

沪江基于 Node.js 大规模应用实践

戴亮 / 前端架构师

戴亮

- 14年加入沪江
- 后端转前端
- 现负责Node在沪江的推进和支持



- 为什么要在Node端渲染
- Aconite-定制于Koa的MVC框架
- 发布、部署
- 线上监控

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为什么要在Node端渲染

未分离

```
<%if (!string.IsNullOrEmpty(strNumberText))
{ %>
<div class="pagination">
    <ul>
        <%=strNumberText%>
    </ul>
</div>
<%} %>
<!-- st-list : end -->
</div>

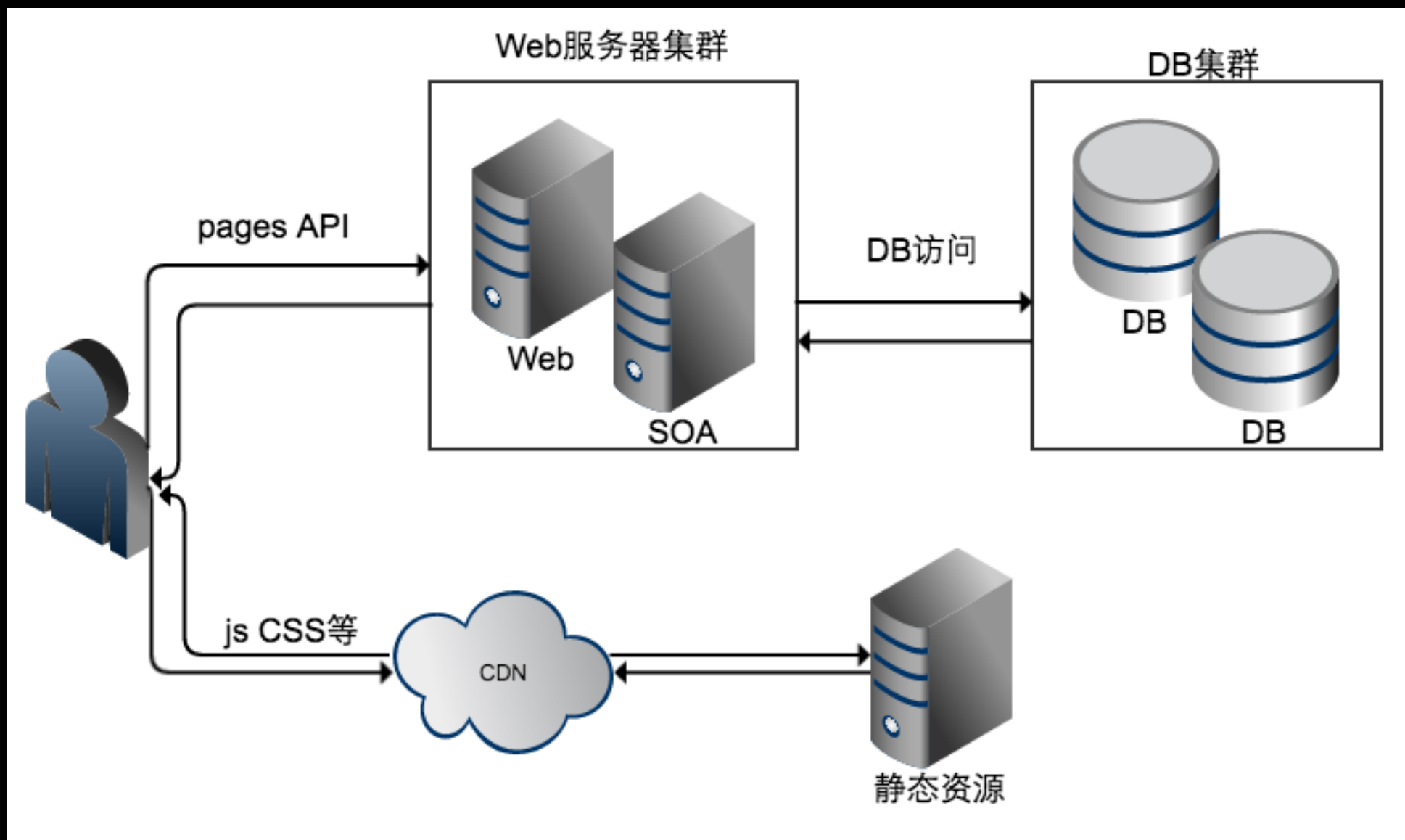
</div>

<input id="hid_CateID" type="hidden" value="<%=cateID%>" />
<input id="hdnTag" type="hidden" value="<%=Tag%>" />
<input type="hidden" name="tagtype" id="tagtype" value="<%=tagtype%>"/>
<script>
$(function(){
    new SelectorJS.selector.init({
        id: '#m_leagueType',
        data: [["0", "日活跃排行"], ["4", "新社团排行"], ["1", "月签到排行"],
```

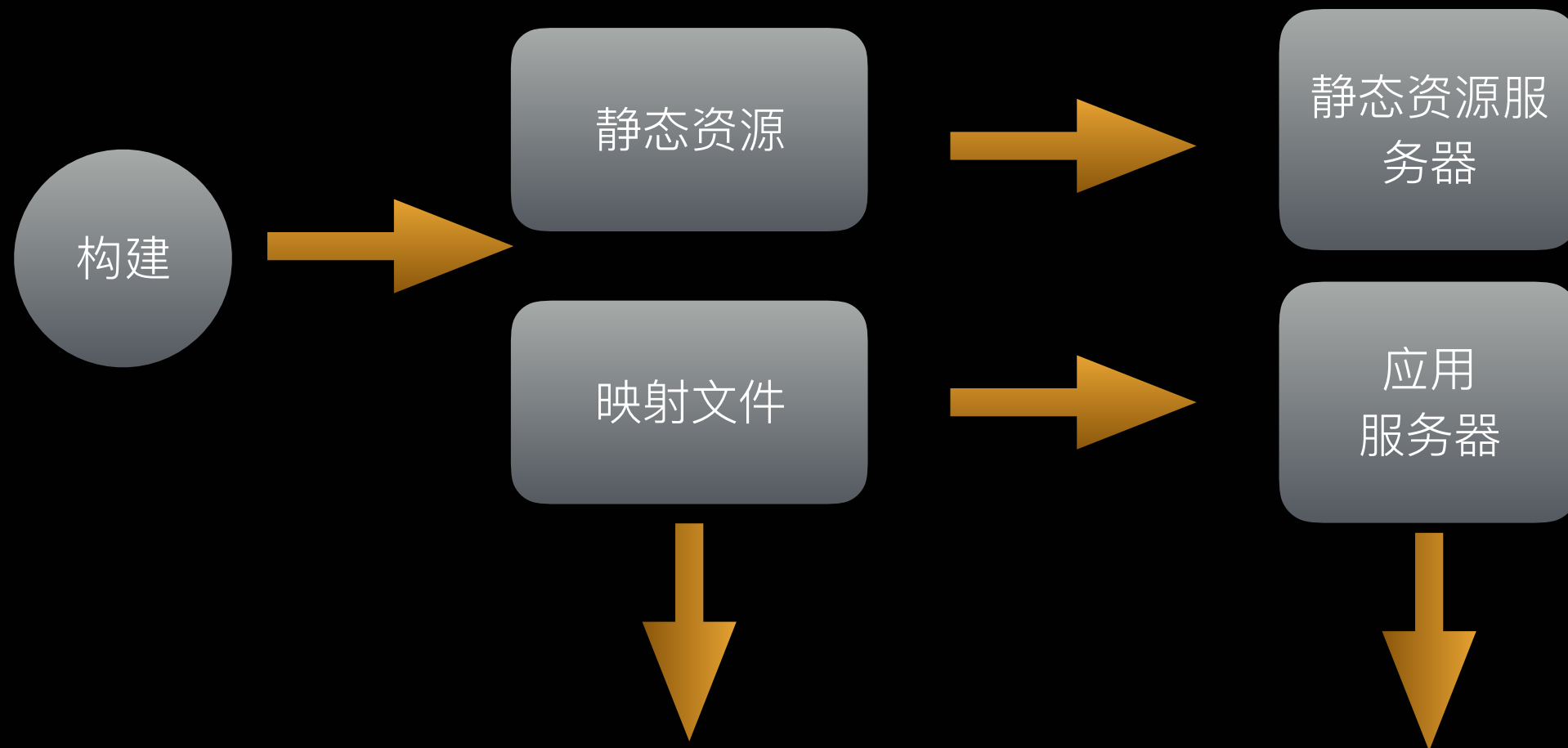
SPA

```
<meta http-equiv="x-rim-auto-match" content="none">
<meta name="referrer" content="always">
<link rel="stylesheet" href="//res.hjfile.cn/co/style/base.min.css" />
<link rel="stylesheet" type="text/css"
href="<%= [redacted] Util.GetResourceMap("app.css") %>" />
</head>
<body>
  <div class="main_page" id="mainPage">
    <div class="content animate" id="content">
      <div class="loading"></div>
      <div class="grey center">加载中...</div>
    </div>
    <div class="footer" id="footer"></div>
    <div id="siteBubble"></div>
  </div>
  <script src='<%= [redacted] .CommonConfig.ResHjfileURL %>
/st/msst/libs-<%= [redacted] .CommonConfig.ResHjfileLibsVersion %>.js'></script>
<script src='<%= [redacted] CommonConfig.ResHjfileURL %>/co/sdk/0.2.1/hjsdk.facade.min.js'>
<script src='<%= [redacted] Util.GetResourceMap("app.js") %>'></script>
<script src="//[redacted]/player/player.js"></script>
```


部署分离



前端资源版本管理



```
{  
  "commonjs": "//res.hjfile.cn/mc/common-8fcf13.js",  
  "mc/bundle.js": "//res.hjfile.cn/mc/choose-67fcba.js",  
  "mc/bundle.css": "//res.hjfile.cn/mc/choose-248076.css"  
}
```

```
<link href="<% =  
YesHJ.Class.Common.Util.GetResource('choose.css') %>">  
<script src="<% =  
YesHJ.Class.Common.Util.GetResource('choose.js')%>"></  
script>
```

SPA的不足

- SEO
- 首屏白屏
- 入口页面依旧托管在后端服务器

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- 线上监控

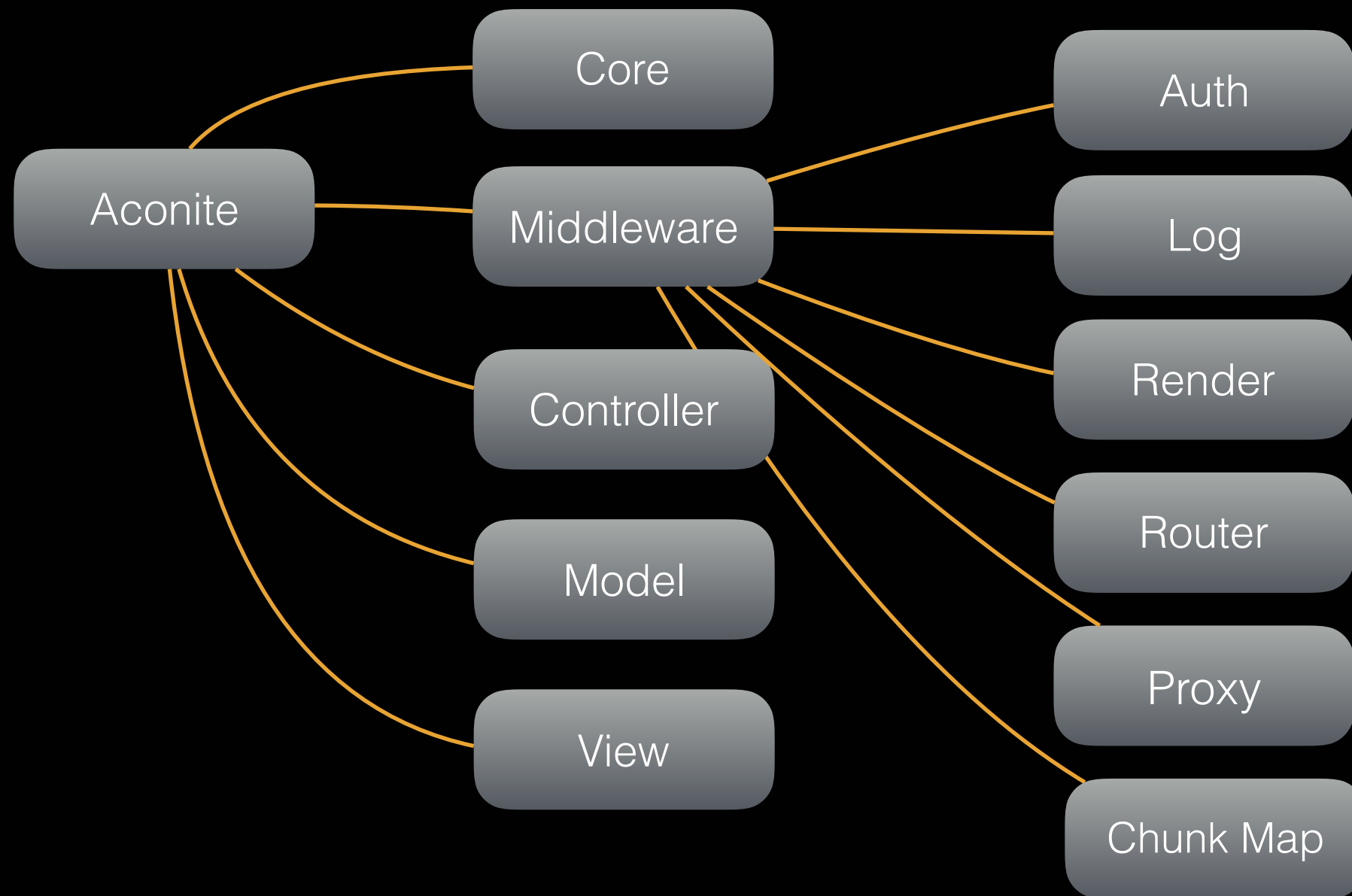
Aconite-定制于Koa的MVC框架

- Aconite介绍
- Aconite架构
- 中间件机制
- 同构渲染
- 风险控制

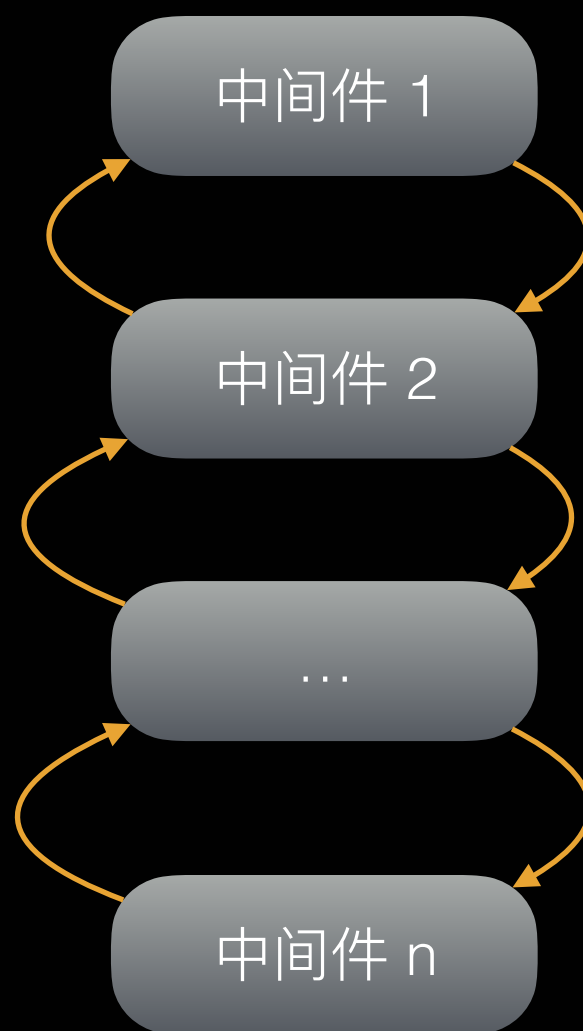
Aconite介绍

- Koa2
- 支持不同的模版（Nunjucks、EJS等）
- 鉴权、日志等基础中间件
- 支持同构渲染（React、Vue）

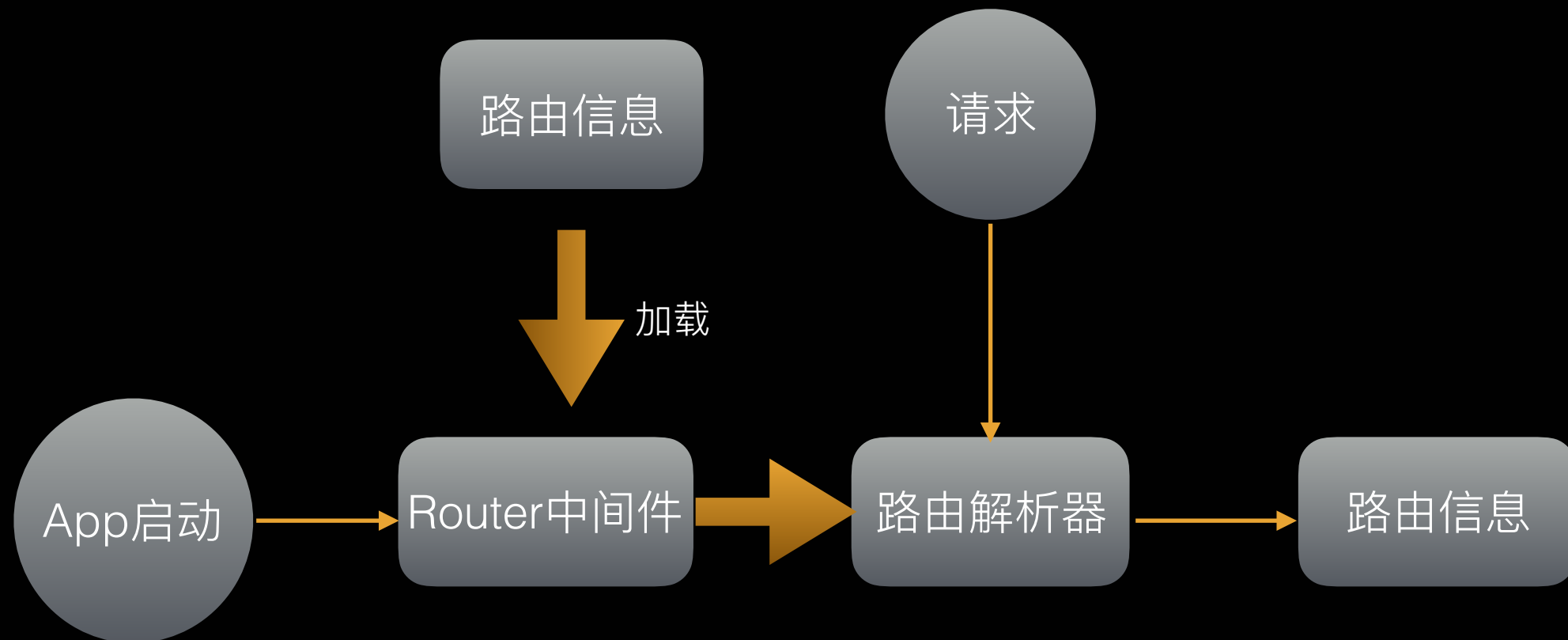
Aconite架构



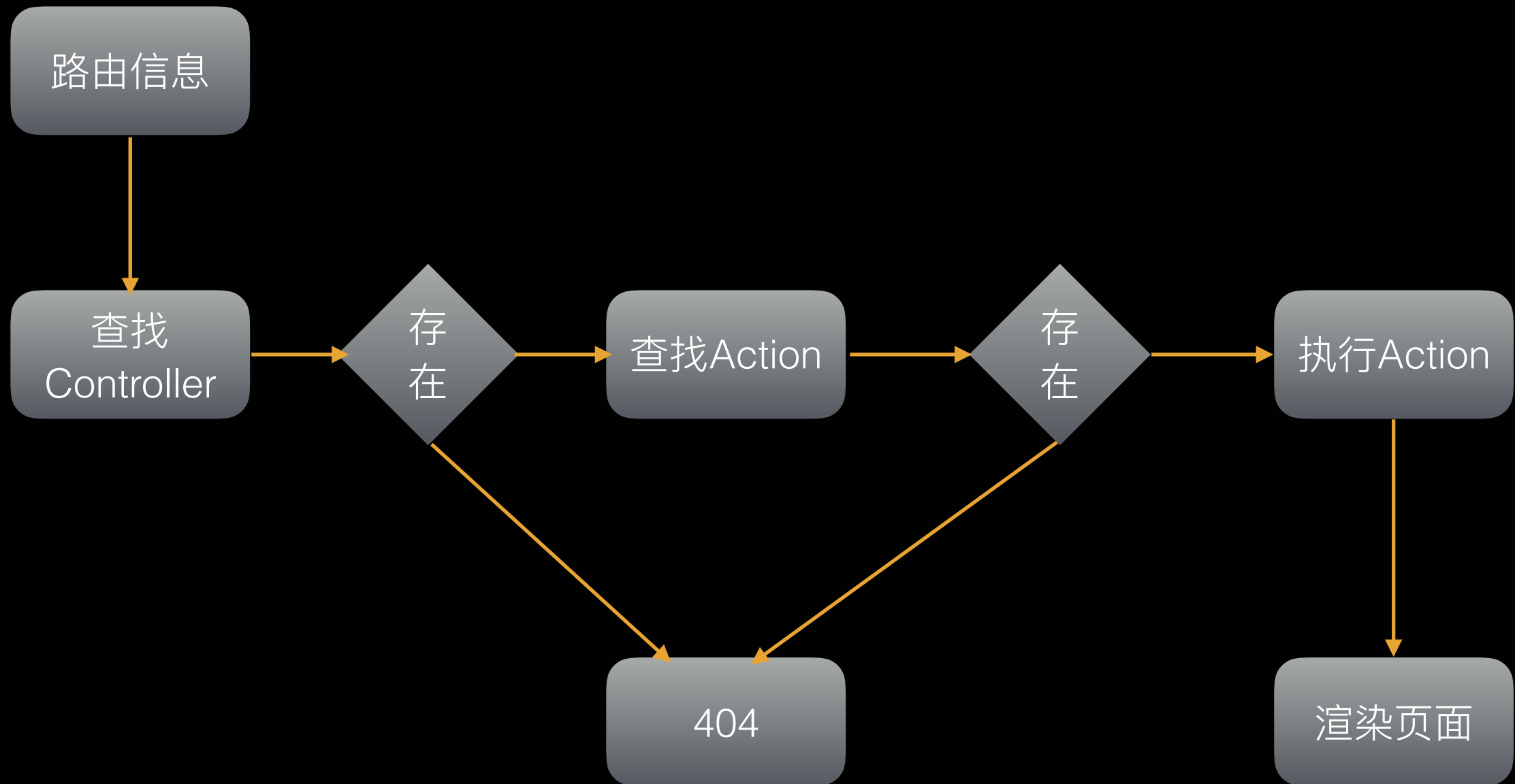
中间件机制



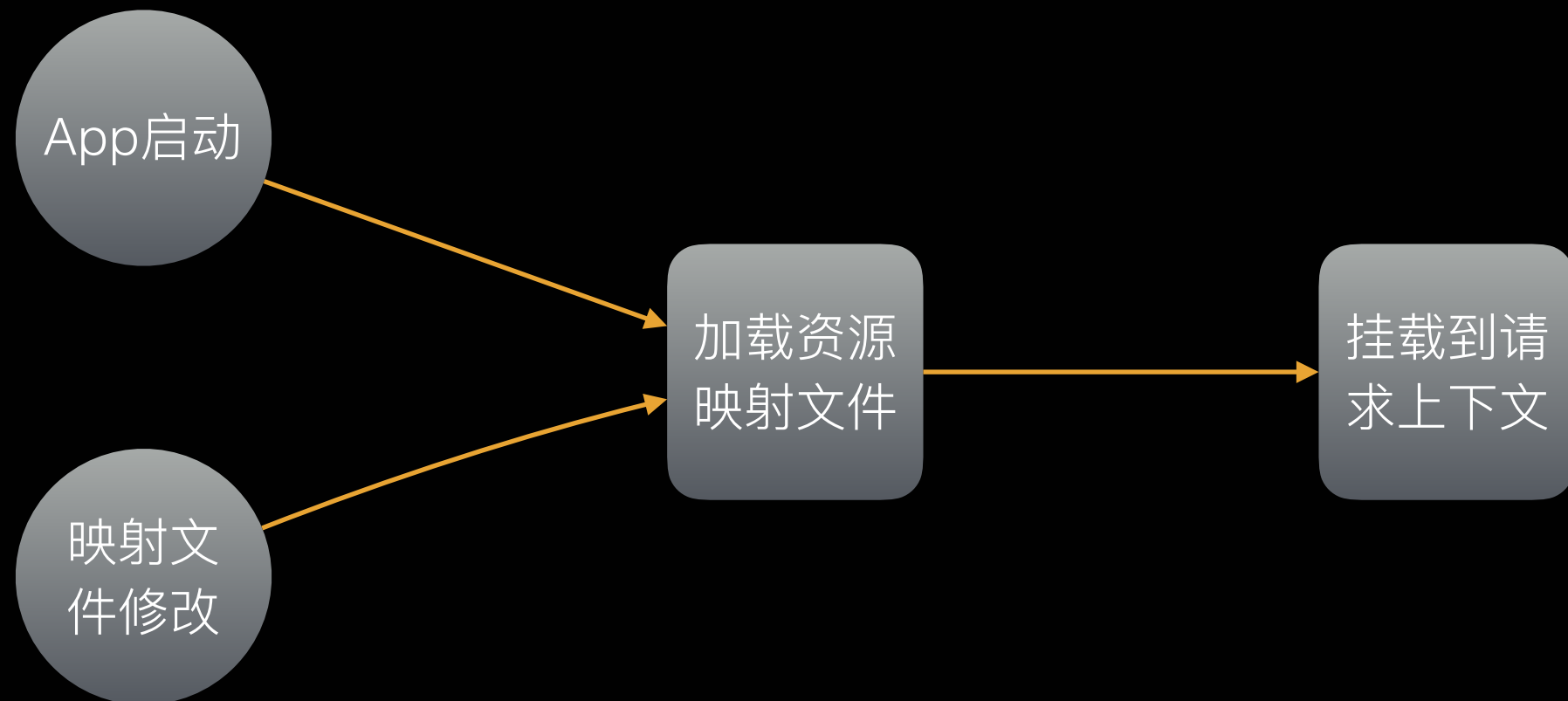
Aconite-Router



Aconite-Render



Aconite-Chunk Map



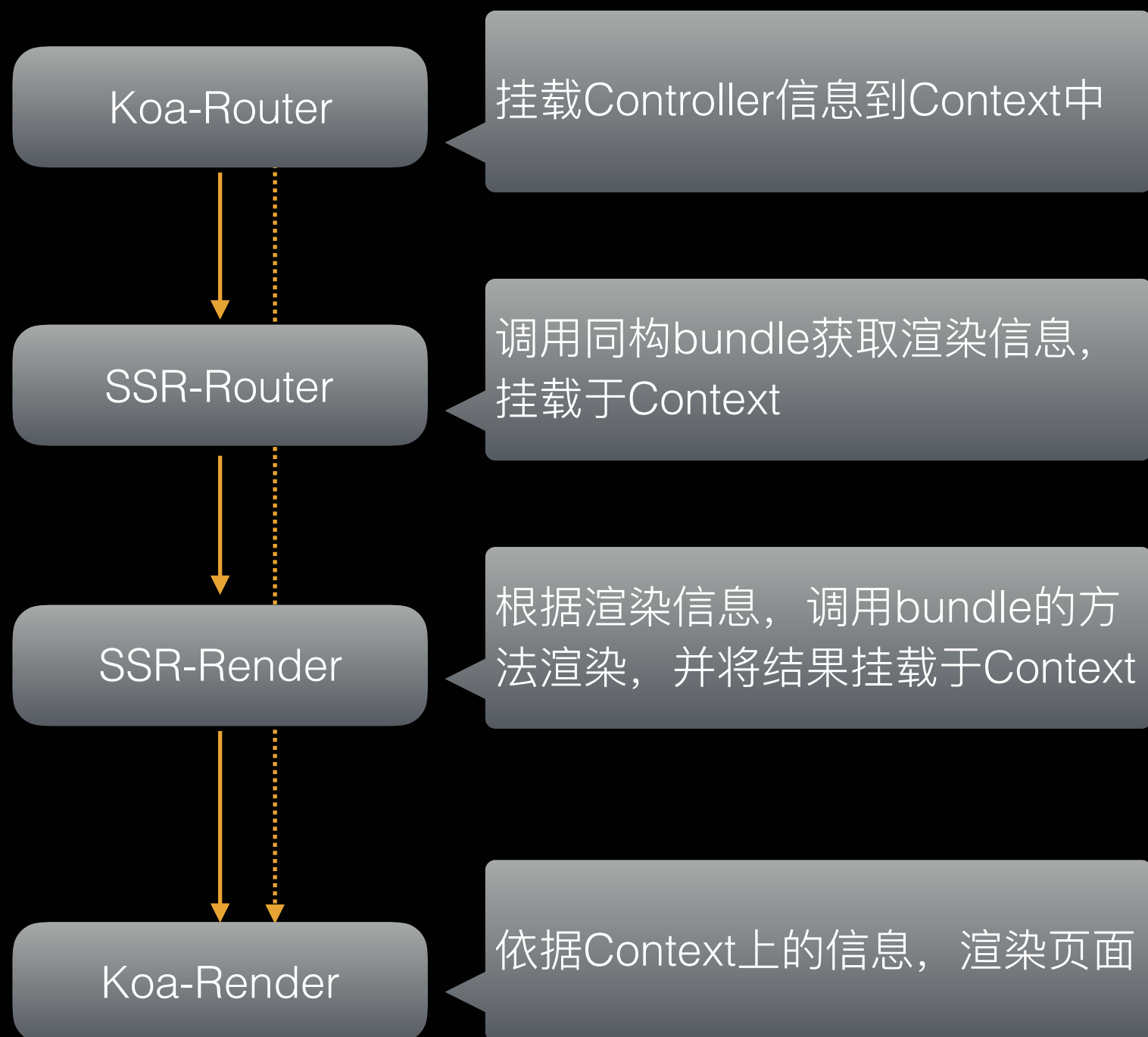
同构渲染

- 减少首屏白屏时间
- SEO
- 复用前端渲染逻辑

同构思路

- 以Aconite为基础
- 在中间件中处理同构
- React、Vue项目，独立开发，采用Webpack打包生成bundle在Aconite中引用

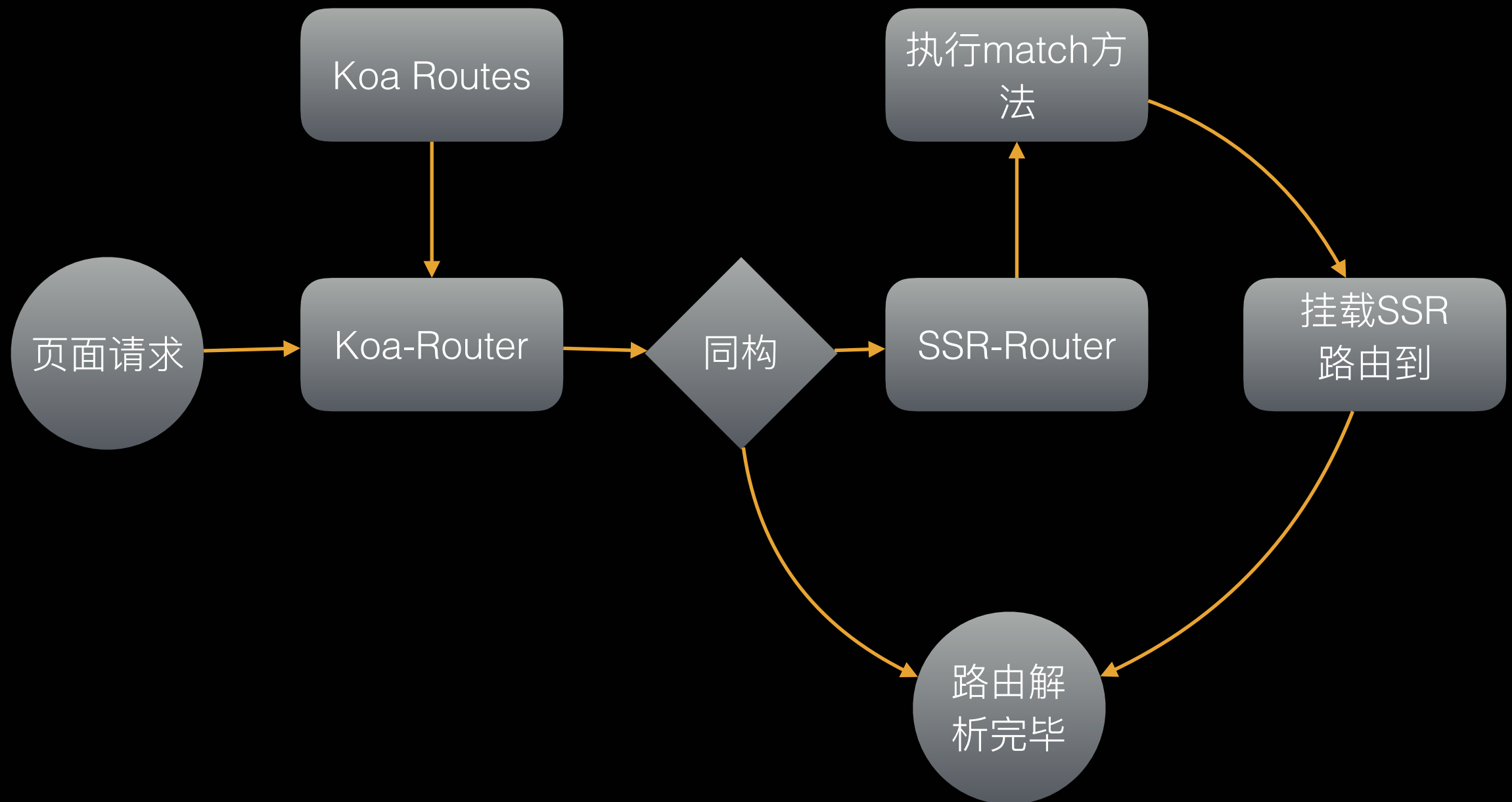
同构渲染流程



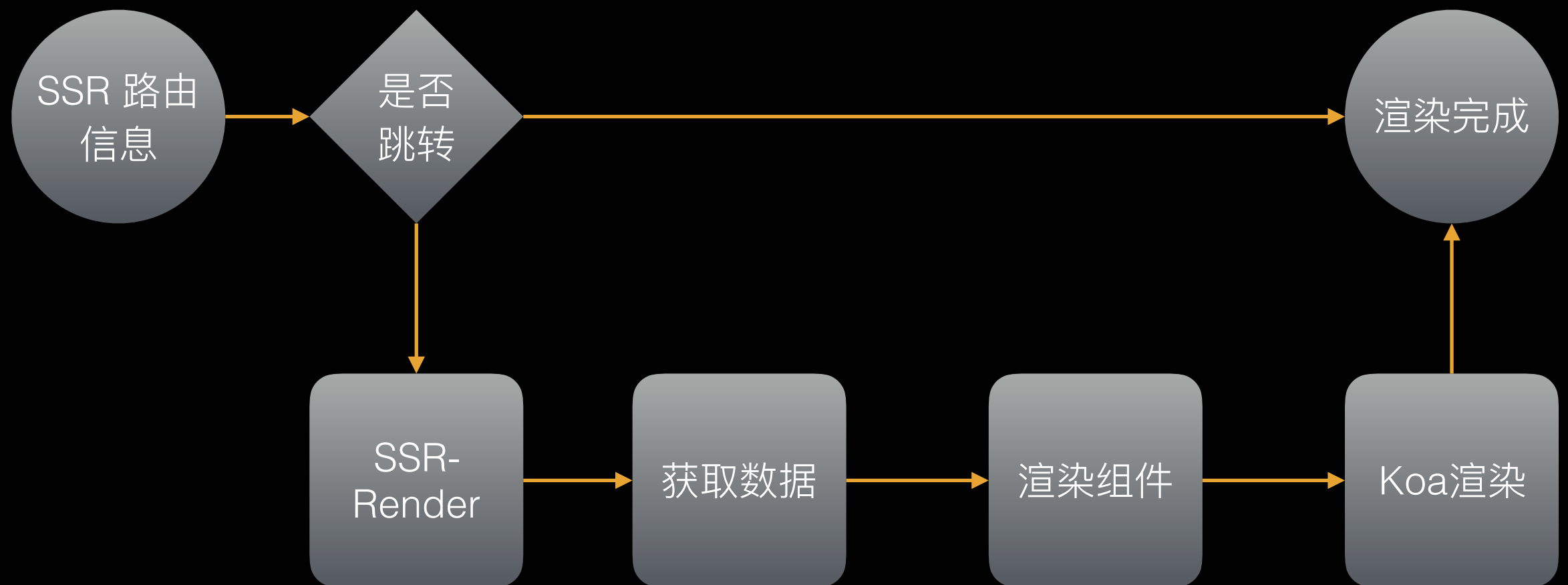
同构入口

```
import React from "react"
import routes from "./routes"
import store from "./store/configureStore"
import { renderToString } from 'react-dom/server'
import { RouterContext, match } from 'react-router'
import { Provider } from "react-redux"
export default {
  store,
  renderFn(renderProps, store) {
    console.log(RouterContext.router)
    return renderToString(<Provider store={store}><RouterContext {...renderProps} /></Provider>)
  },
  match(url) {
    return new Promise((resolve, reject) => {
      match({
        routes,
        location: url
      }, (error, redirect, renderProps) => {
        if (error) {
          reject(error);
          return;
        }
        resolve({
          redirect,
          renderProps
        })
      })
    })
  }
}
```


SSR-Router

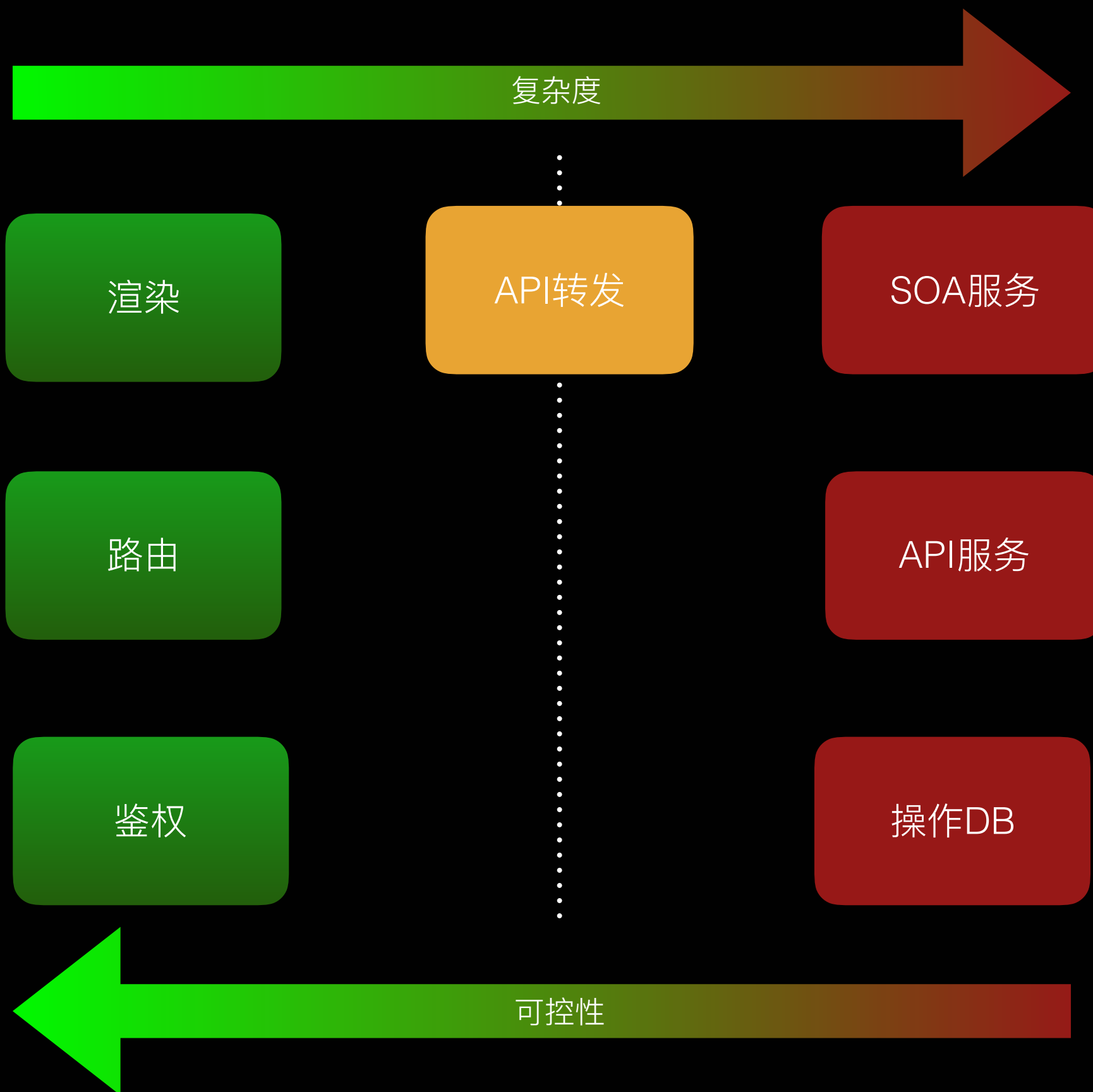


SSR-Render



同构webpack

```
module.exports = {
  entry: './app.js',
  output: {
    filename: 'react-build.js',
    path: path.resolve(__dirname, '../'),
    libraryTarget: 'commonjs2'
  },
  module: {
    rules: [{
      test: /\.js(x)?$/,
      use: "babel-loader"
    }, {
      test: /\.scss$/,
      use: ExtractTextPlugin.extract({
        fallback: 'style-loader',
        use: ['css-loader', 'sass-loader']
      })
    }]
  },
  target: 'node',
  resolve: {
    extensions: ['.js', '.json', '.jsx', '.css'],
    mainFields: ['jsnext:main', 'main']
  },
  plugins: [new ExtractTextPlugin("[name].css")]
}
```



- 为什么要在Node端渲染
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发布、部署

- 环境
- PM2 & Docker
- CI / CD

环境

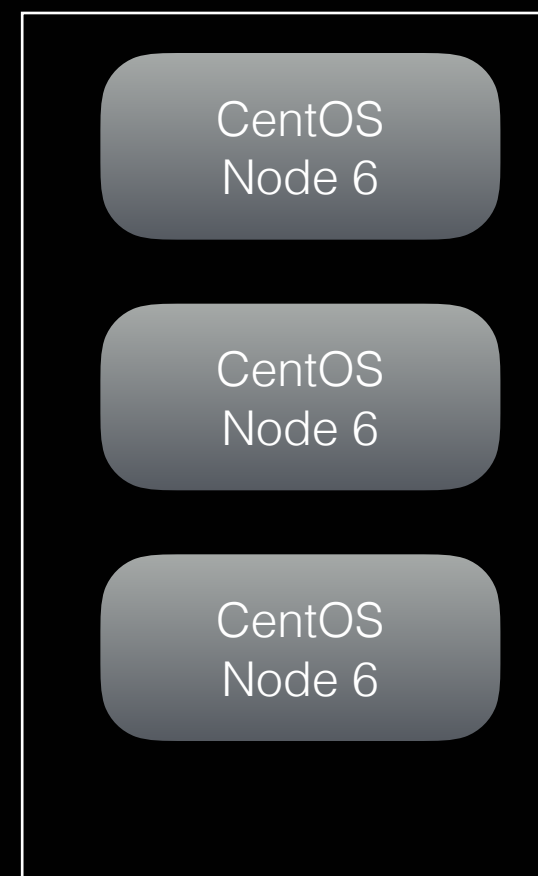
QA环境



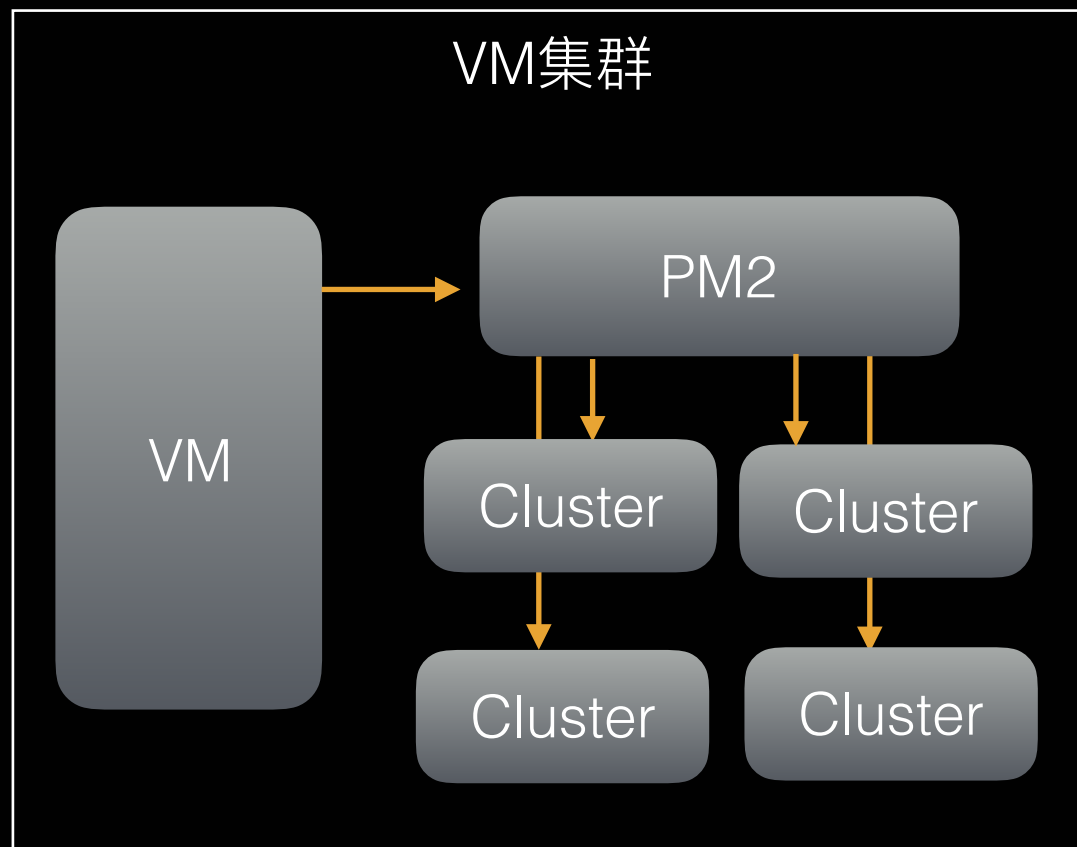
验证环境



线上环境



PM2 & Docker



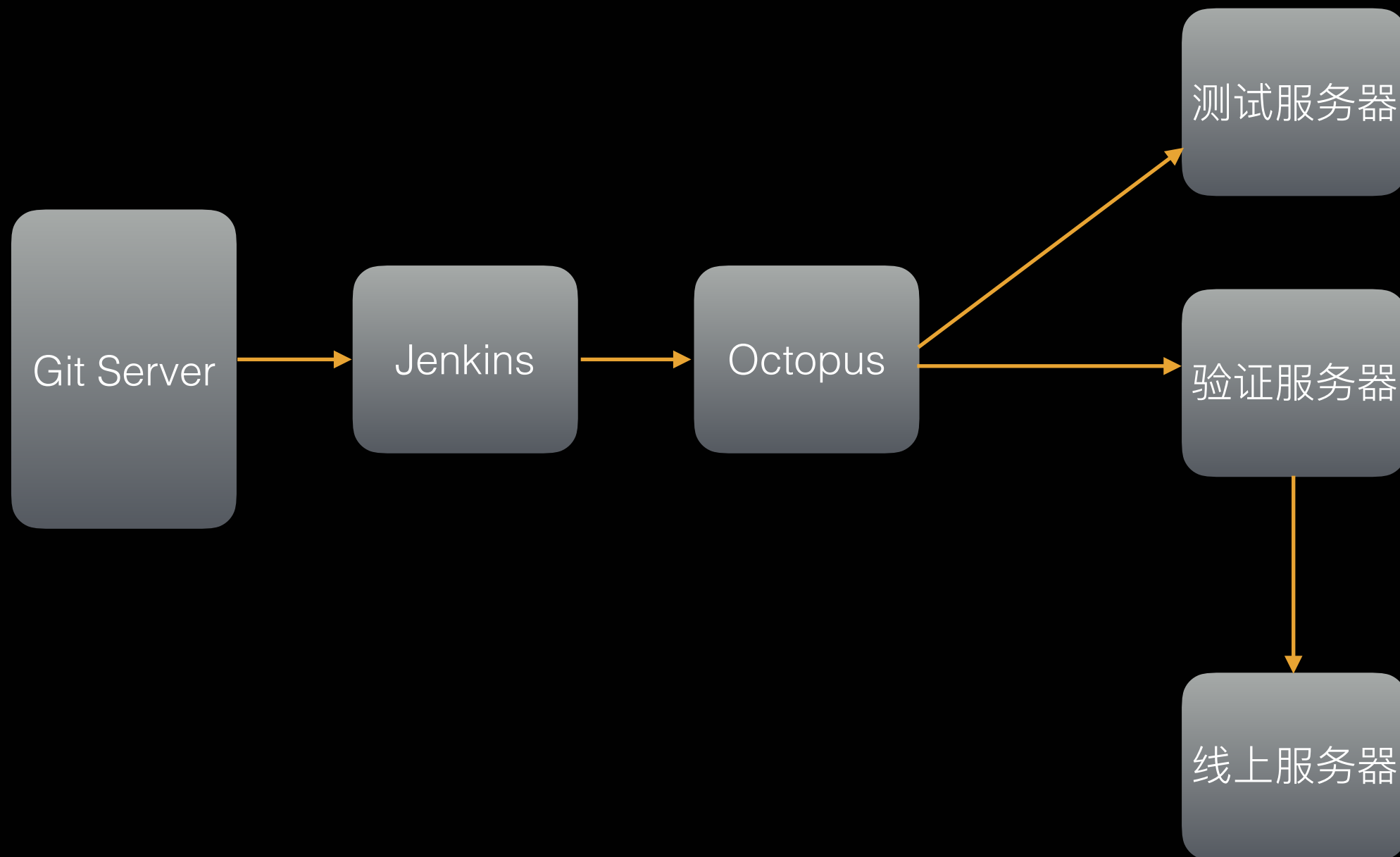
qa.json

yz.json

prod.json

```
{
  "apps": [{
    "name": "test",
    "script": "./app.js",
    "env": {
      "NODE_ENV": "yz"
    },
    "instances": 2,
    "exec_mode": "cluster",
    "watch": true
  }]
}
```

CI/CD



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线上监控

- 线上监控的意义
- 线上监控的方式

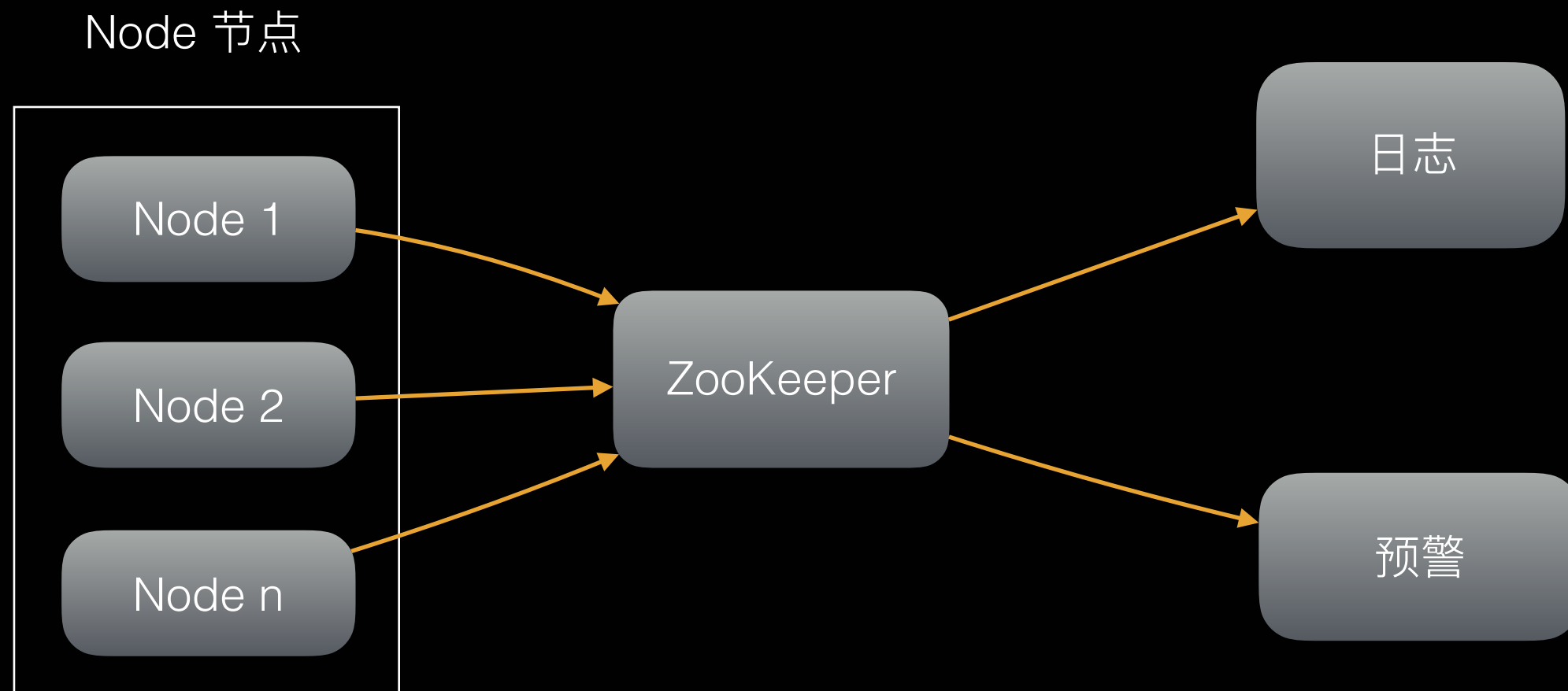
线上监控的意义

- Node服务运行情况无法感知
- 无法预警
- 出现问题，定位分析问题教难

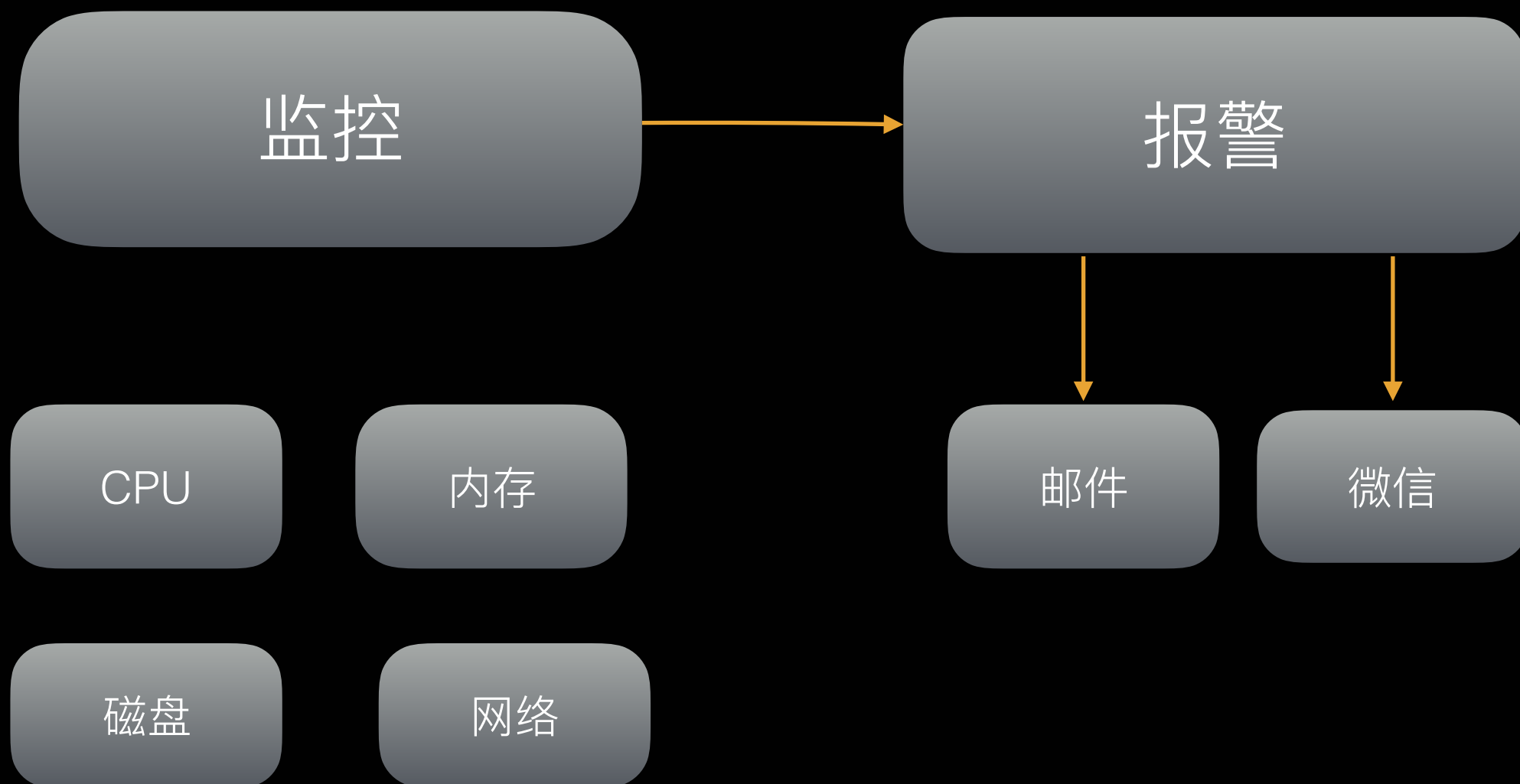
线上监控方式

- ZooKeeper
- Zabbix
- Log
- ELK

ZooKeeper



Zabbix



Log

```
"s_name": "http://www.baidu.com",  
"proj": "http://www.baidu.com",  
"s_ip": "111.111.111.111",  
"method": "GET",  
"host": "www.baidu.com",  
"path": "http://www.baidu.com",  
"query_string": "{}",  
"c_ip": "111.111.111.111",  
"user_id": 0,  
"useragent": "YisouSpider",  
"referer": "",  
"status": 200,  
"c_bytes": 0,  
"s_bytes": 50358,  
"time_taken": 1461,  
"time_third_api": 0,  
"request_id": "7b2acc0d56104b0db5f28f922ea1aa75",  
"@version": "1",  
"@timestamp": "2017-08-08 10:00:00",  
"type": "node-web"
```

Log

```
"s_name": "XXXXXXXXXXXXXXXXXXXX",  
"level": "warn",  
"message": "WARN: API |XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX/",  
"method": "GET",  
"host": "XXXXXXXXXXXXXXXXXXXX",  
"path": "XXXXXXXXXXXXXXXXXXXX",  
"query_string": "{}",  
"proj": "XXXXXXXXXXXX",  
"s_ip": "192.168.1.100",  
"category": "hjAPI",  
"request_id": "7b2acc0d56104b0db5f28f922ea1aa75",  
"@version": "1",  
"@timestamp": "2017-08-14T10:10:10.100Z",  
"type": "node-app"
```

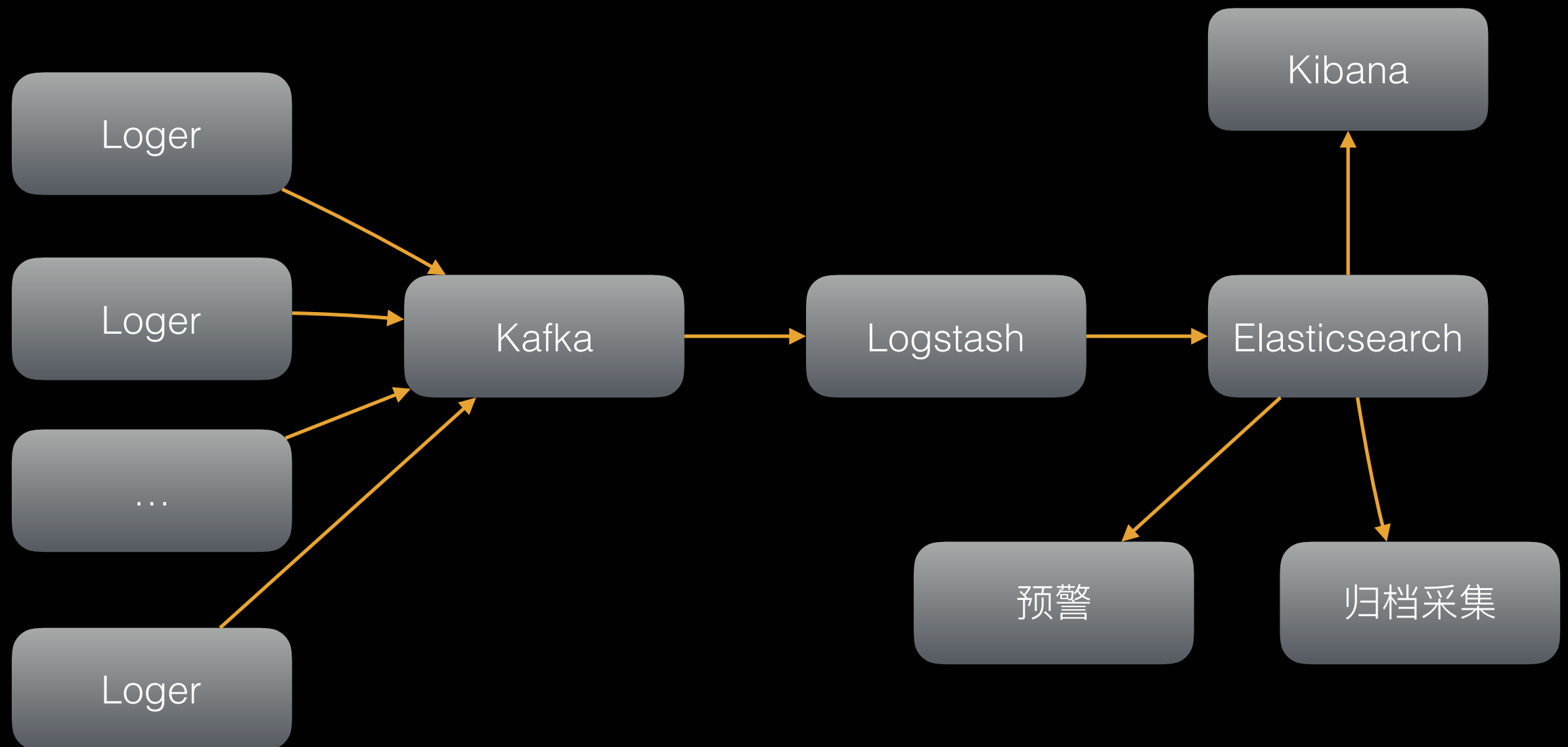
Log

```
"ready_time": 1486,  
"load_time": 3460,  
"browser": "Chrome",  
"version": "45.0.2454.94",  
"os": "Android",  
"os_version": "5.1",  
"device": "",  
"url": "http://www.baidu.com",  
"project": "http://www.baidu.com",  
"business": "http://www.baidu.com",  
"gentian_empty": "0",  
"request_id": "5ed208426e54415ab6e2c3bc3a32027e",  
"page_id": "0",  
"connect_time": 64,  
"lookup_domain_time": 6,  
"response_time": 4,  
"request_time": 112,  
"ua": "Mozilla/5.0 (Linux; Android 5.1; MZ-m3 note Build",  
"country_for_ip": "中国",  
"area_for_ip": "移动",  
"log_time": "2017-03-08 10:10:10",  
"@version": "1",  
"@timestamp": "2017-03-08 10:10:10",  
"path": "http://www.baidu.com",  
"host": "www.baidu.com",  
"type": "gentian"
```

Log

```
"message": "Uncaught ReferenceError: MzJavascriptInterface",
"url": "",
"line": "27",
"column": "381",
"page_url": "http://www.gentian.com.cn/...",
"project": "gentian",
"business": "gentian",
"request_id": "5ed208426e54415ab6e2c3bc3a32027e",
"page_id": "0",
"log_time": "2017-08-08 10:00:00",
"ua": "Mozilla/5.0 (Linux; Android 5.1; MZ-m3 note Build/L",
"@version": "1",
"@timestamp": "2017-08-08 10:00:00",
"path": "http://www.gentian.com.cn/...",
"host": "www.gentian.com.cn",
"type": "gentian-error"
```

ELK





沪江技术学院

THANKS!

