



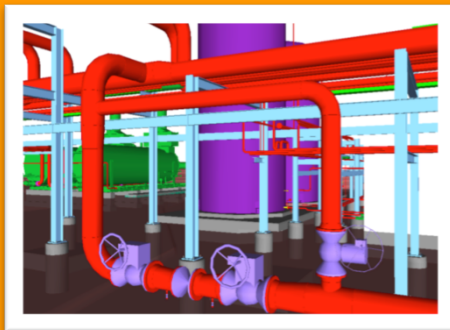
基于Spring Cloud 的灰度发布实践

Spring Cloud 社区上海站分享

易攀科



Who am I ?



必应 易攀科 同济大学

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Where am I from ?



买单侠

买单侠（上海秦苍信息科技有限公司，英文名Omni prime），以"你的梦想我来买单"为宗旨，是国内领先的金融科技公司。旗下APP"买单侠"是一款面向年轻人群的移动信用金融服务产品。买单侠团队成员分别来自于红杉资本、微软、谷歌、Autodesk、硅谷顶级投资机构以及国内顶尖银行。创始团队成员分别毕业于斯坦福、清华、南京大学、复旦、交大等知名学府。

买单侠成长历程



2016.2

买单侠完成大额C轮融资，历史融资总额达到8697万美金。顺为资本、京东金融领投，晨兴创投等多家知名机构跟投。

2014.9

获得红杉资本和策源创投1500万美元的A轮融资。

2014.7

正式开始运营。随即获得真格基金、新东方联合创始人王强、百度创业元老任旭阳的天使投资。

2014.3

上海秦苍信息科技有限公司成立。



买单侠股东阵容



王强

新东方联合创始人



任旭阳

百度创业元老



徐小平

新东方联合创始人



沈南鹏

红杉中国创始及
执行合伙人、买单侠董事



陈一舟

人人网创始人、
买单侠董事



创始团队



联合创始人&首席执行官

胡丹

前红杉资本中国基金副总裁。在红杉资本，胡丹主要负责TMT投资，负责和参与的项目有：

真格基金、聚美优品、拍拍贷、格灵深瞳、找钢网、大姨吗、Towerim、无双科技(A&G)等。在红杉之前，胡丹是麦肯锡的战略顾问，客户包括世界银行、国家电网、TPG和塔塔集团等。胡丹拥有斯坦福大学的MBA学位和清华大学的工程学本科学位。



联合创始人&首席技术官

李炫熠

前微软人脸识别技术互联网应用项目软件工程师，Autodesk SaaS、云计算及

移动产品研发经理。10年IT互联网领域技术架构及技术团队管理经验。对金融投资领域有浓厚的兴趣，曾发布多款金融投资领域互联网及移动产品。在买单侠负责实时决策引擎、自动化风控管理、系统、商户、客户移动端产品的构建。李炫熠拥有南京大学计算机科学与技术学士学位。



首席风控官

朱君

历任中国交通银行信用卡中心风险部反欺诈经理、携程计算机技术有限公司信息安全部数据

分析高级经理等职位。超过8年银行信贷资产组合和反欺诈风险管理经验。在交行时，担任反欺诈、信用评级、审核流程、运营管理等诸多风险相关的核心岗位，经历了信用卡在国内从跑马圈地到精耕细作的整个发展过程，对风险管理技术应用于不同人群有独到的理解。朱君拥有上海华东师范大学工学学士学位。

买单侠投资机构



真格基金

中国天使投资著名品牌。聚美优品、世纪佳缘、兰亭集势、51TALK、小红书、找钢网的投资人。



红杉资本

全球顶尖的VC之一。谷歌、苹果、思科、阿里巴巴、京东、美团点评等互联网巨头的投资人。



策源创投

互联网领域知名VC。奇虎360、美团点评、迅雷、UCWeb的投资人。



人人公司

全球互联网金融领域活跃上市公司。



顺为资本

雷军管理的基金。小米、爱奇艺、今日头条的投资人。



京东金融

京东金融

国内互联网金融科技巨头。



华兴资本

互联网领域最强投行、已完成逾60亿美元的私募融资和并购交易。



晨兴资本

中国最早从事早期风险投资的机构之一、管理逾十六亿美元资金。携程、UCWeb、小米科技的投资人。



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Gold
Glory

技术
钱景
情怀



迷茫 焦虑
无用武
之地

Come On

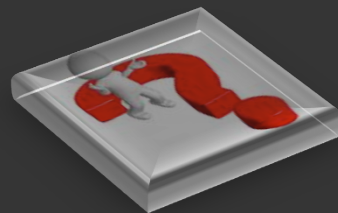
yipk@fenqi.im



Agenda

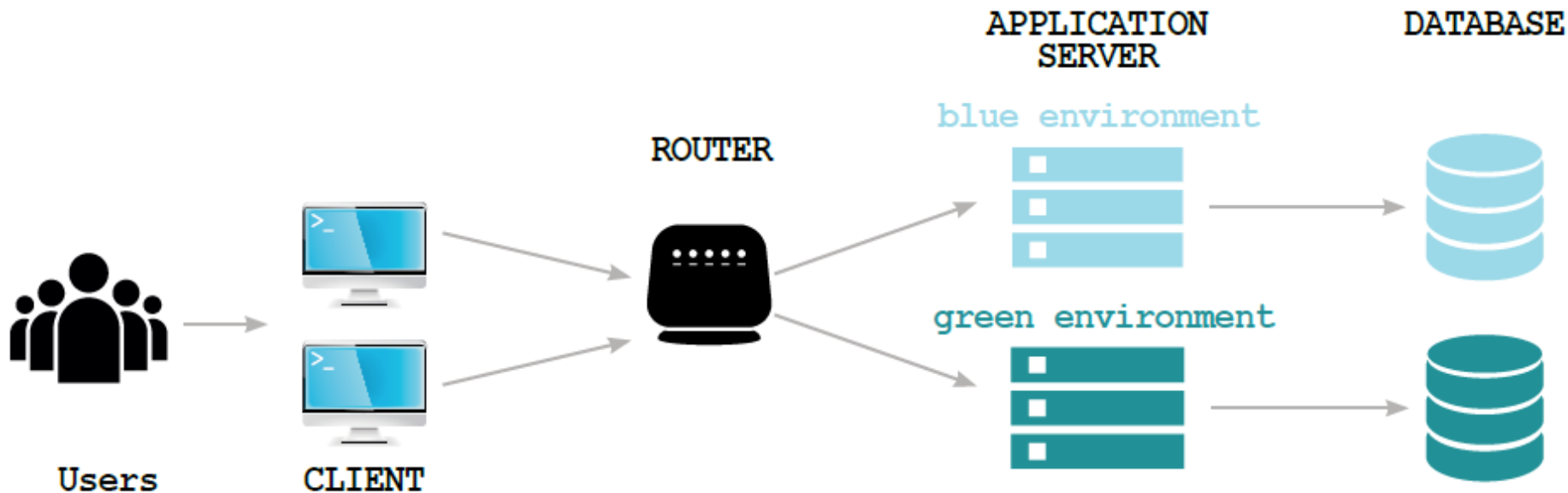
- 什么是灰度发布
- Spring Cloud的灰度发布实践
- Q&A





什么是灰度发布

Blue/Green Process



Companies Using Blue/Green Deployment



Netflix is a popular use case of Blue/Green deployment. For branding purposes, they have changed it to Red/Black deployment, but the basic concepts are the same. They use custom built automation tools to help in managing their infrastructure, deployment, and rollbacks in the event that the new version is unsuccessful.

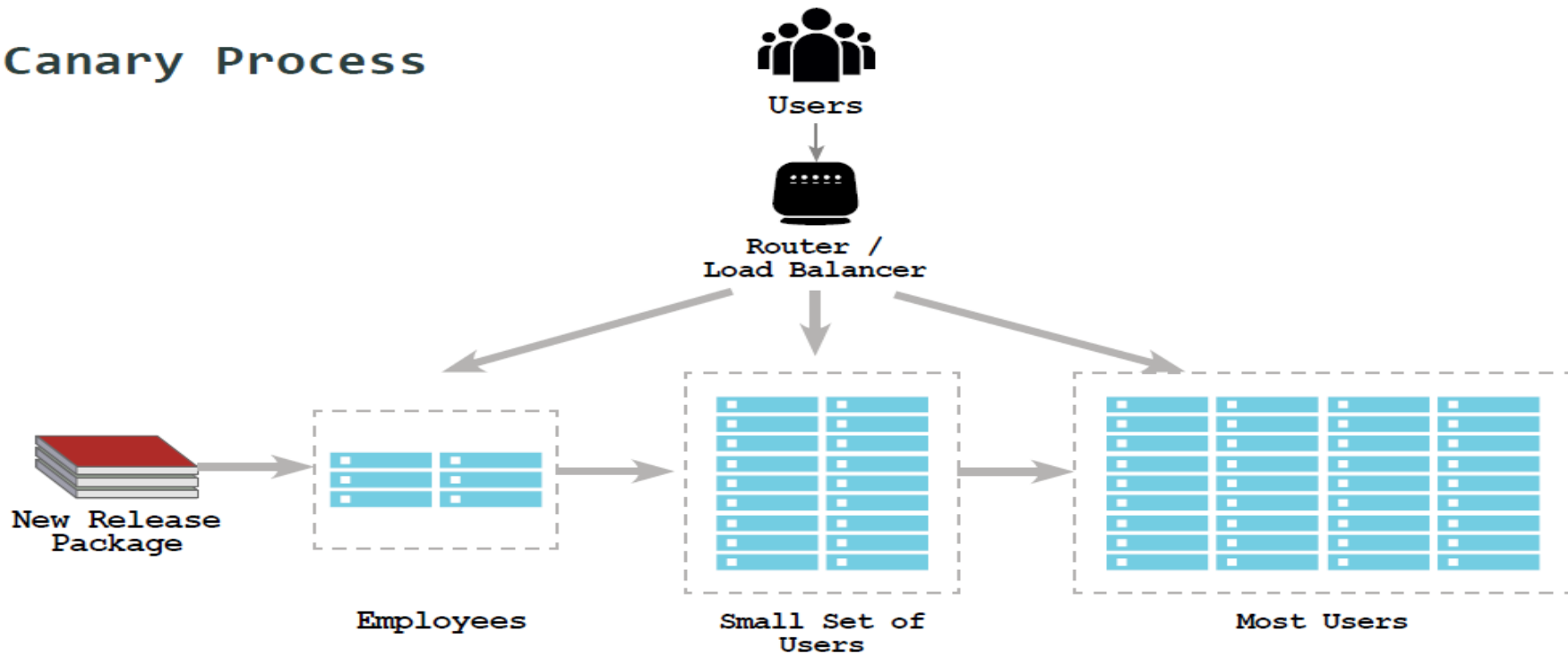


Localytics is an analytics and marketing platform for smartphone applications. One of their first steps in integrating Continuous Delivery in their organization was to adopt a blue/green deployment system in order to deploy new versions of their product.



Etsy is one of the more popular trail-blazers when it comes to cloud development and Continuous Delivery. In 2010 they revealed their Continuous Delivery and blue/green process which includes deploying to their staging environment nicknamed "Princess."

Canary Process



Companies Using Canary Deployment



Facebook.com has built an extensive CD strategy and utilizes canary release for all feature changes. Most new Facebook features are built and then slowly rolled out to users over a few months. The first canary release is usually launched to 1% of their users and then increases over time.

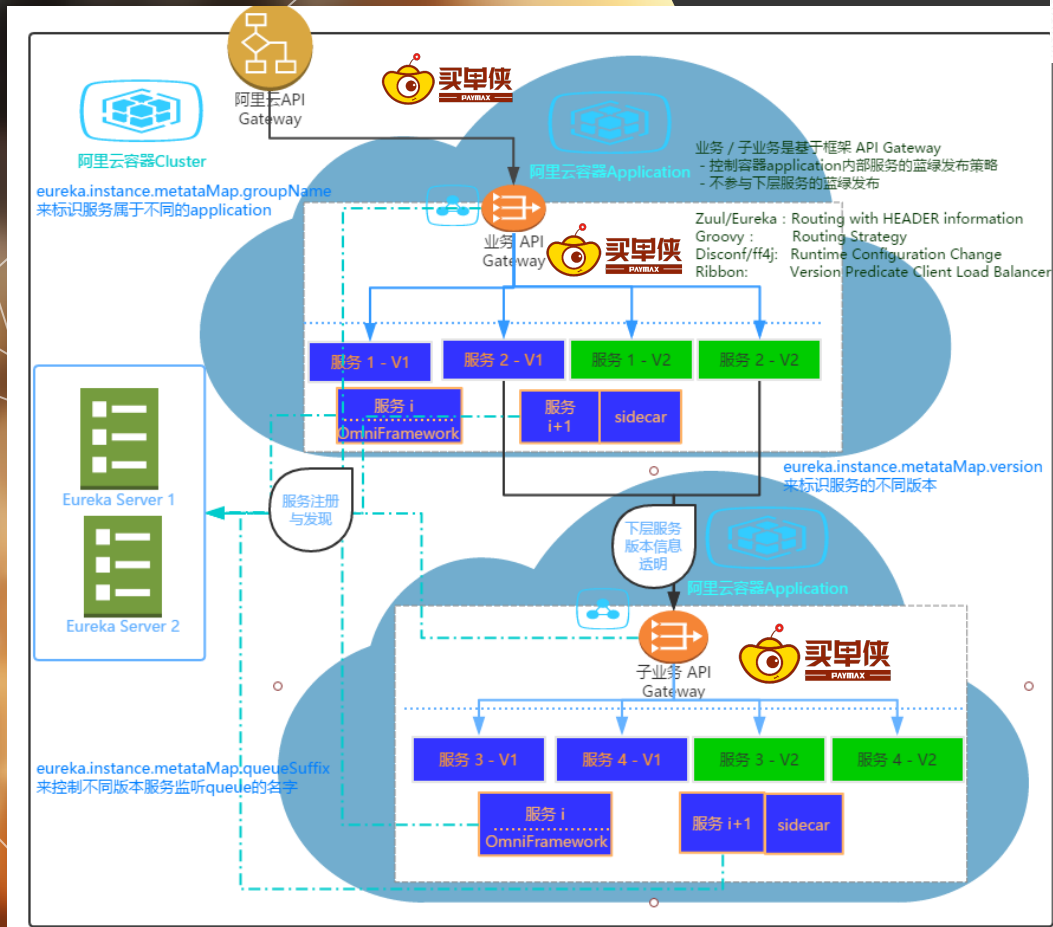


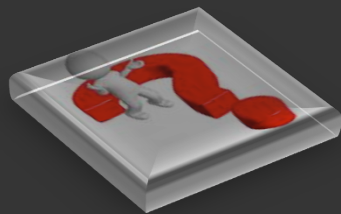
Box employs 100+ engineers which are constantly churning out approximately 350 changes a week. In order to mitigate risk associated with deployment of their features, they implement canary release to better test their changes live and with current, real users.



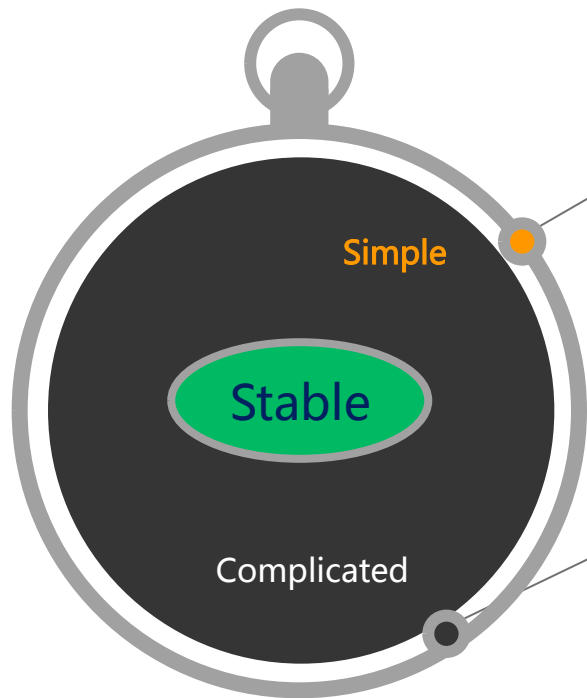
Wix uses canary release among other CD practices in order to implement A/B testing of their new features. Their goal is to get quick feedback about their new features from real users in order to make better decisions on what features to implement in their production environment.

灰度发布





Spring Cloud 的灰度发布实践



简单

简单易懂

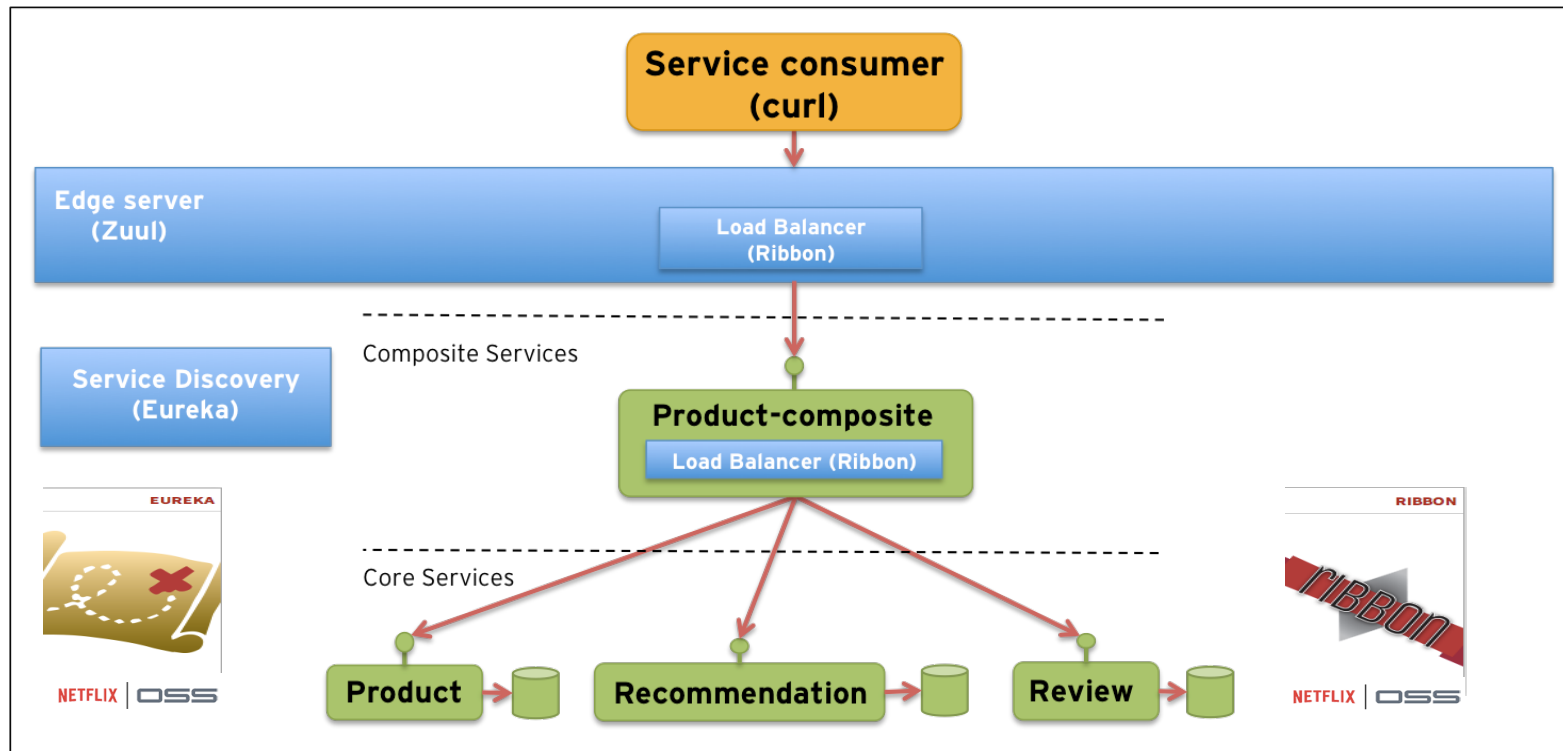
越简单越稳定

复杂

化繁为简

越复杂越脆弱

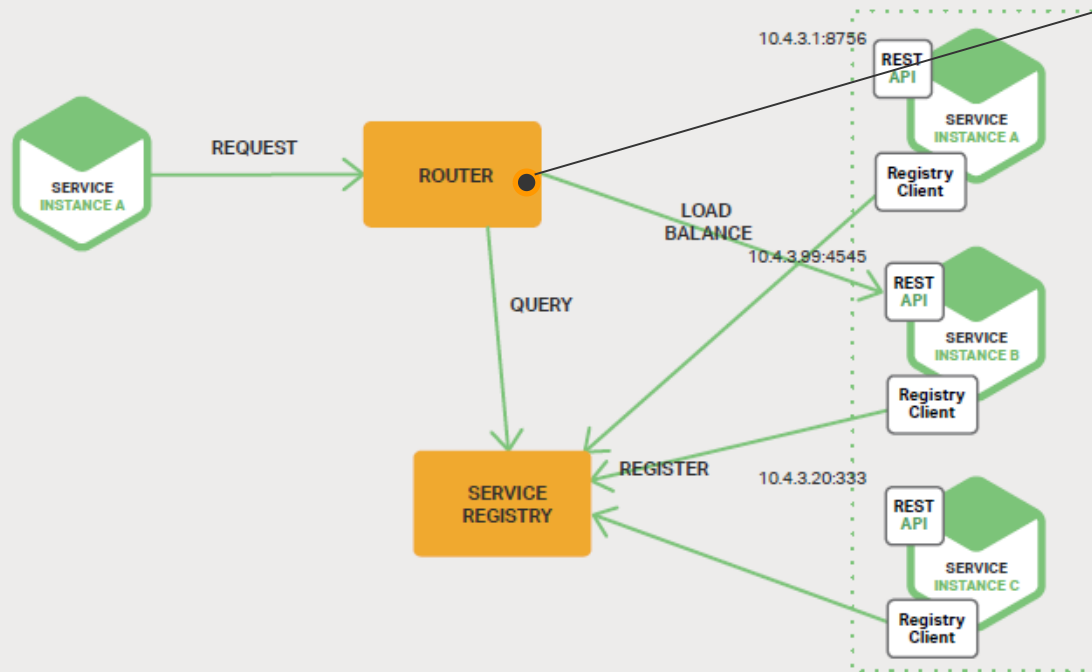
框架分解



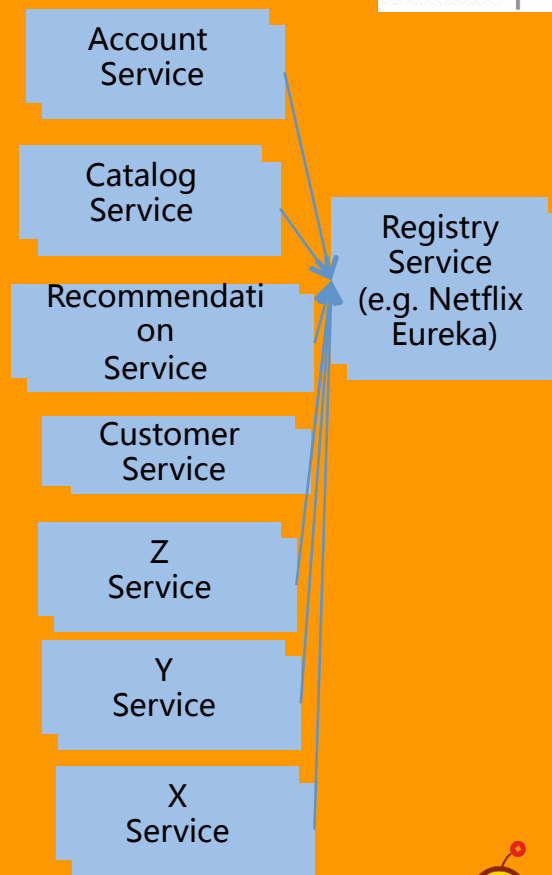
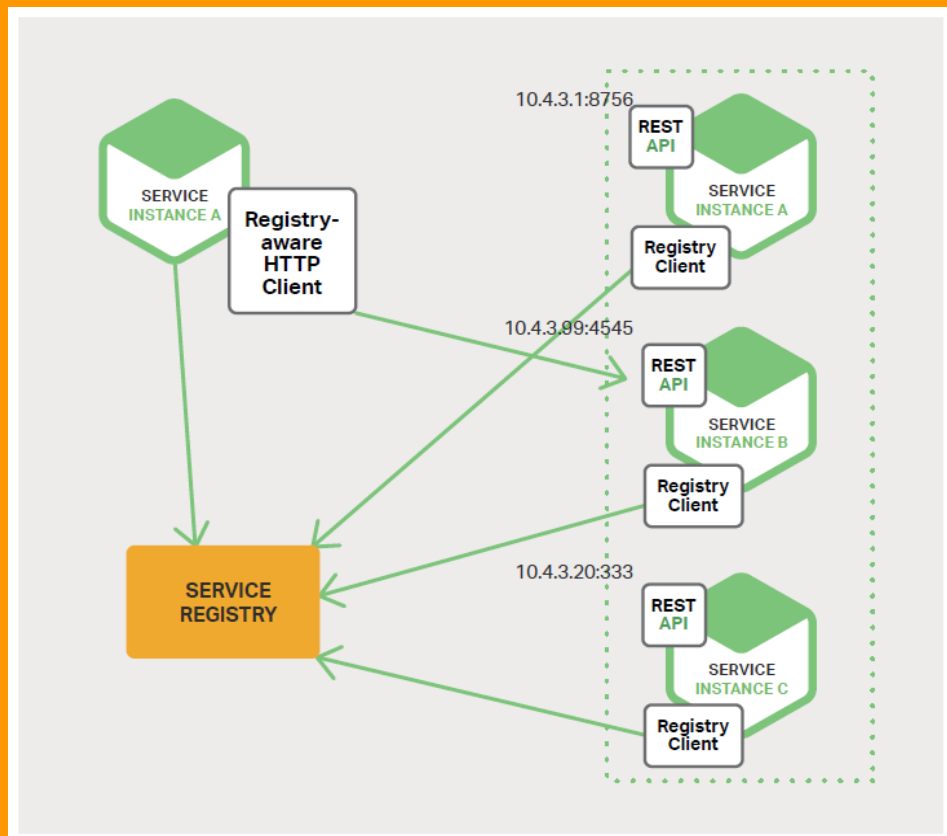
Server-Side Discovery

Loose Coupling

Extra Maintenance

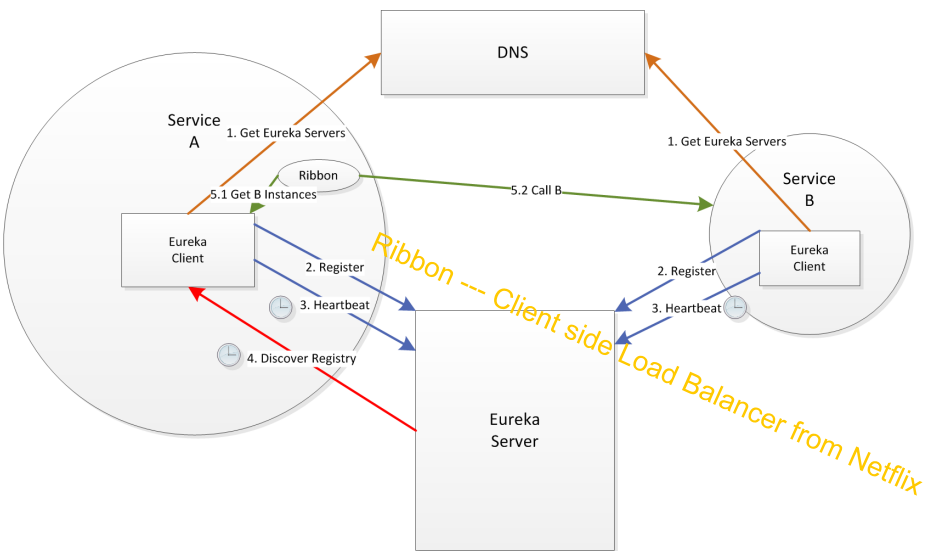


Client-Side Discovery

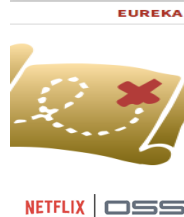


Application-Specific Load-Balancing Decision

Service Discovery Workflow



Eureka & Ribbon



Eureka

Eureka Overview

Netflix Eureka architecture consists of two components, the Server and the Client.

The Server is a standalone application and is responsible for:

- managing a registry of Service Instances,
- provide means to register, de-register and query Instances with the registry,
- registry propagation to other Eureka Instances (Servers or Clients).

The Client is part of the Service Instance ecosystem and has responsibilities like:

- register and unregister a Service Instance with Eureka Server,
- keep alive the connection with Eureka Server,
- retrieve and cache discovery information from the Eureka Server.

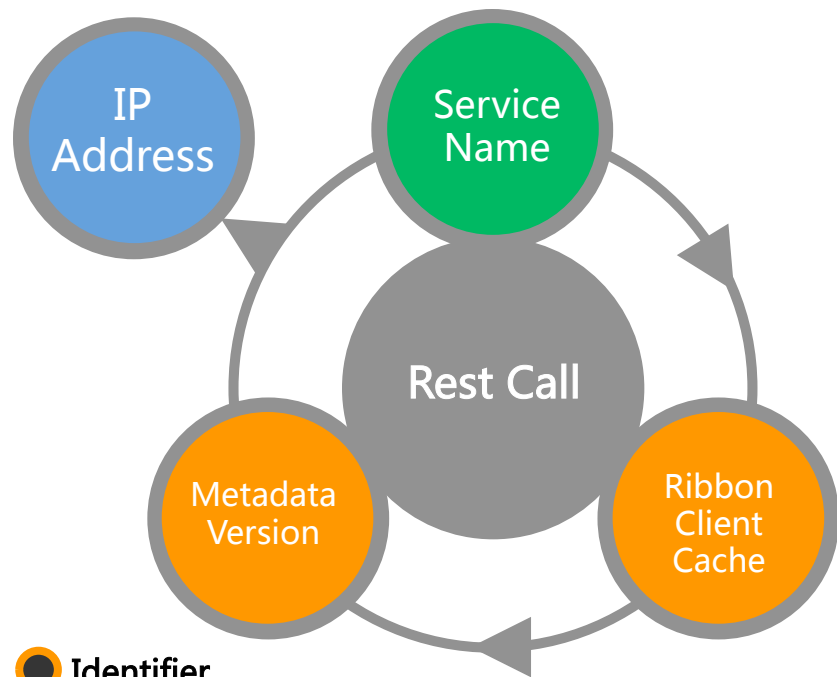


Ribbon Source Code

```
@Override
public Server choose(Object key) {
    int count = 0;
    Server server = childRoundRobinRule.choose(key);
    while (count++ <= 10) {
        if (getPredicate().apply(new PredicateKey(server))) {
            return server;
        }
        server = childRoundRobinRule.choose(key);
    }
    return super.choose(key);
}
```

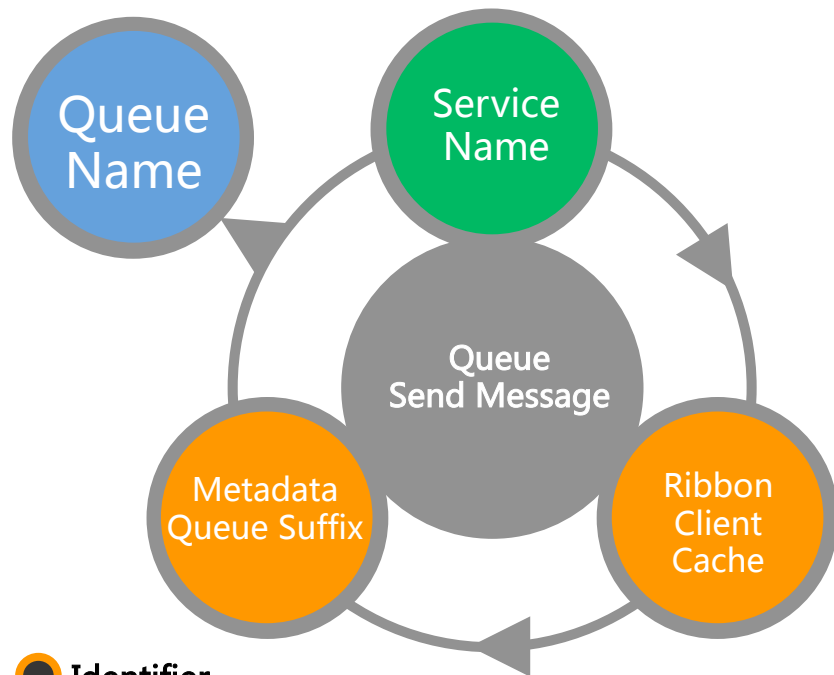


模型逼近



Identifier

Version Predicate



Identifier

Queue Name Compose



Back



Features



New



Copy



Rename



Toggle Group



Refresh

Uptime : 0 days 0 h

 Features List

Show

10

Search:

entries

Identifier	Group	Roles	Strategy	Properties	Toggle	E	D
BlackClientListStrategy			BlackListStrategy grantedClients= c1,c2,c3	2 items (👁) - default= B - tag= A	☐		
BlackUserIdStrategy			BlackUserIdStrategy grantedUserIds= c1,c2,c3	2 items (👁)	☐		
ExpresseionStrategy			ExpressionFlipStrategy expression= WhiteListStrategy	2 items (👁)	☐		
PonderationStrategy			PonderationStrategy weight= 0.4	2 items (👁)	☒		
Rule_A				2 items (👁)	☐		
Rule_B				2 items (👁)	☐		
TestStrategy			TestStrategy	2 items (👁)	☐		
UserZoneStrategy			UserZoneStrategy grantedUserZoneIds= 020,010	2 items (👁)	☐		
WhiteClientListStrategy			WhitelListStrategy grantedClients= c1,c2,c3	2 items (👁)	☐		
WhiteUserIdStrategy			WhiteUserIdStrategy grantedUserIds= c1,c2,c3	2 items (👁)	☐		

Showing 1 to 10 of 10 entries

Previous

1

Next





Back



Features



New



Copy



Rename



Toggle Group



Refresh

Uptime: 0 days 0 hours

Features List

Show

10

entries

Identifier	Group
BlackClientListStrategy	
BlackUserIdStrategy	
ExpreseionStrategy	
PonderationStrategy	
Rule_A	
Rule_B	
TestStrategy	
UserZoneStrategy	
WhiteClientListStrategy	
WhiteUserIdStrategy	

Edit a Feature

Feature Name BlackClientListStrategy

Description 客户端机器名黑名单策略

Group

Strategy org.ff4j.strategy.BlackListStrategy

grantedClients=c1,c2,c3

Permissions Public

Properties

default=B

tag=A

+ New Property

Cancel

Valid

<!-- 权重策略 -->

<feature uid="PonderationStrategy" description="权重策略" enable="true">

<flipstrategy class="org.ff4j.strategy.PonderationStrategy">

<param name="weight" value="0.6" />

</flipstrategy>

<custom-properties>

<property name="default" value="B" />

<property name="tag" value="A" />

</custom-properties>

</feature>

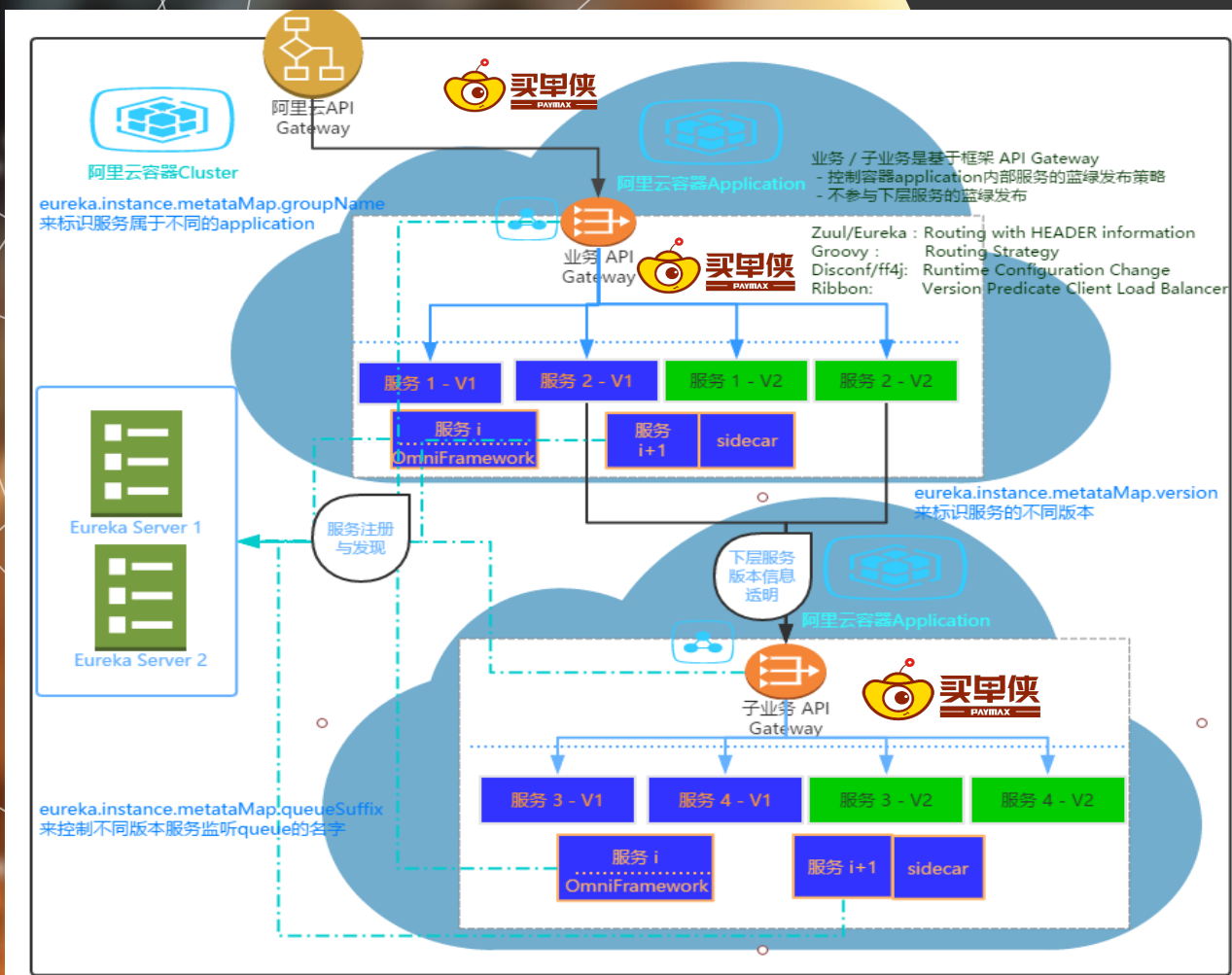
Showing 1 to 10 of 10 entries

Previous

1

Next

买早侠
PAYMAX



显著问题与解决方案

ThreadLocal

所需版本信息的传递
Rest Header Injector
Message Context



Hystrix

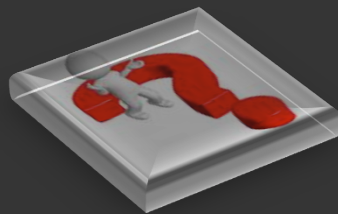
熔断，限流，降级
Thread Isolation
ThreadLocal Conflict



Slueth

调用链 TraceID
Baggage
Client Wrapper
Hystrix Wrapper





Q & A



THANK YOU

易攀科
yipk@fenqi.im