



Layotto：开启服务网格+应用运行时新篇章

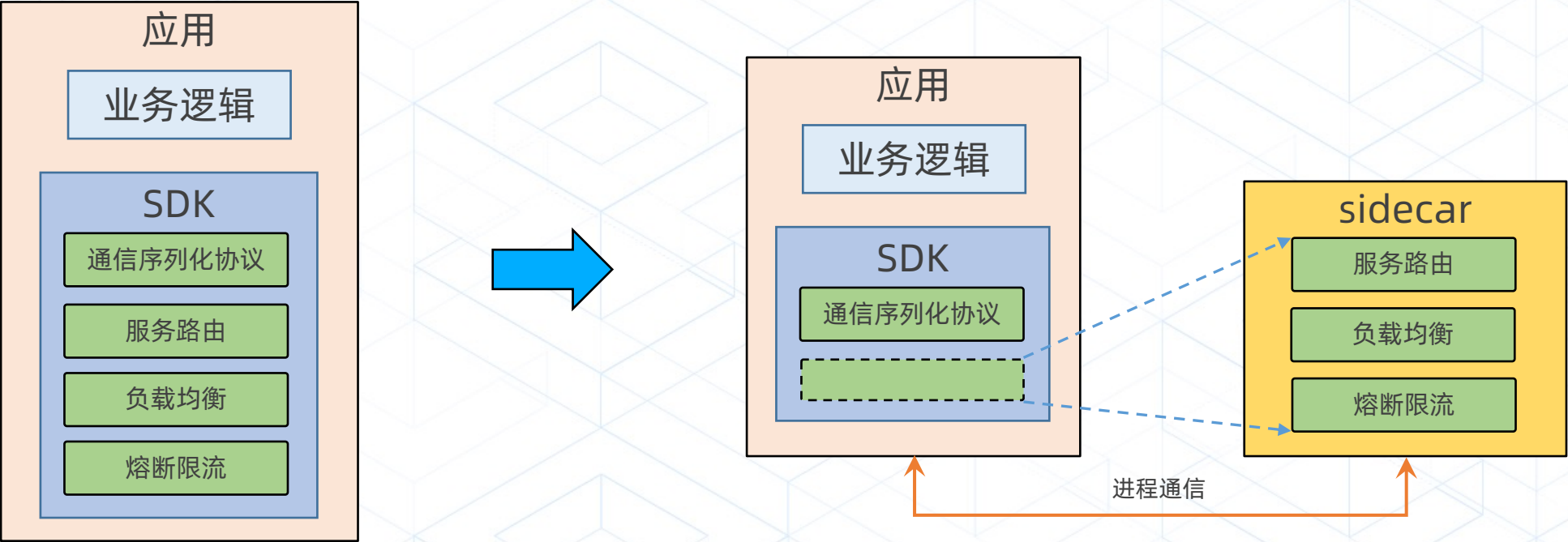
马振军（古今）

- 在基础架构领域耕耘多年
- 对Service Mesh有深度实践经验
- 目前在蚂蚁集团中间件团队负责MOSN、Layotto项目的落地

- Service Mesh回顾与总结
- Multi Runtime理论概述
- Layotto
- WebAssembly的探索
- 社区规划

01

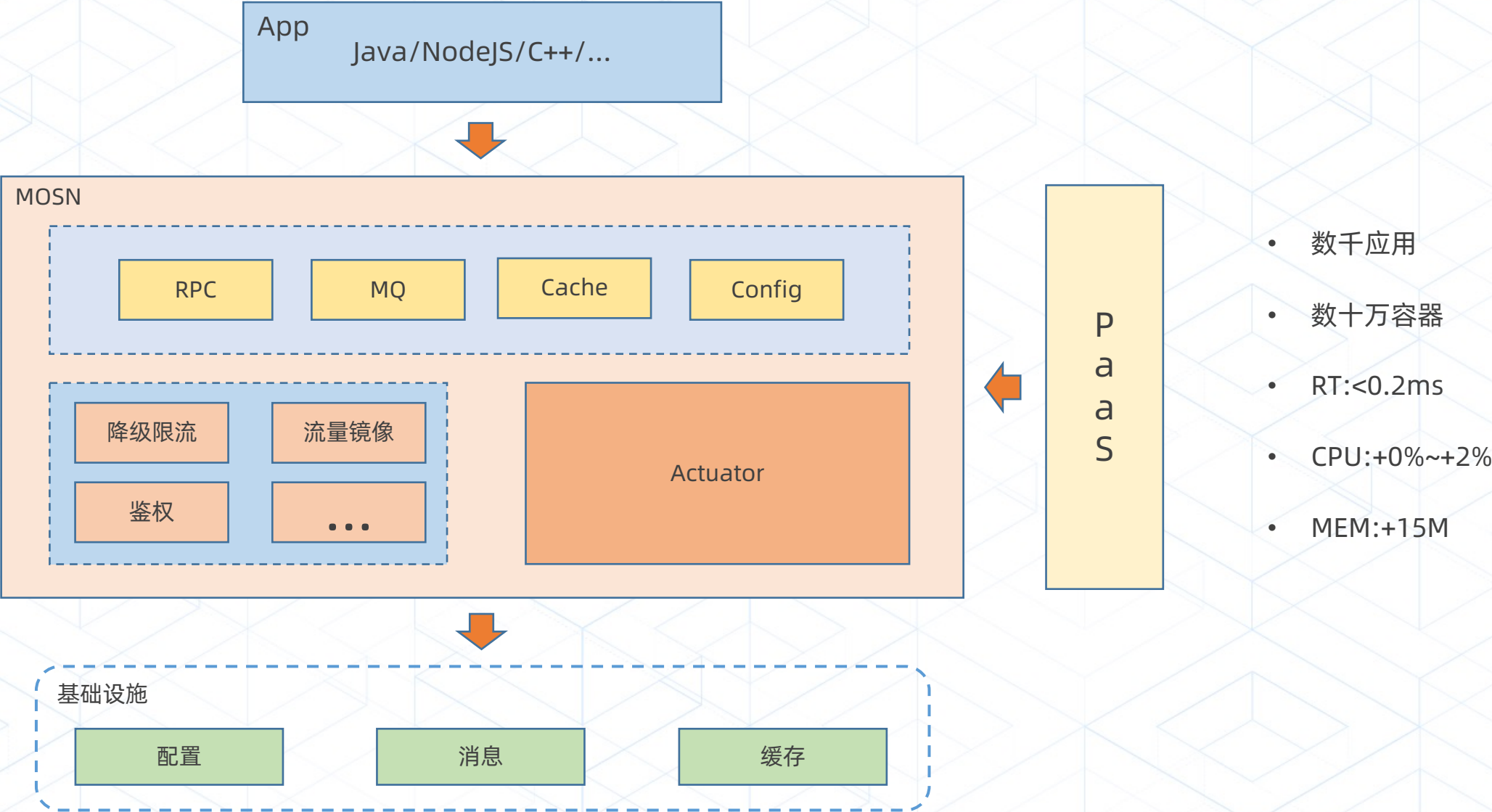
Service Mesh回顾与总结



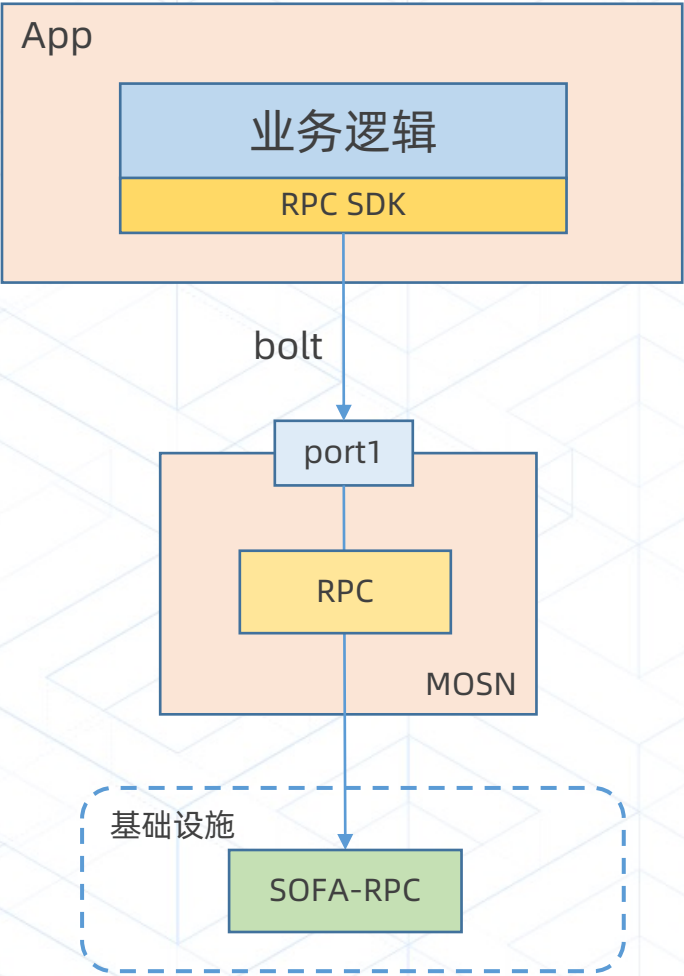
- 升级成本高
- SDK版本不统一
- 异构语言治理能力弱

- 业务解耦
- 平滑升级
- 异构语言治理

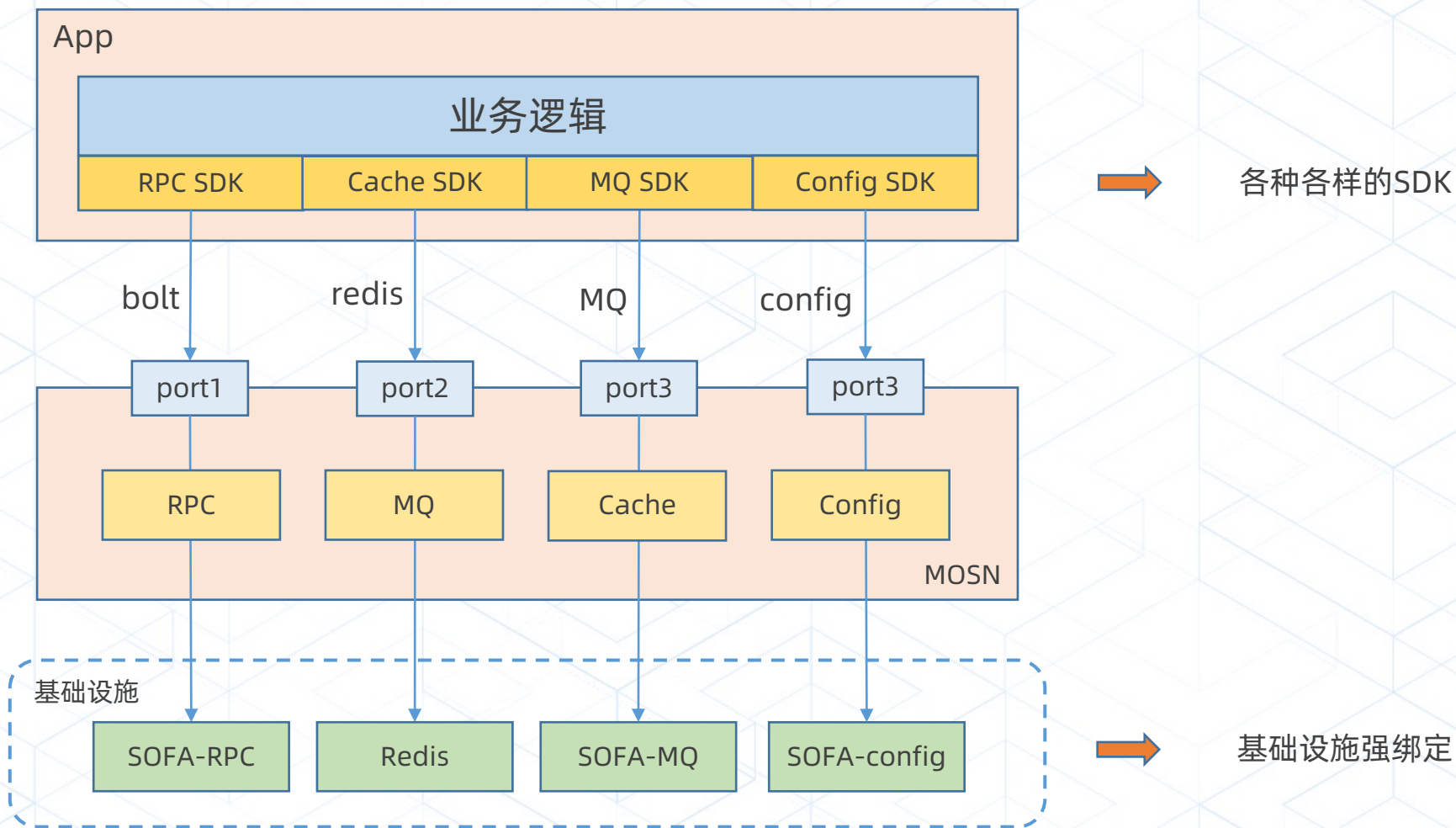
Service Mesh落地现状



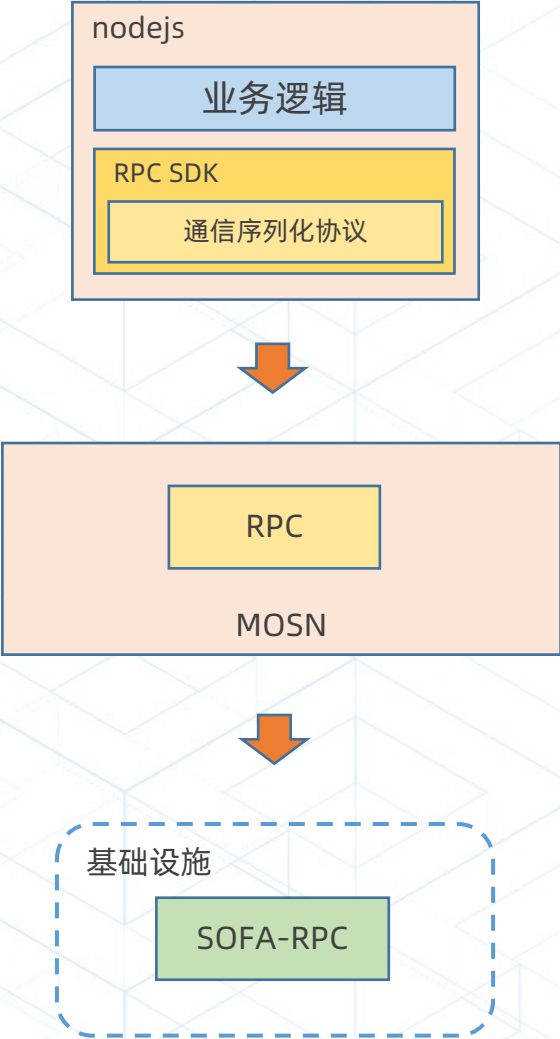
新的挑战1：应用跟基础设施强绑定



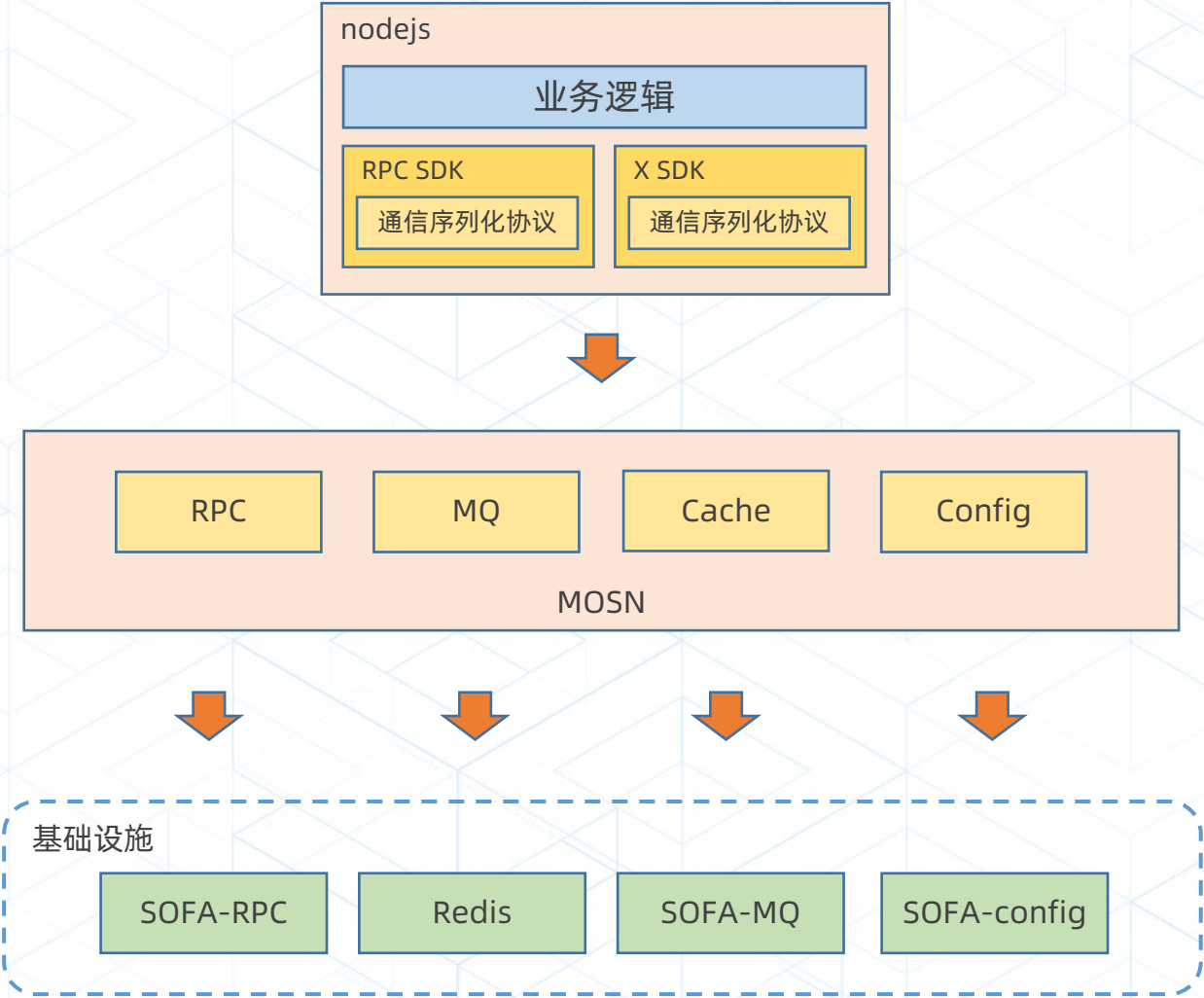
新的挑战1：应用跟基础设施强绑定



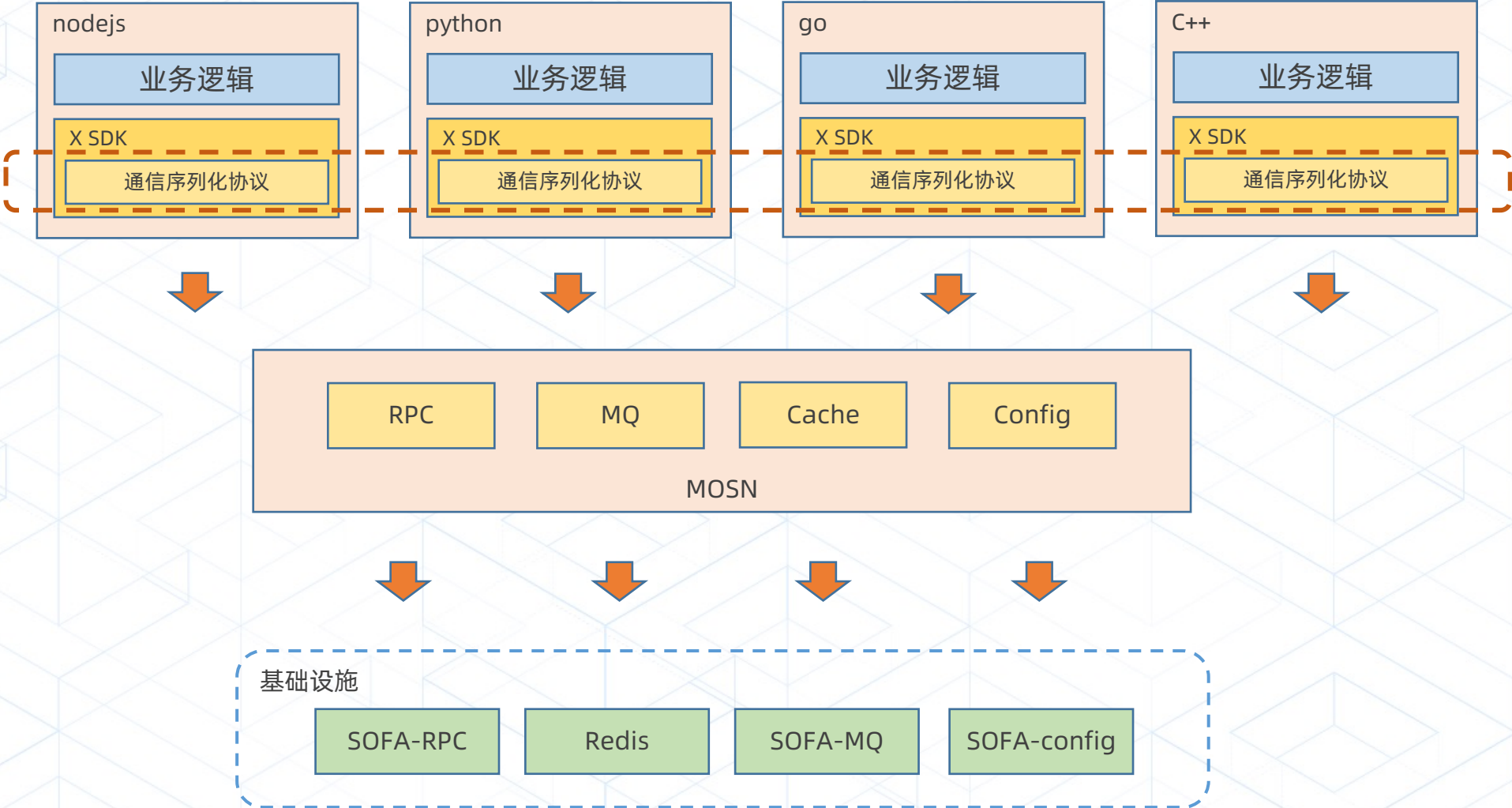
新的挑战2：异构语言接入成本高



新的挑战2：异构语言接入成本高



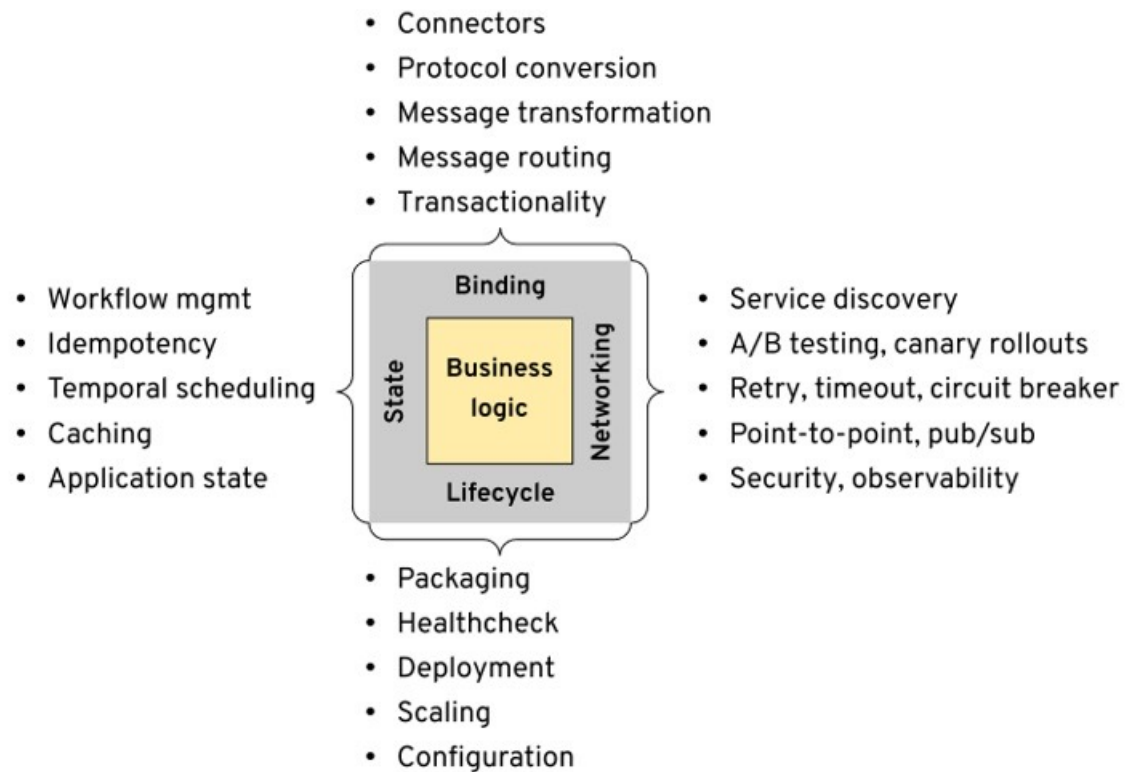
新的挑战2：异构语言接入成本高



02

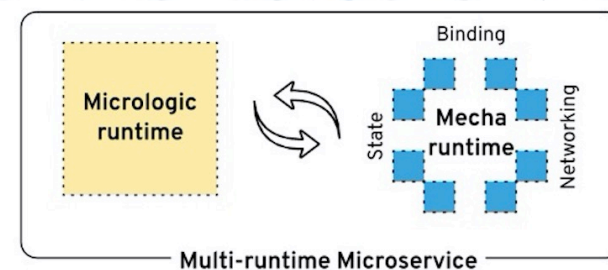
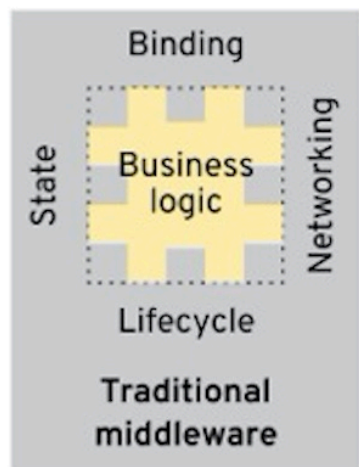
Multi Runtime理论概述

什么是Runtime?



Reference: <https://www.infoq.com/articles/multi-runtime-microservice-architecture/>

什么是Runtime?



Micrologic

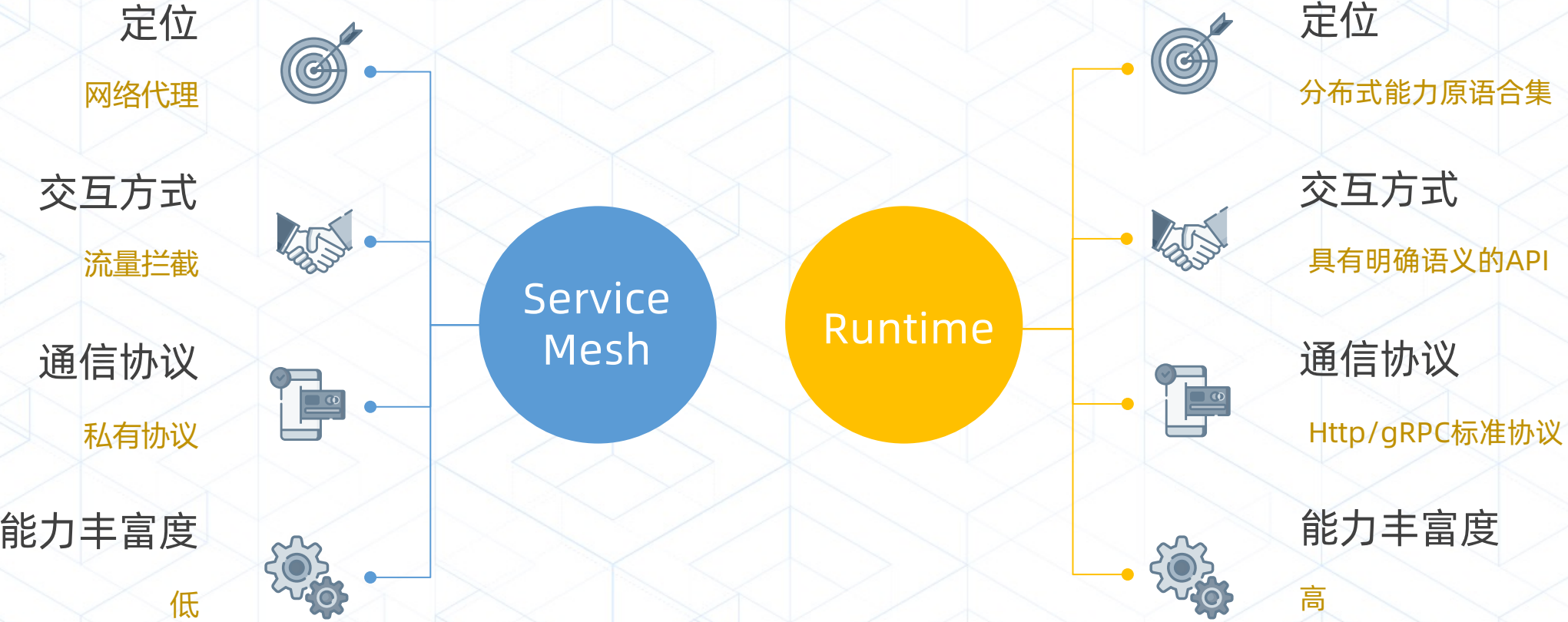
- Developed in-house
- Custom business logic
- Higher-level language
- HTTP/gRPC, CloudEvents

Mecha

- Off-the-shelf mechanisms
- Configurable capabilities
- Declarative (YAML, JSON)
- OpenAPI, AsyncAPI, SQL

Reference: <https://www.infoq.com/articles/multi-runtime-microservice-architecture/>

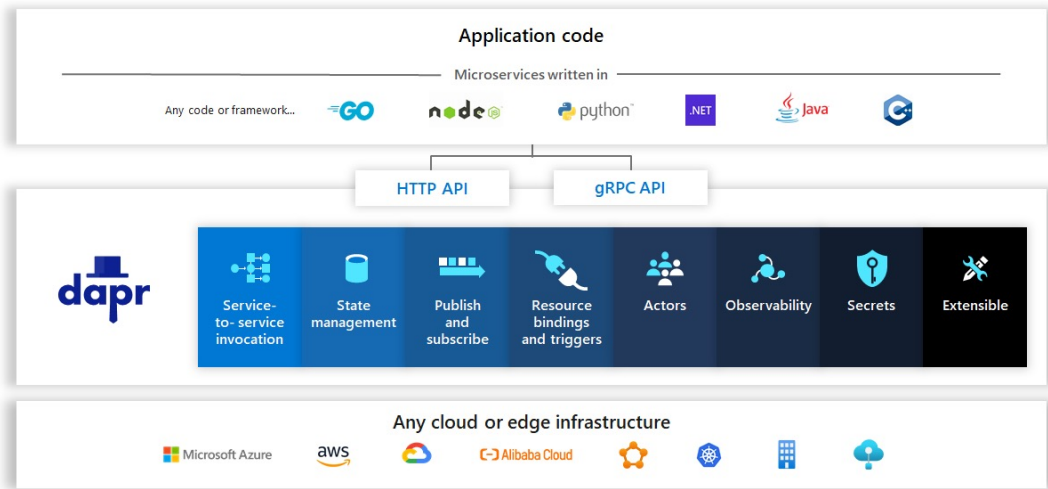
Service Mesh vs Runtime



03

Layotto

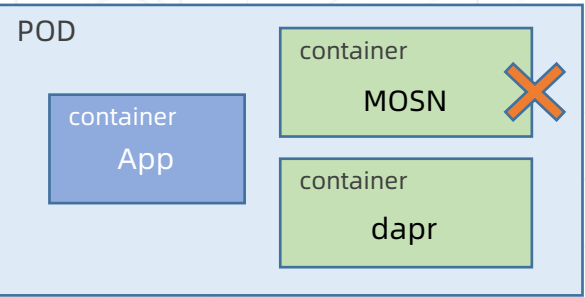
简介



- 提供多种分布式能力
- 对接了丰富的基础组件

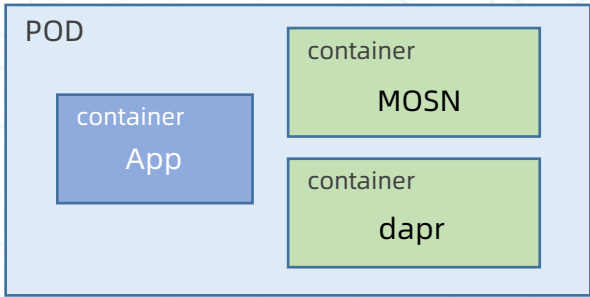
落地思考

方案1：替换



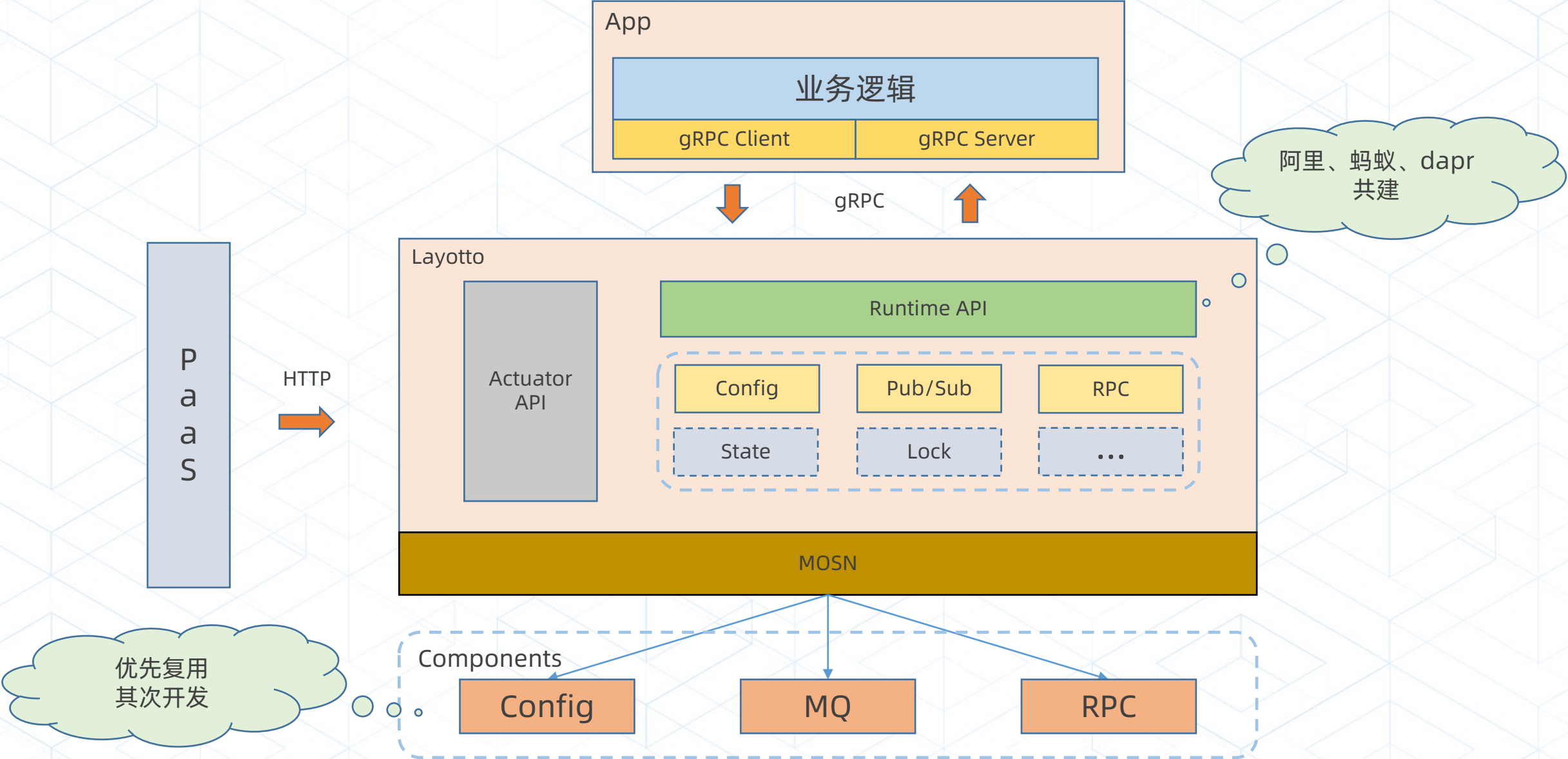
- 缺失Service Mesh能力
- 稳定性有待验证

方案2：共存

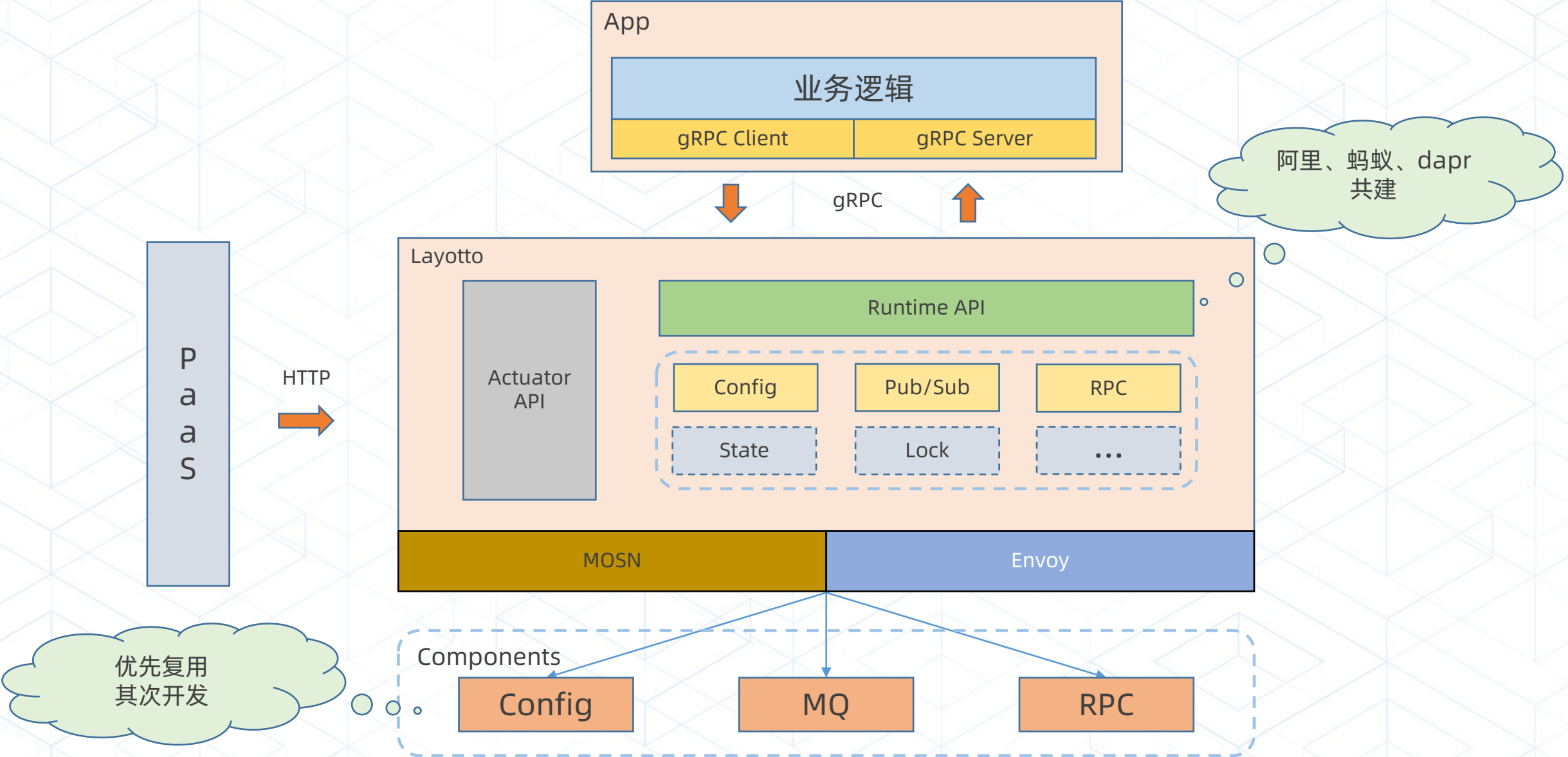


- 运维成本飙升
- 稳定性更难保证

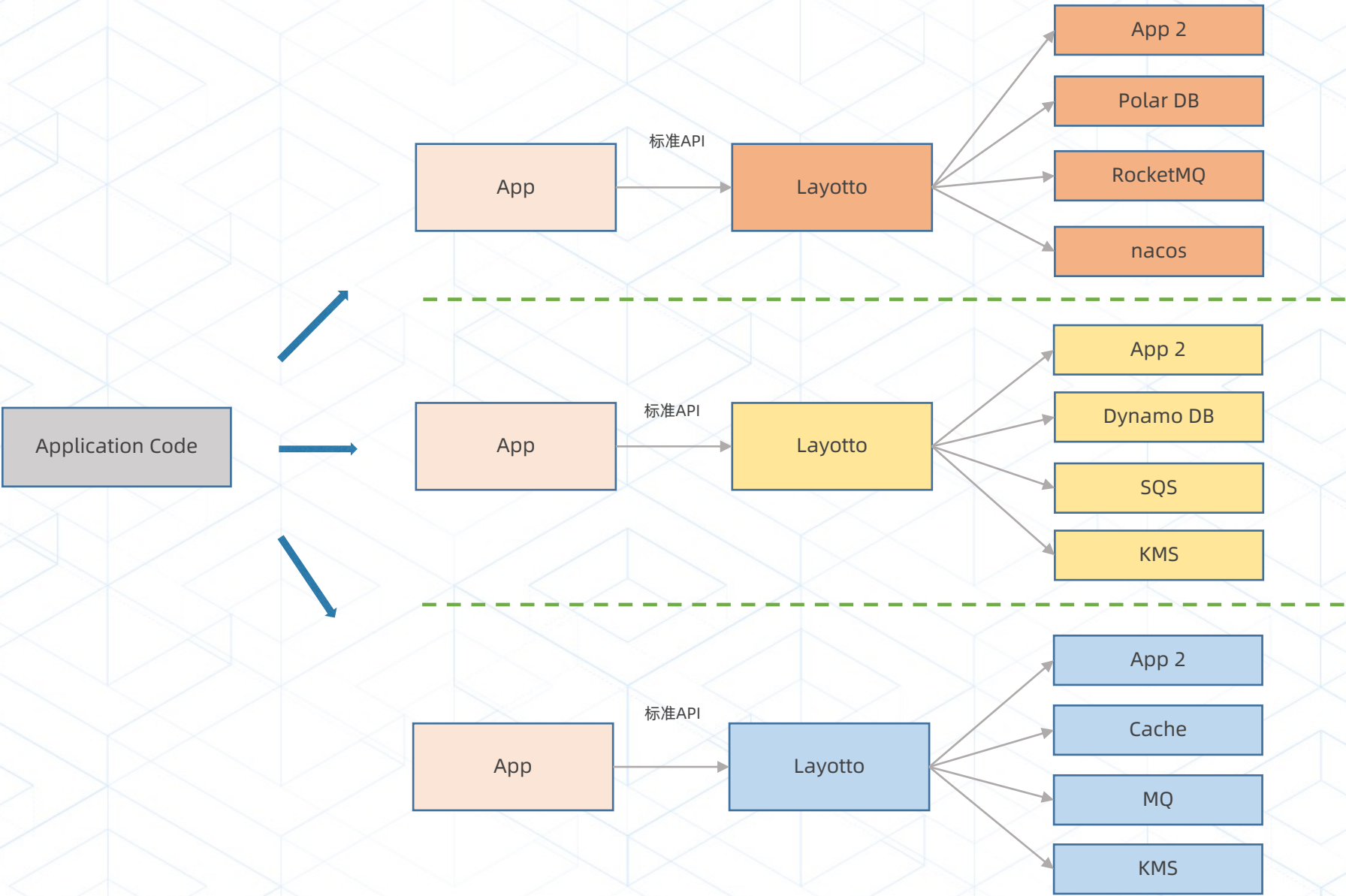
Layotto架构



Layotto架构



Layotto移植性



OSI模型



第八层

七层模型



Layer8



Layer + 8



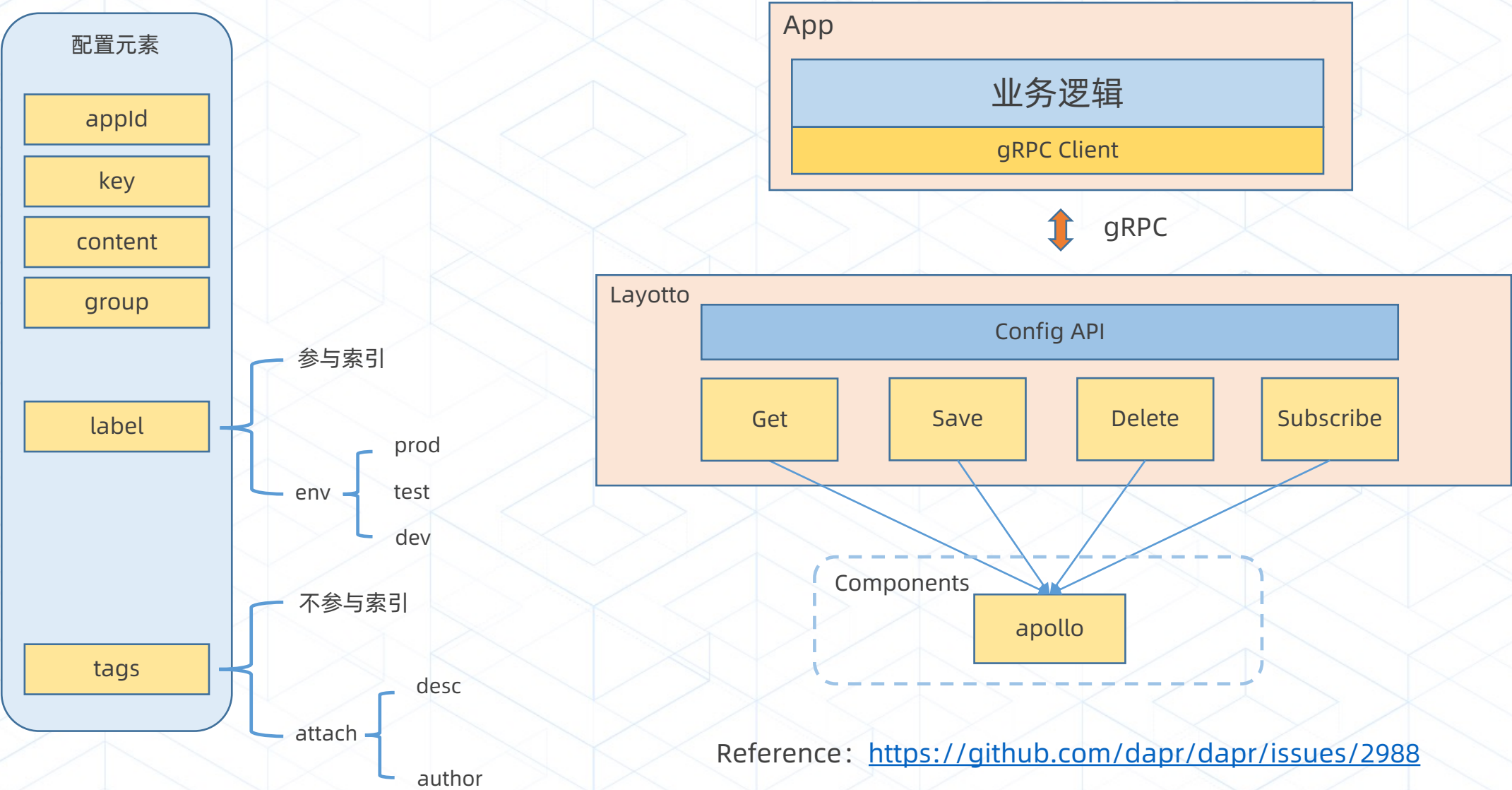
Layer + otto (意大利语)

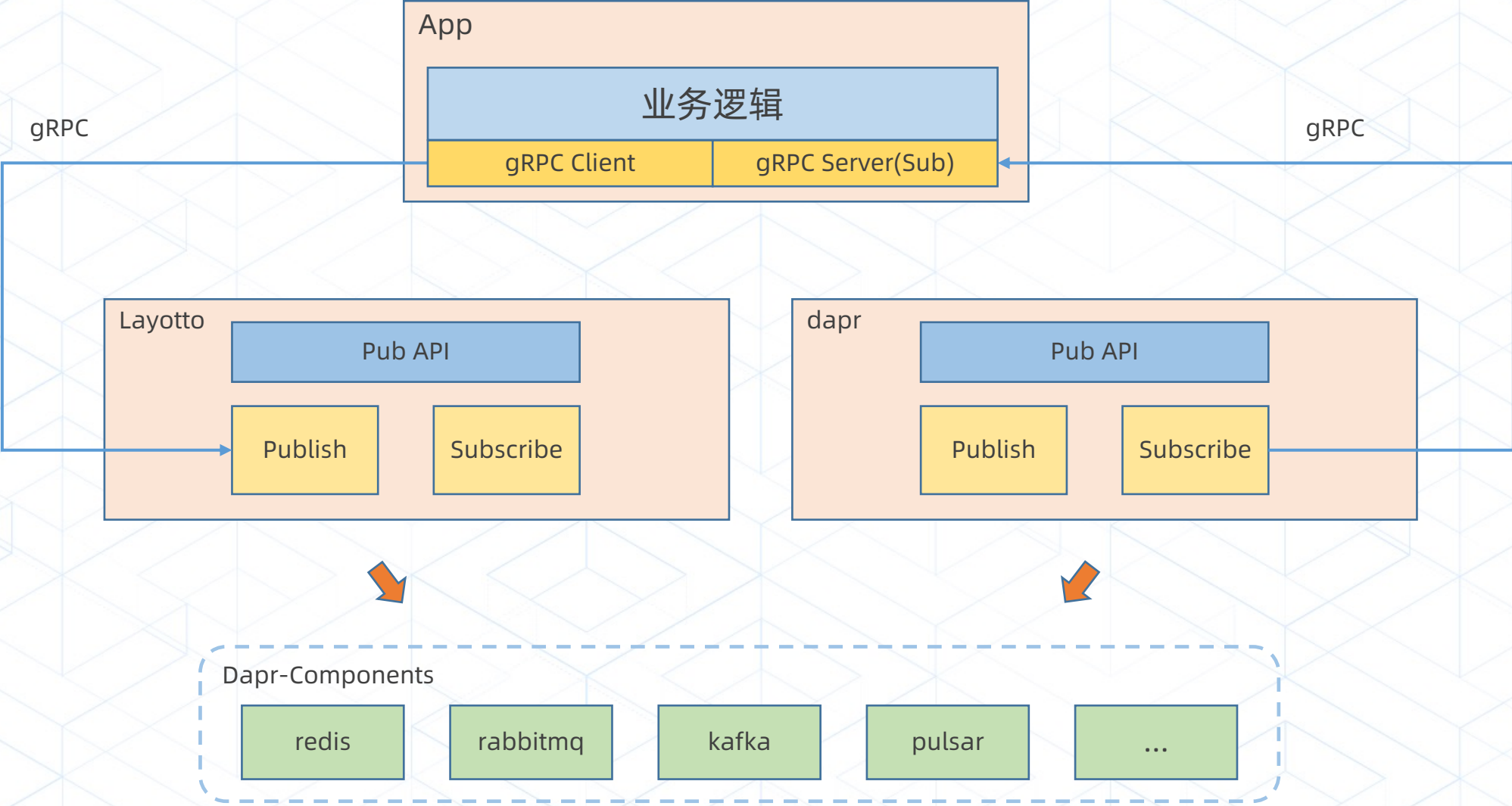


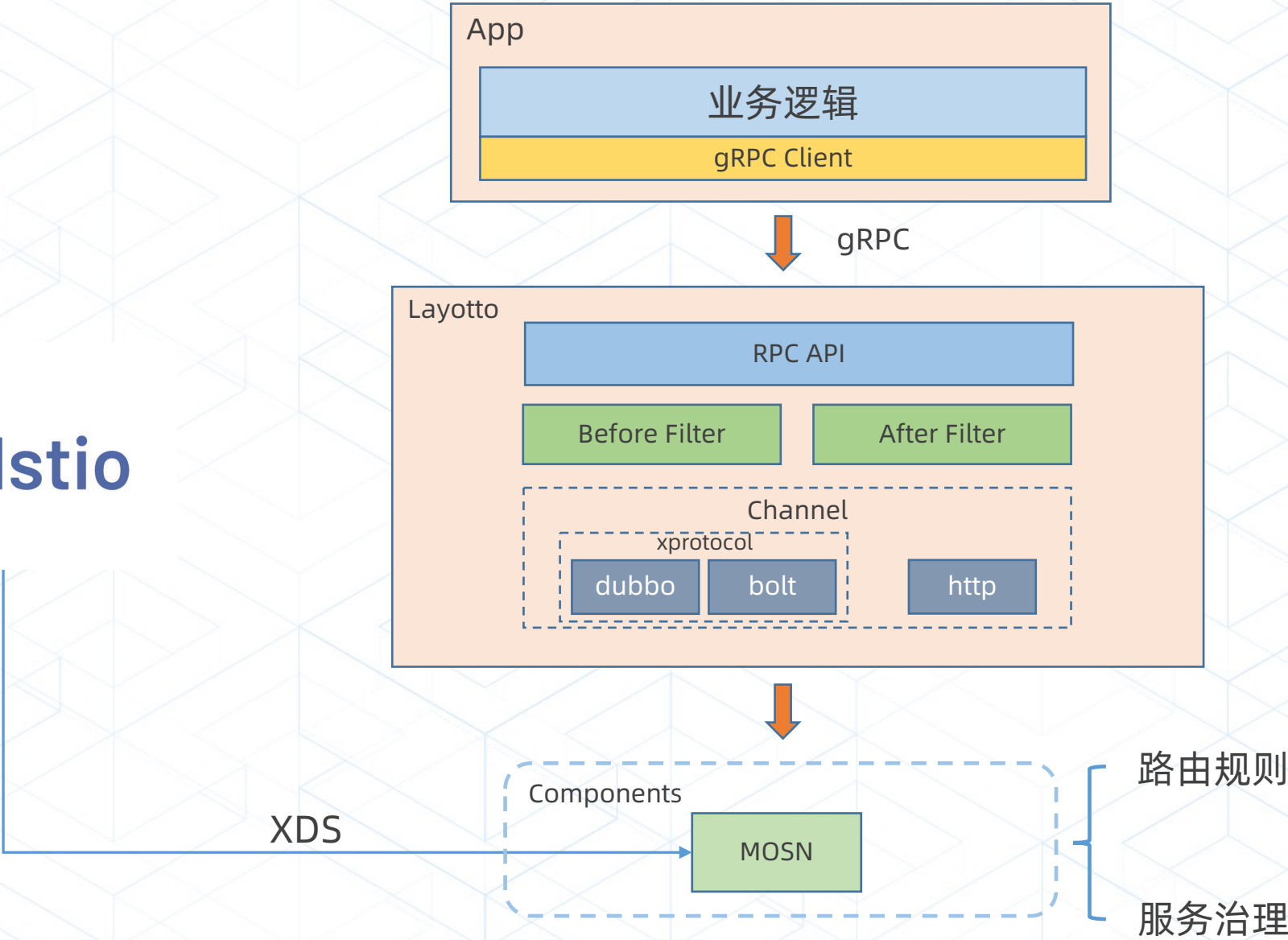
Layotto (L8)

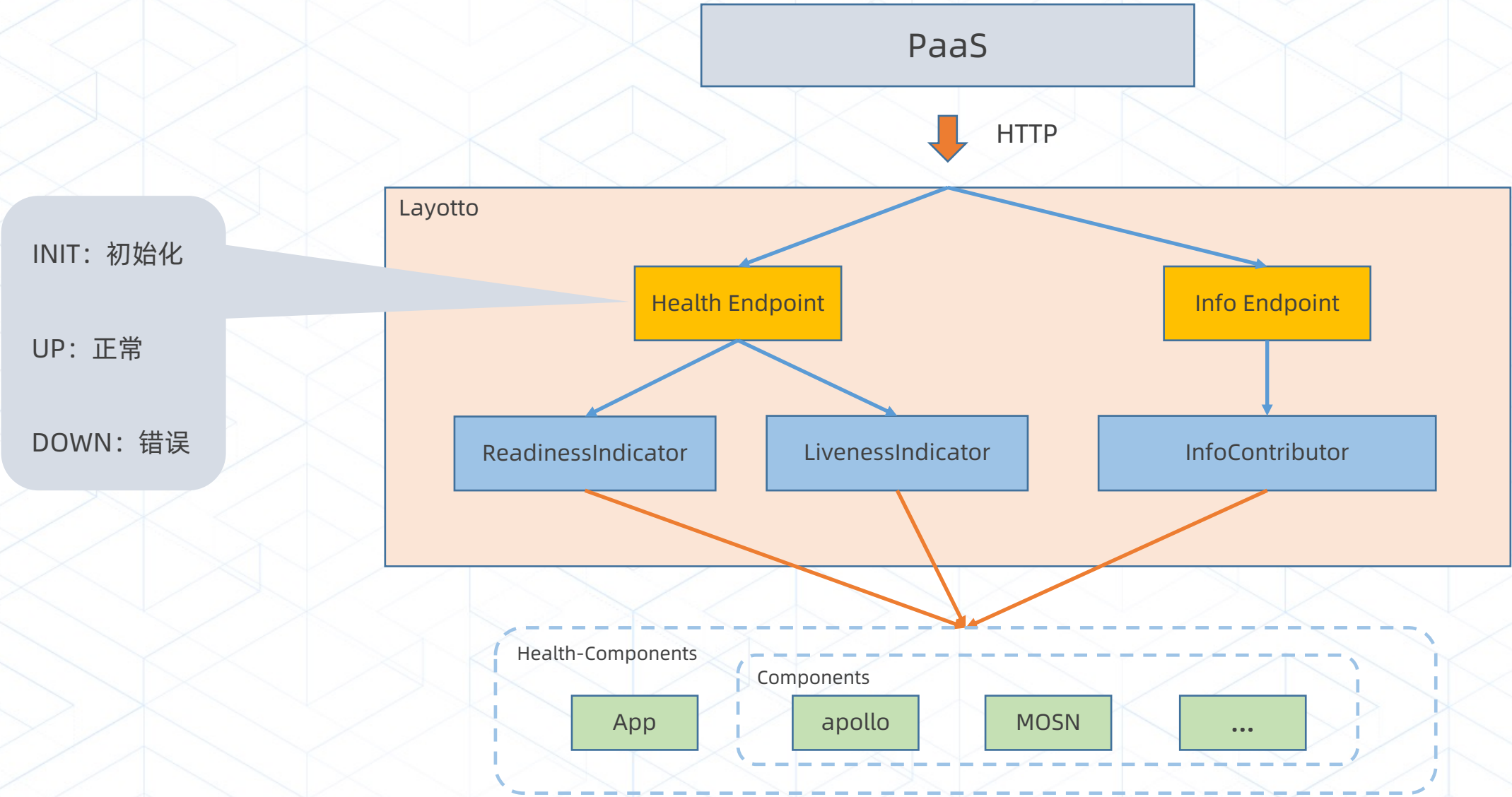


Layotto









04

WebAssembly 的探索

WebAssembly (WASM) 简介

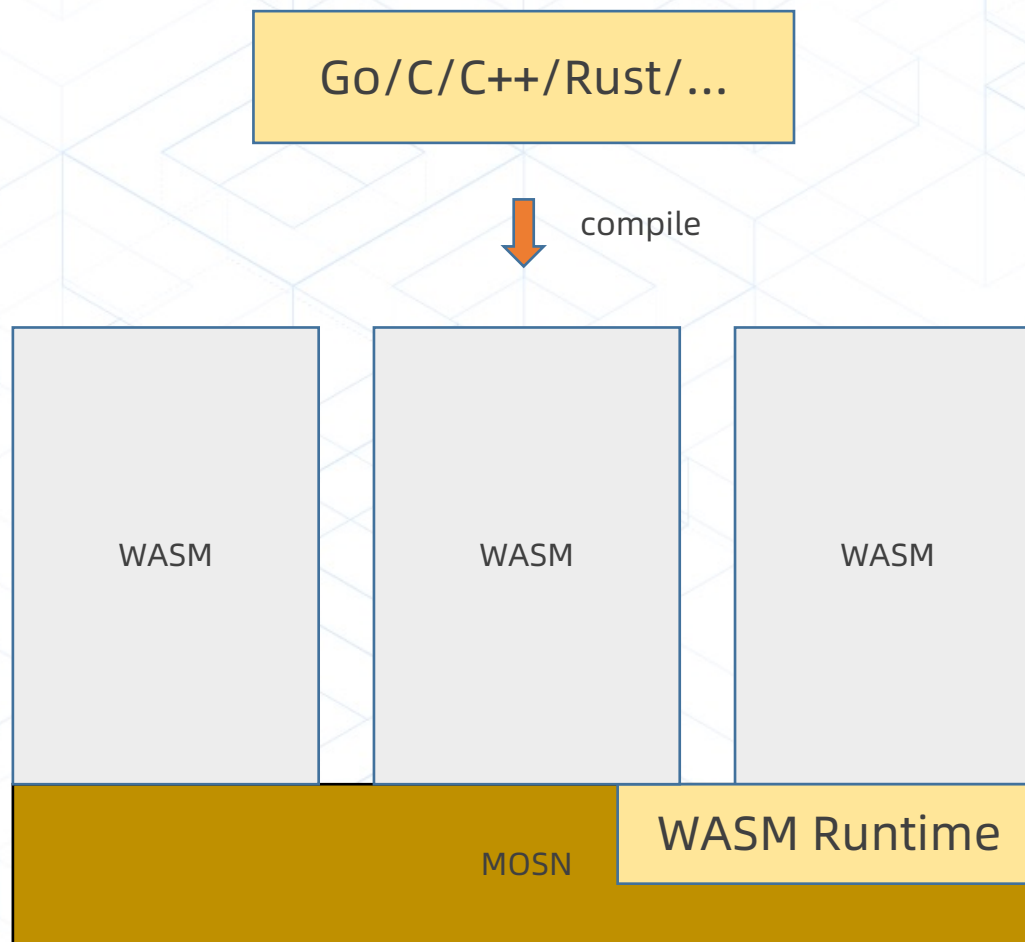
- 语言无关
- 平台无关
- 可移植
- 内存安全的沙箱隔离环境

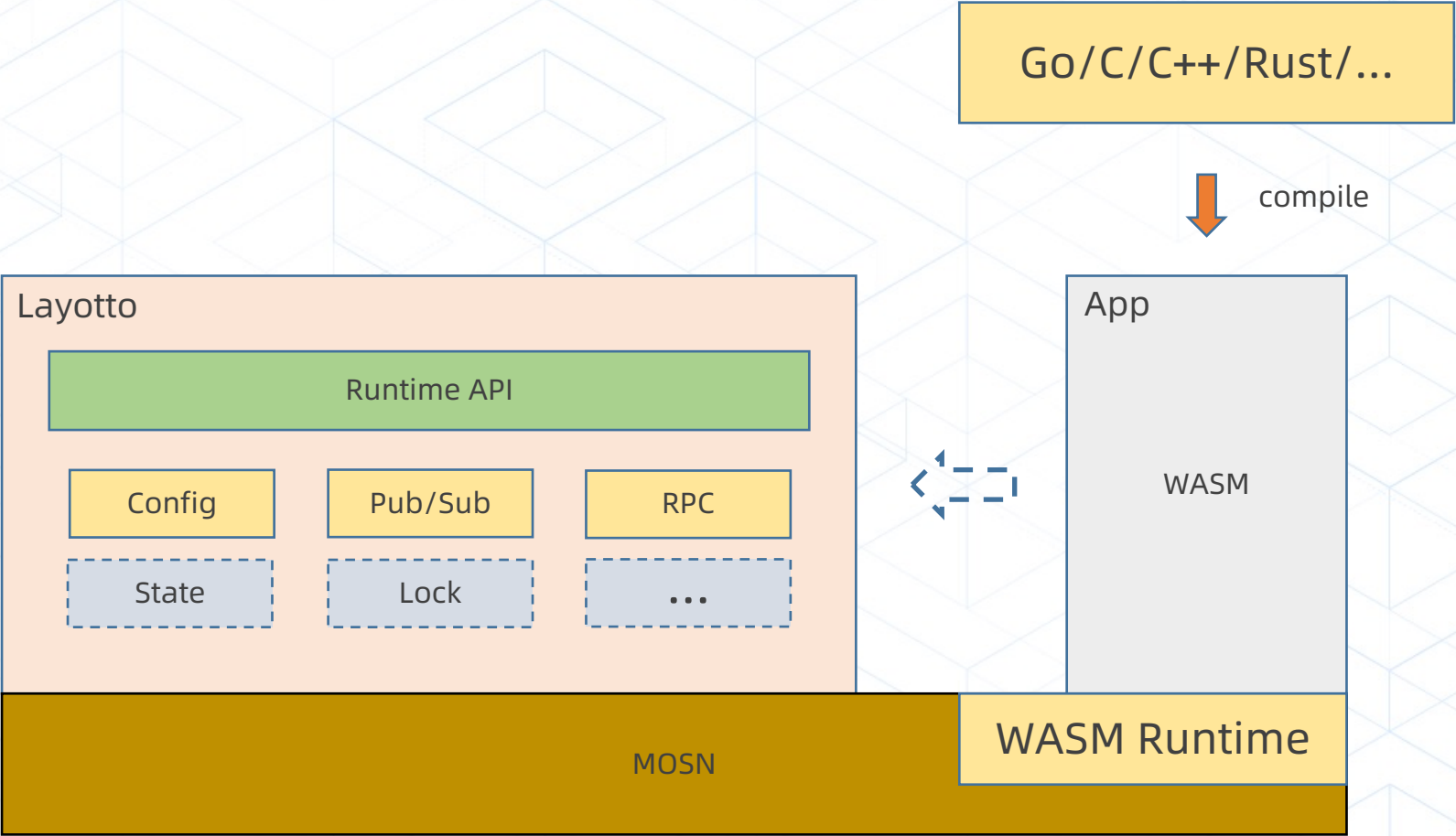


WebAssembly (WASM) 简介

- 语言无关
- 平台无关
- 可移植
- 内存安全的沙箱隔离环境







program



build



Runtime



Layotto



MOSN

infra



kubernetes



docker



Prometheus

05

社区规划

Layotto vs Dapr

分布式原语	dapr	Layotto
RPC通信	✓	✓
RPC治理	✗	✓
Config	🚀	✓
Pub/Sub	✓	✓
State	✓	🚀
Actor	✓	✗
Metadata	✓	✗
Actuator	✗	✓
WebAssembly	✗	✓

✓
支持

✗
不支持

🚀
建设中

能力建设原则：

- 1. Layotto落地
- 2. 合并到标准 API

API共建计划



envoyproxy / envoy

<> Code

Issues 1k

Pull requests 136

Actions

Projects

Wiki

Security 31

Insights

Does Envoy intend to evolve to an application runtime? #15113

Open nobodyiam opened this issue on 19 Feb · 1 comment

nobodyiam commented on 19 Feb

Unwatch

mosn / mosn

<> Code

Issues 126

Pull requests 17

Actions

Projects 1

Security

Insights

[Proposal] Mosn to evolve to an application runtime #1591

Open nobodyiam opened this issue on 19 Feb · 6 comments

nobodyiam commented on 19 Feb

Contributor

dapr / dapr

<> Code

Issues 333

Pull requests 45

Actions

Security

Insights

[Feature Request] PublishEvent API returns a response with concrete semantics and extensible metadata #3276

Open RayneHwang opened this issue 3 days ago · 0 comments

RayneHwang commented 3 days ago · edited

In what area(s)?

/area runtime

Assignees
No one assigned

Labels
None yet

dapr / dapr

<> Code

Issues 333

Pull requests 45

Actions

Security

Insights

[Discussion] Future plans for dapr api #2817

Open nobodyiam opened this issue on 18 Feb · 17 comments

nobodyiam commented on 18 Feb

Watch

dapr / dapr

<> Code

Issues 333

Pull requests 45

Actions

Security

Insights

[Proposal] configuration api design #2988

Open skyao opened this issue on 29 Mar · 21 comments

skyao commented on 29 Mar · edited

Member

envoyproxy / envoy

<> Code

Issues 1k

Pull requests 143

Actions

Projects

Wiki

Security 31

Insights

A proposal of high-performance L7 network GoLang extension for Envoy.

Open wangfakang opened this issue on 23 Feb · 31 comments

wangfakang commented on 23 Feb · edited

Contributor

Background

Assignee:
No one as
Labels

2021 Roadmap



6月

支持功能

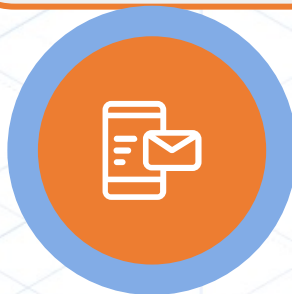
RPC
Config
Pub/Sub
Actuator



9月

能力建设

Lock
State
Metric/Log/Tracer



12月

生态丰富

插件化
WebAssembly



MOSN子项目



<https://github.com/mosn/layotto>

Write once, Run anywhere!

钉钉群

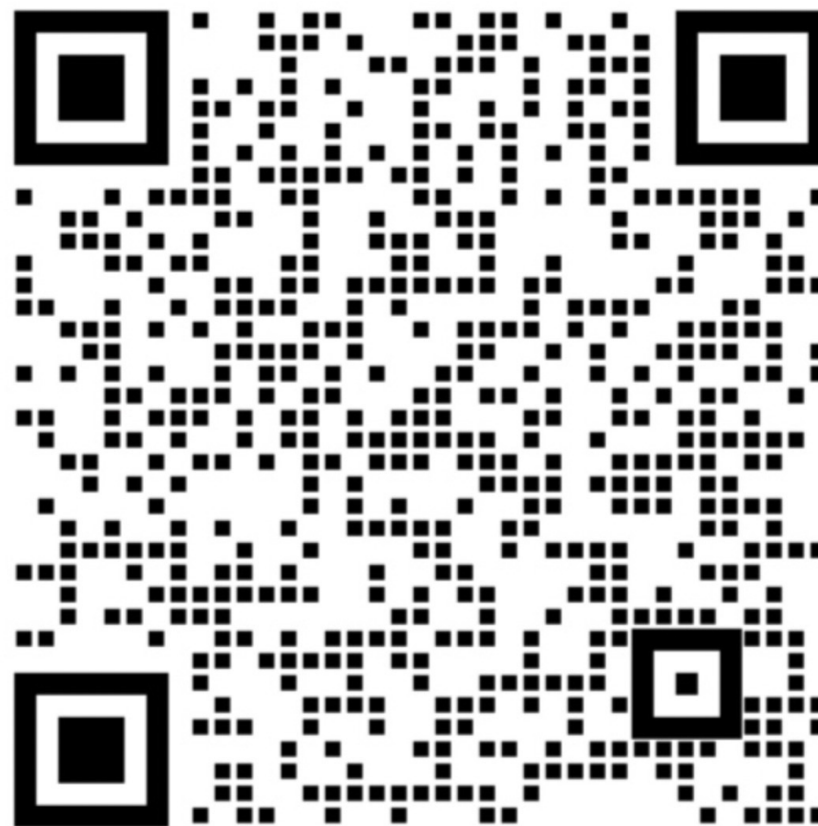
Layotto 用户交流群

10人



扫一扫群二维码，立刻加入该群。

微信群



Q&A