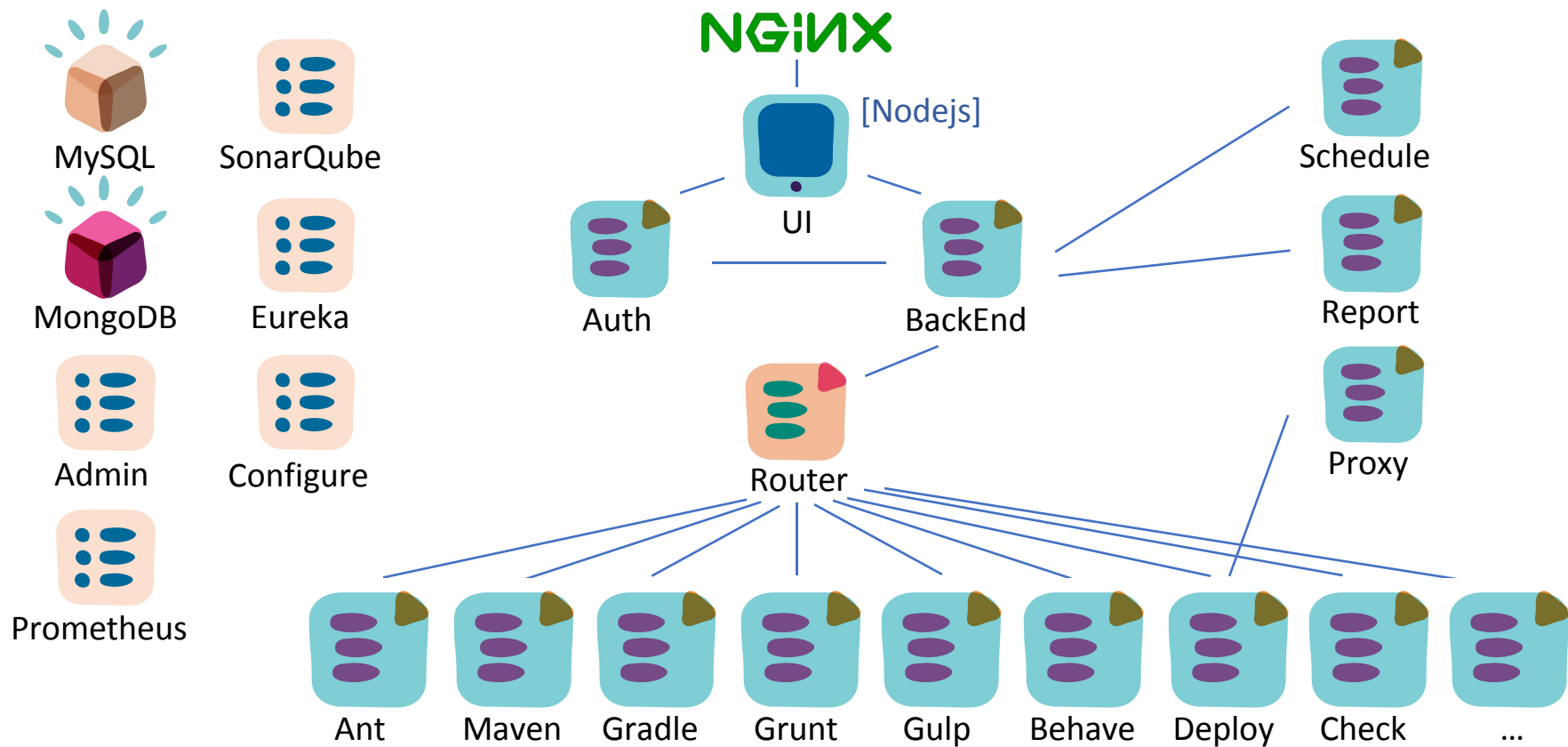


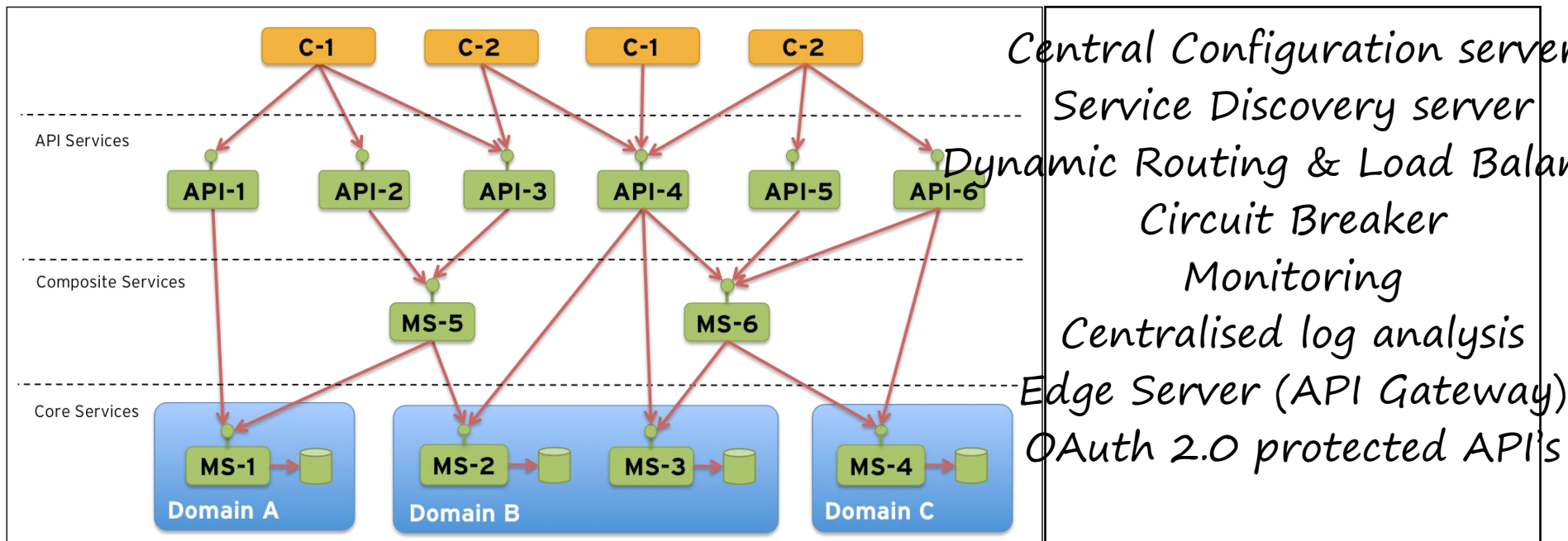




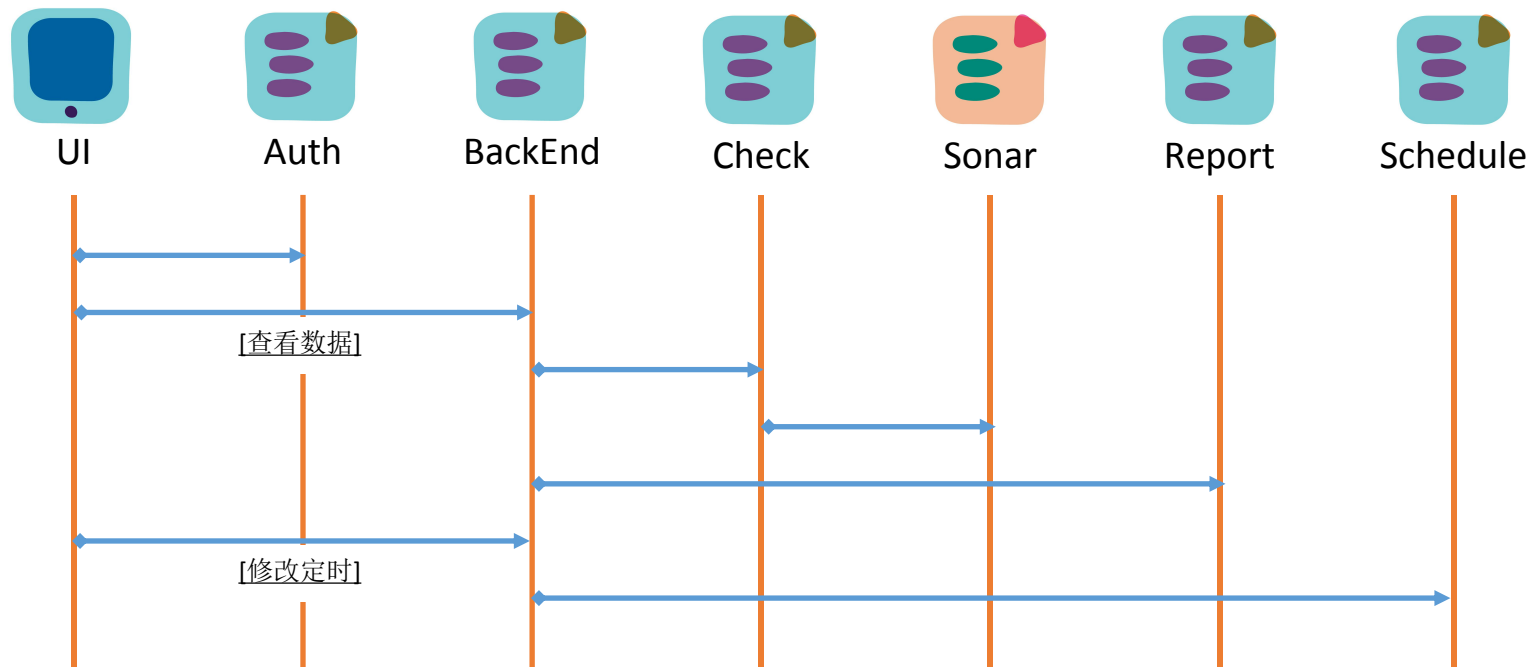




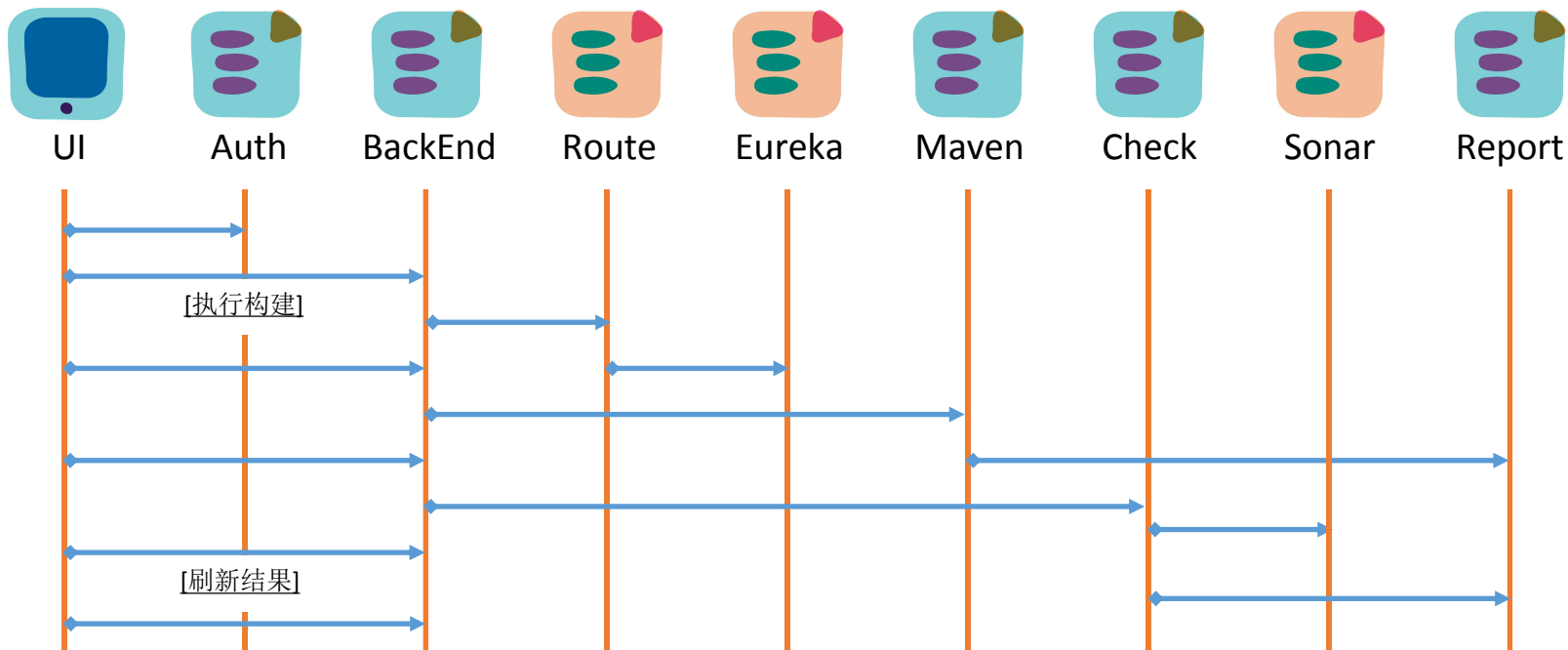




## 用户查看和修改流水线



## 用户执行一次项目构建



## 服务何时应该拆分？

- ❖ 代码量过大、逻辑混乱（也许可以考虑重写这个服务...）
- ❖ 服务承担了多个独立业务职责（代码存在大量重复判断语句）
- ❖ 同时有太多功能需要在同一个代码仓库进行开发（>3~5个）

你以为微服务  
的关键真的就是拆分服务？



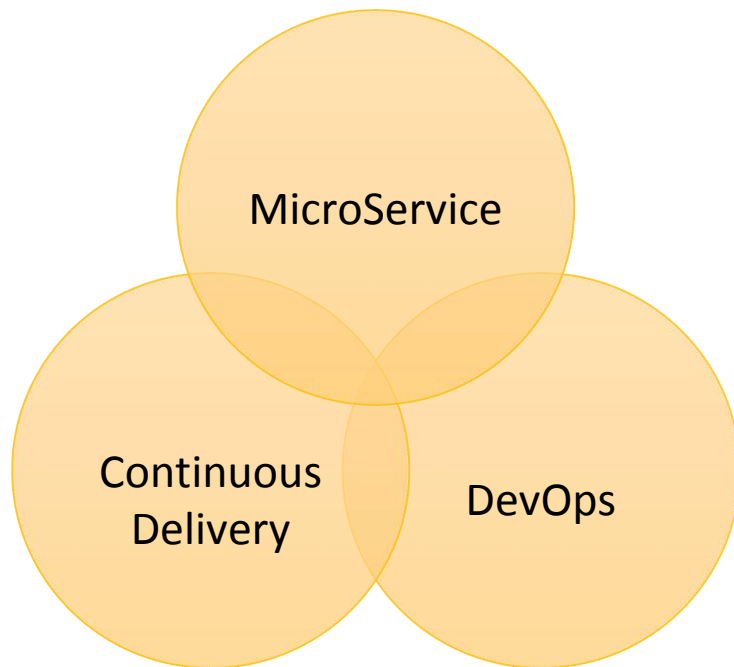
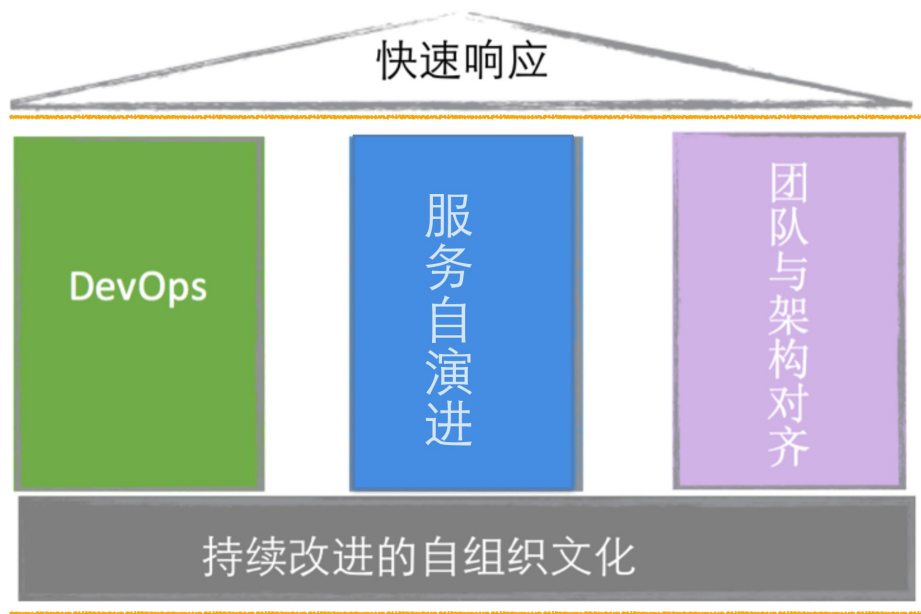
## 微服务真的只是拆分服务？

- ❖ 架构不是银弹
- ❖ 基础设施&团队文化

设计系统的组织，其产生的设计和架构等价于组织间的沟通结构

—— Conway' s law

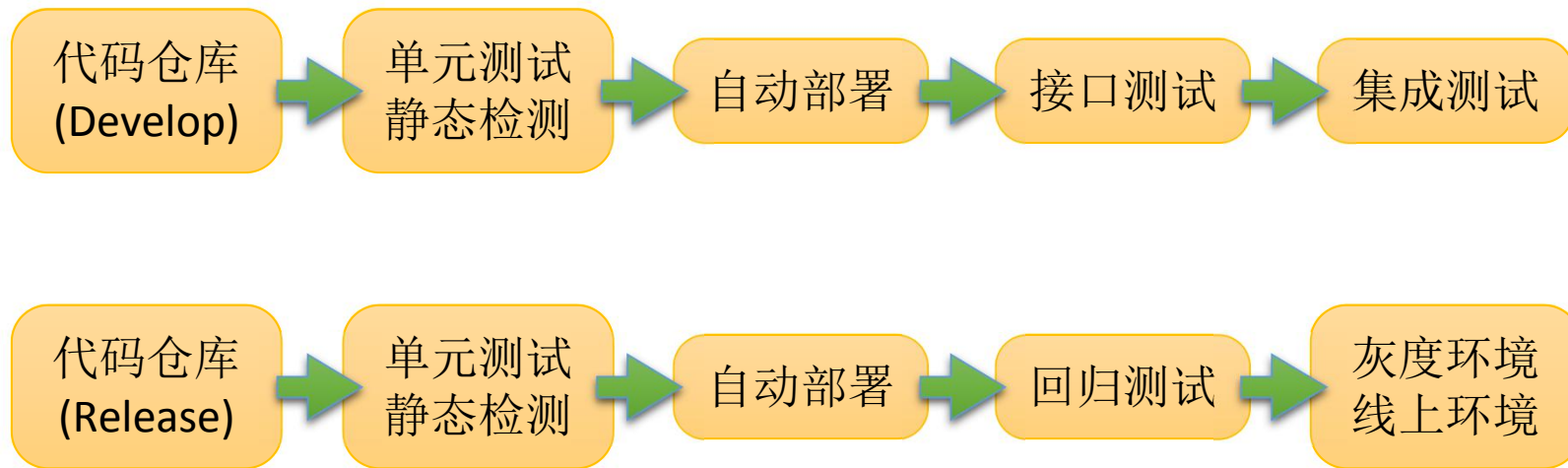




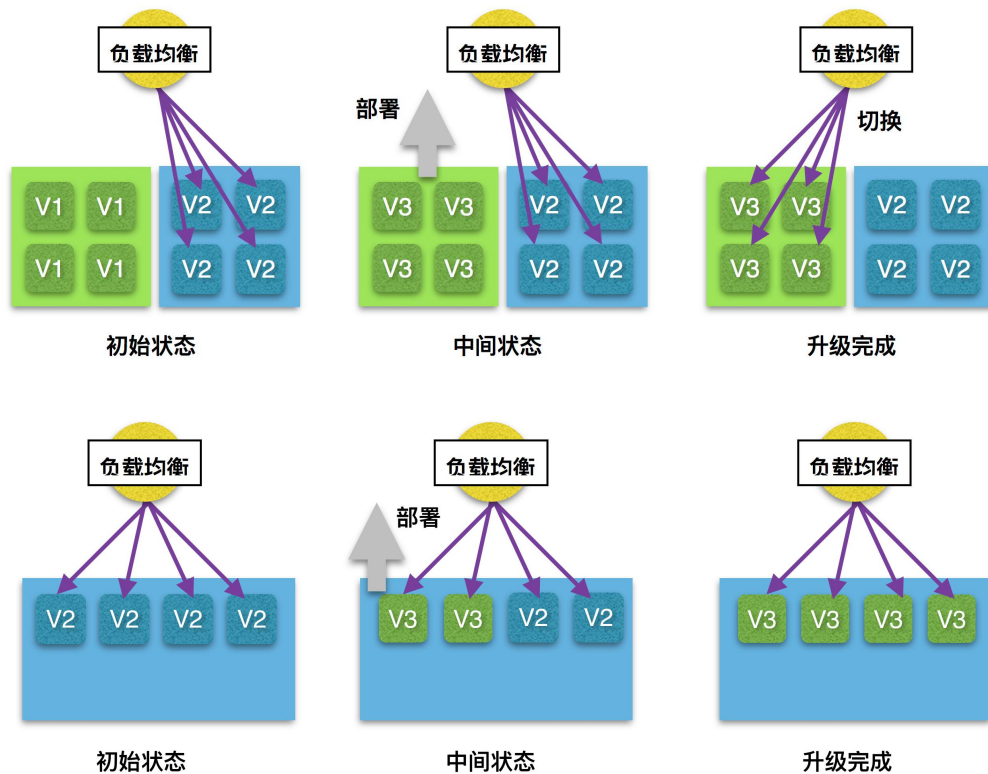
## 微服务关键实践

- ❖ 持续交付
- ❖ 全功能团队
- ❖ 自动化运维
- ❖ 服务高可用
- ❖ 不离线部署
- ❖ 监控告警
- ❖ 容器化

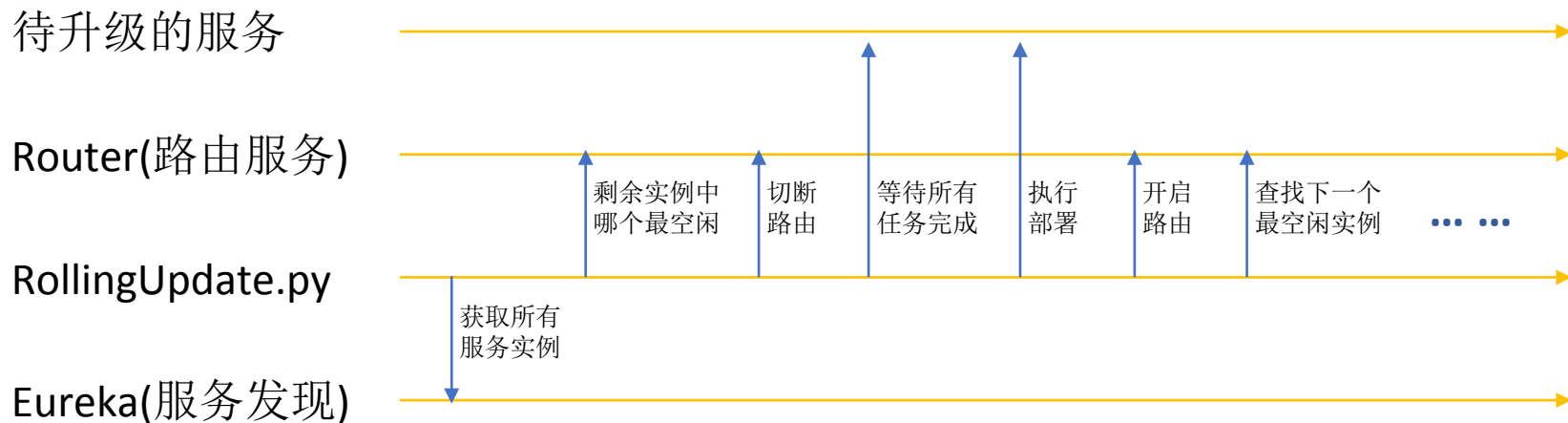
## 基于主干开发的流水线



## 服务的不离线部署

BlueGreen  
UpdateRolling  
Update

# 带状态检查的Rolling Update



## 为什么要用微服务

- ❖ 多技术栈混用，方便新技术引入
- ❖ 更低的试错成本，更快的响应变化

## 微服务的潜在好处

- ❖ 更清晰的代码，更少的分支，便于持续集成优化
- ❖ 更短的构建时间，更快的运行测试，更好的并行开发

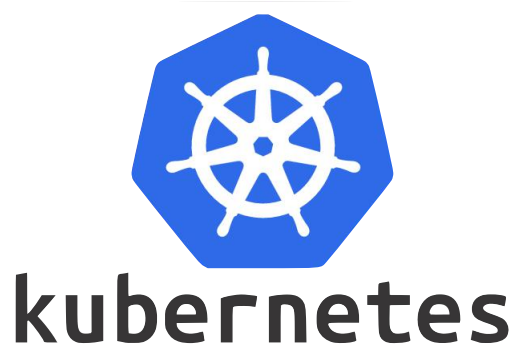
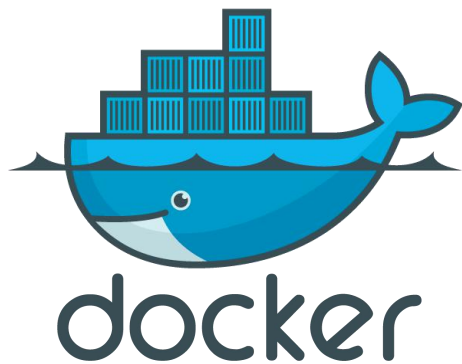


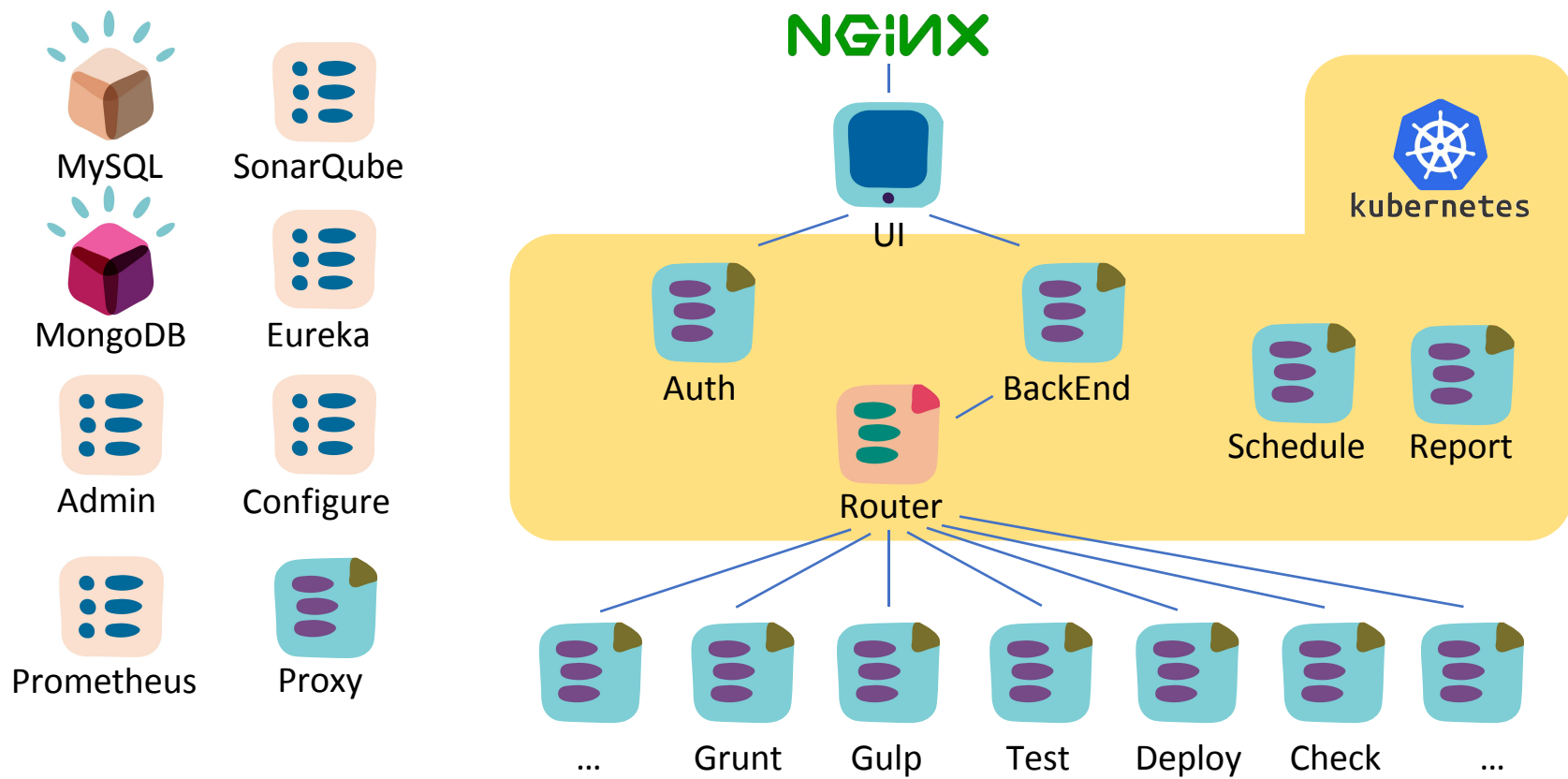
## 微服务的潜在问题

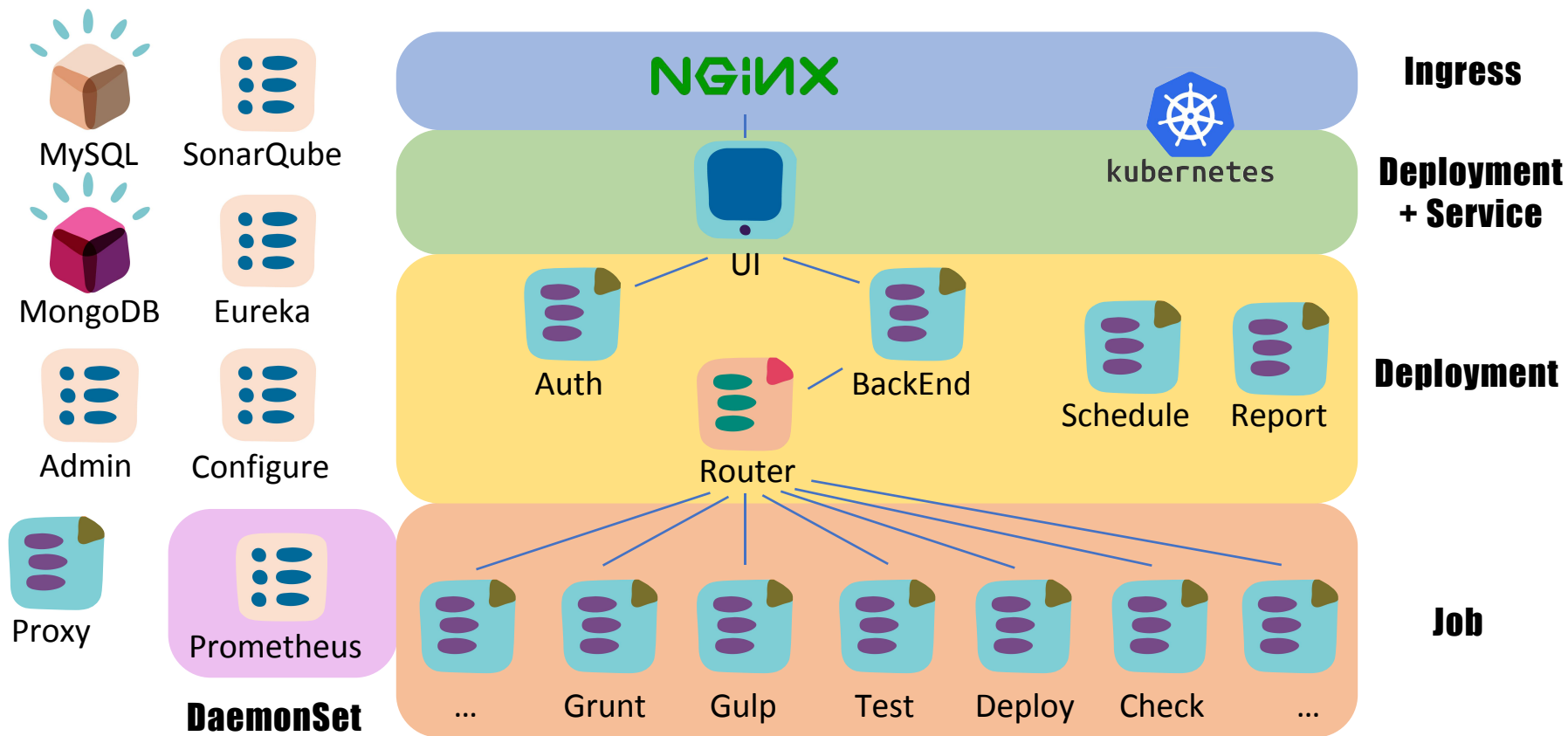
- ❖ 接口&依赖的版本管理
- ❖ 链式故障&跨团队问题追踪
- ❖ 数据表归属&数据耦合
- ❖ 分布式系统的其他一切问题



## 微服务的容器化探索







# Thanks

[flin@thoughtworks.com](mailto:flin@thoughtworks.com)