Spring Cloud API Gateway

A g e n d a

Overview

Spring Cloud API Gateway Architecture

Why Spring Cloud API Gateway ?

Our Architecture
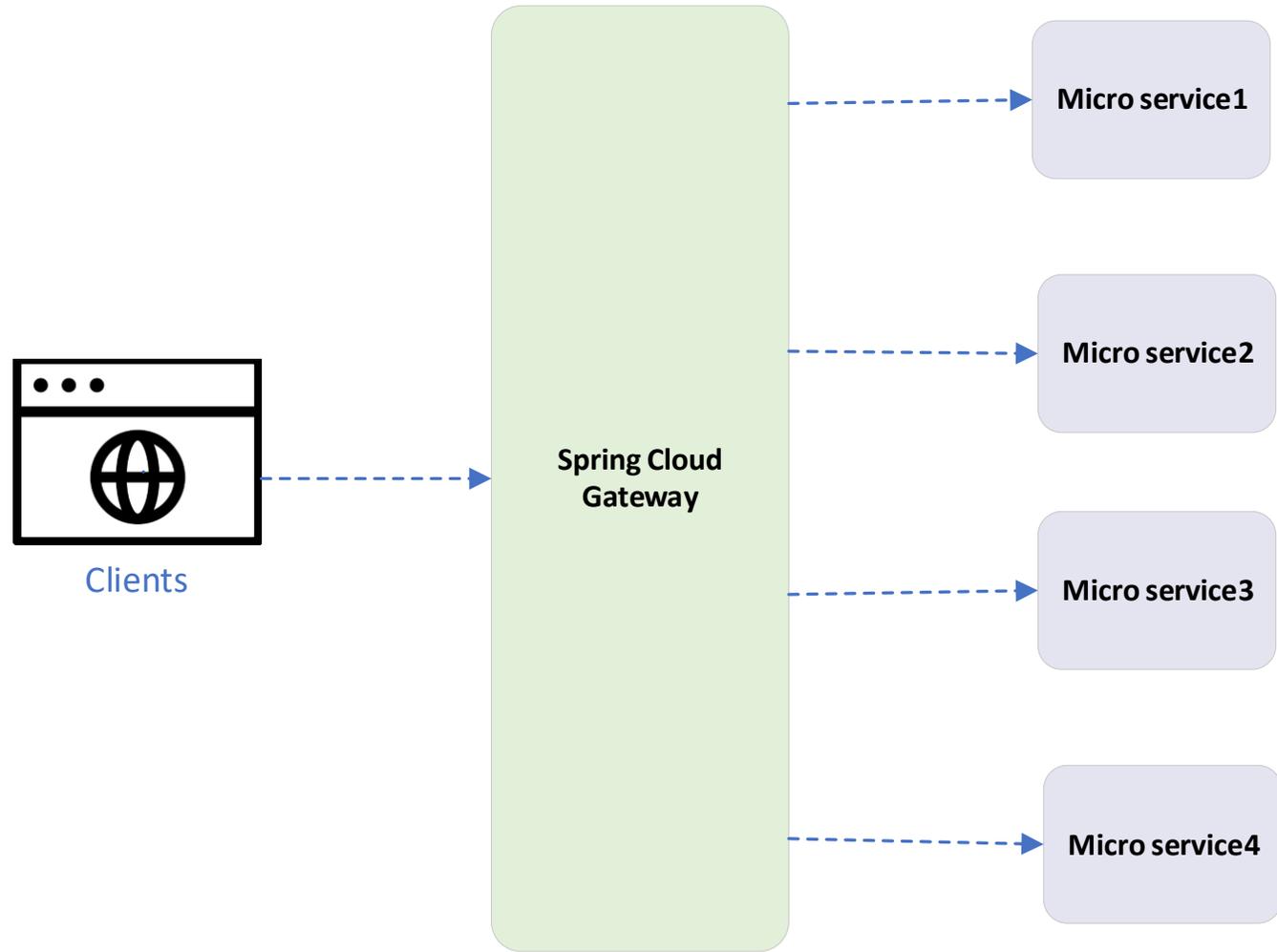
Key insights
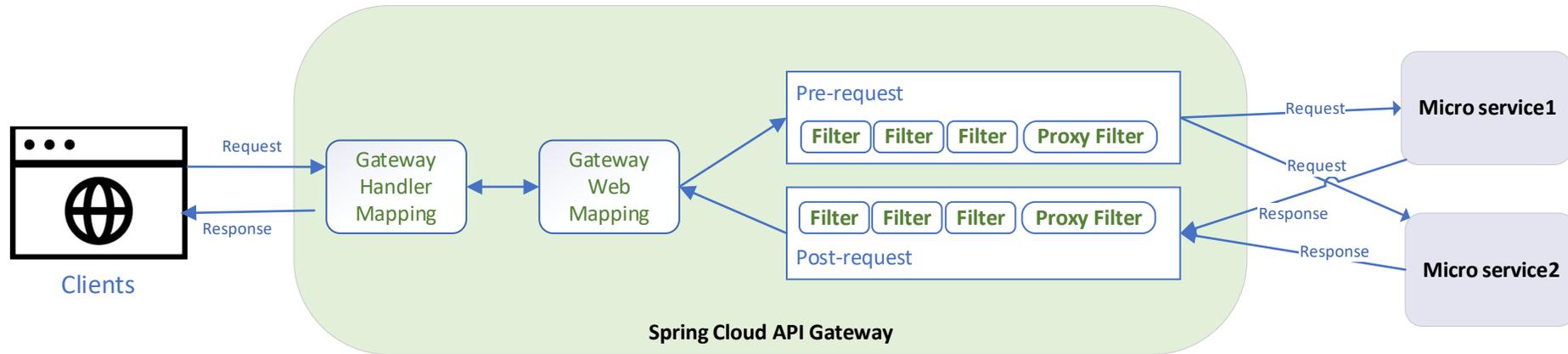
Questions and Answers

Department of Judicial Information Technology
Office of the Executive Secretary, Supreme Court of Virginia

API Gateway Overview

- Single Entry point
- Decouples clients
- Simplifies management
- Security
- Monitoring
- Routing
- Resiliency

Clients

Spring Cloud Gateway

Micro service1

Micro service2

Micro service3

Micro service4

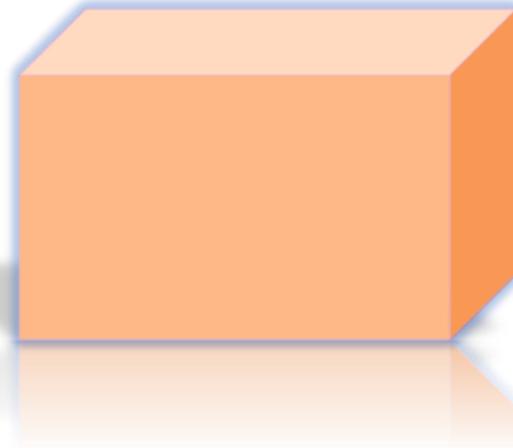# API Gateway Architecture
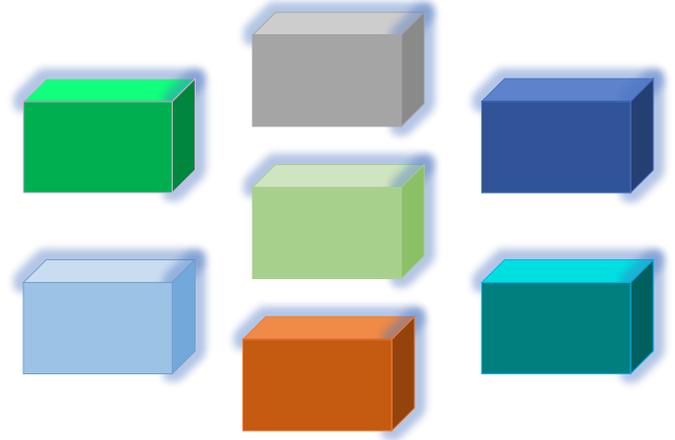

Components
- Route
- Predicates
- Filter Chain

API Gateway Decision Factors

- Strangling the Monolithic Design
- API-First Approach
- Microservice – Initiative
- On-prem Infra
- Cross cutting concerns

Monolithic

Microservices

OES Microservice Architecture

OES On-Premise

Mobile

Browser

Load Balancer

Apache Webserver

API Gateway

Netty

Microservice

Microservice

Microservice

Config Server

HashiCorp Vault

Eureka Server

IBM WebSphere LTPA Token

IBM WebSphere SIBus MQ

ICINGA Monitoring

Splunk
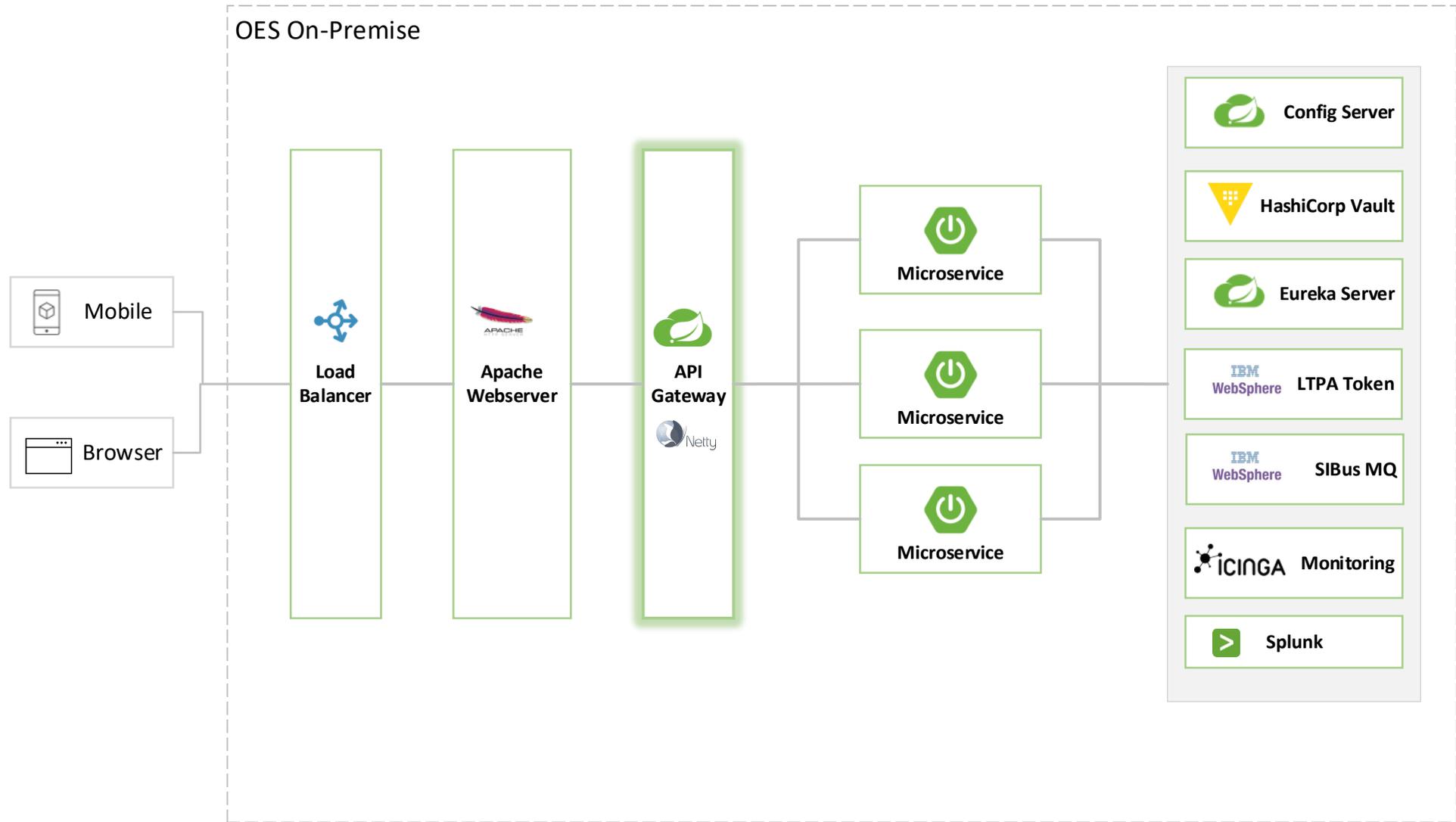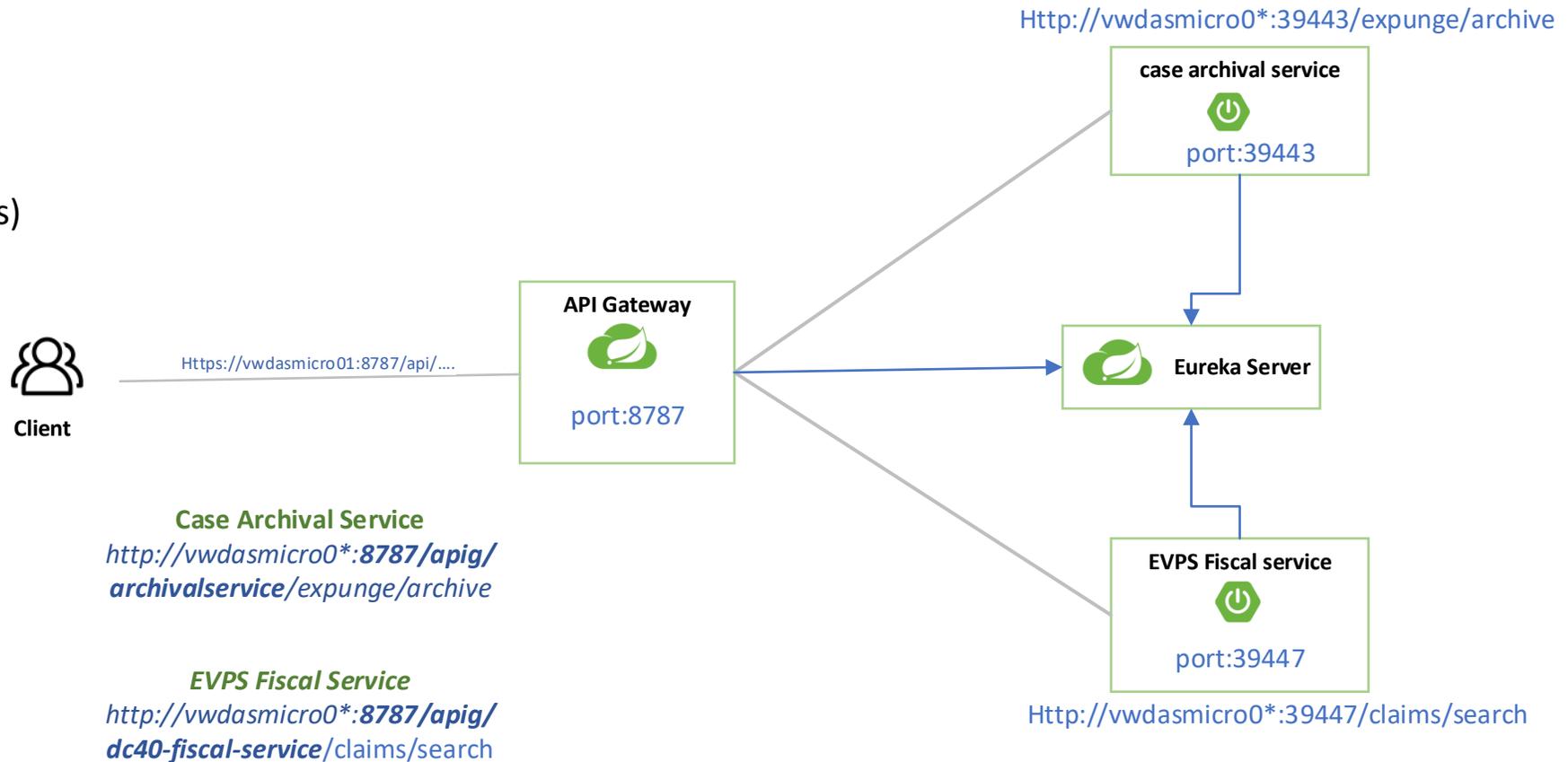
OES API Gateway Implementation

✓ Non-Blocking API

✓ *Netty Webserver*

✓ Open JDK 11 (IBM Semeru Runtimes)

✓ *15 Microservices*

✓ ***Gateway Features:***

  • *Load balancer*

  • *Circuit Breaker*

  • *Timelimiter*

  • *Retry*

  • *Ratelimter*

• *Authentication and Authorization*

Http://vwdasmicro0*:39443/expunge/archive

case archival service

port:39443

API Gateway

port:8787

Client

Https://vwdasmicro01:8787/api/….

Eureka Server

EVPS Fiscal service

port:39447

Http://vwdasmicro0*:39447/claims/search

Case Archival Service
http://vwdasmicro0:**8787/apig/
archivalservice**/expunge/archive*

EVPS Fiscal Service
http://vwdasmicro0:**8787/apig/
dc40-fiscal-service**/claims/search*

Key Insights

- Authentication (at gateway) and authorization (at microservice)
- High Availability and scalability
- Health checks
- Backup and Disaster Recovery
- Performance Optimization
- Resilience

Q & A