

Spring Cloud Gateway

Resilience and Security

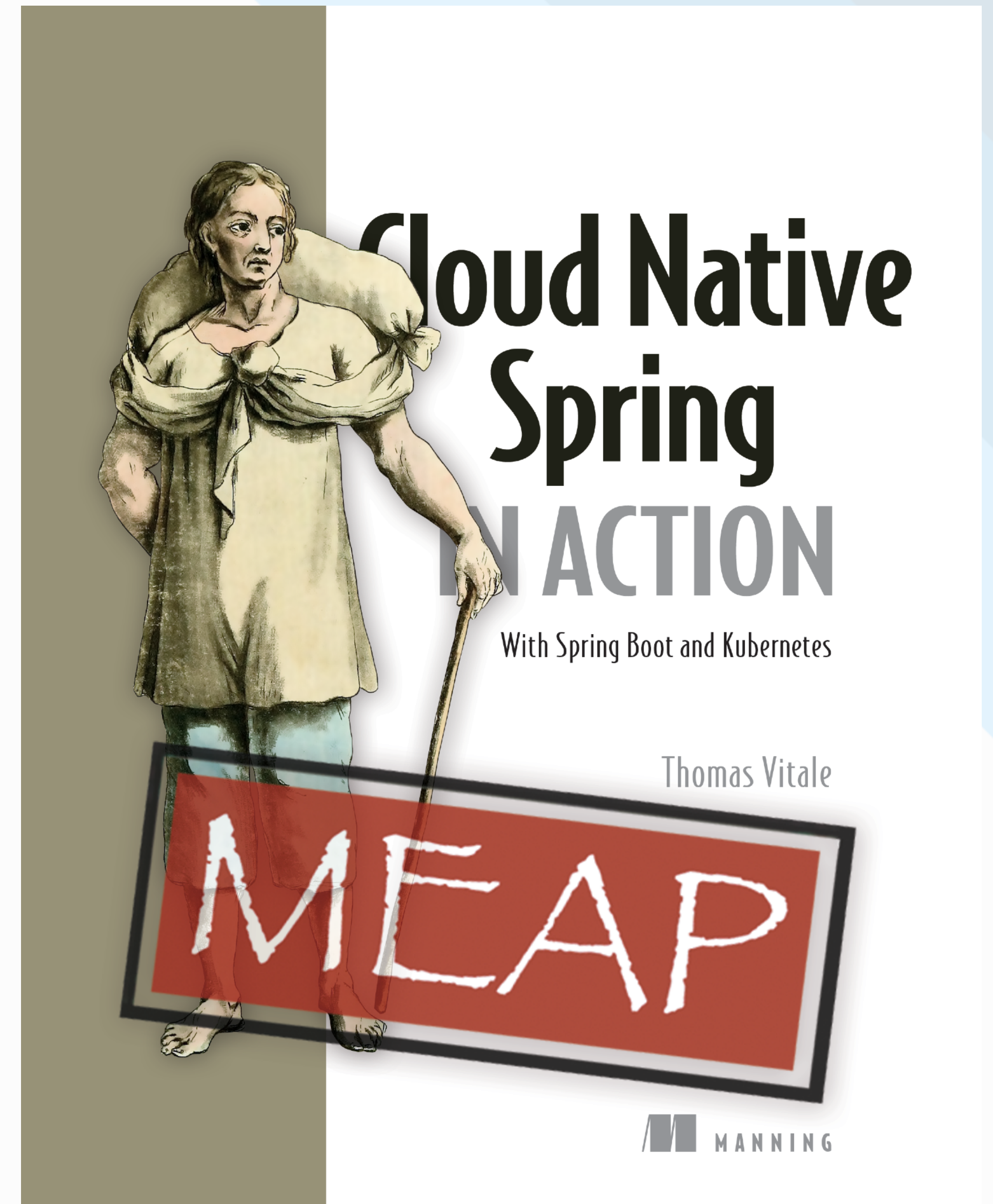
Thomas Vitale
GOTO Aarhus
Jun 11th, 2021

@vitaletomas

About Me

Thomas Vitale

- **Senior Software Engineer** at Systematic, Denmark.
- Spring, Cloud Native, DevOps, Kubernetes, Application Security.
- Author of “**Cloud Native Spring in Action**” (Manning).



API gateway



Scenarios

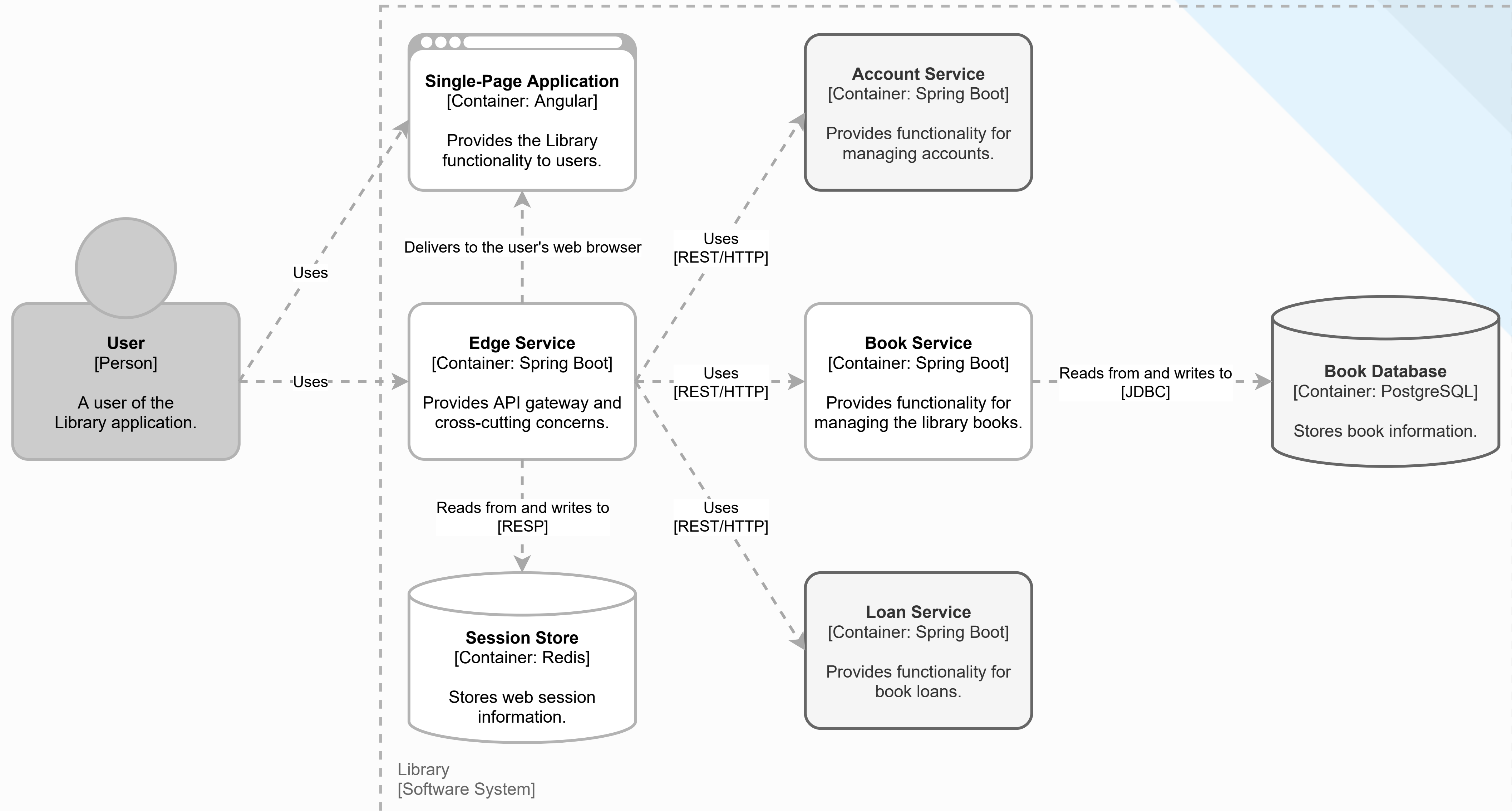
**Different clients need
different APIs**

Strangling the monolith

**Unified interface for
microservices**

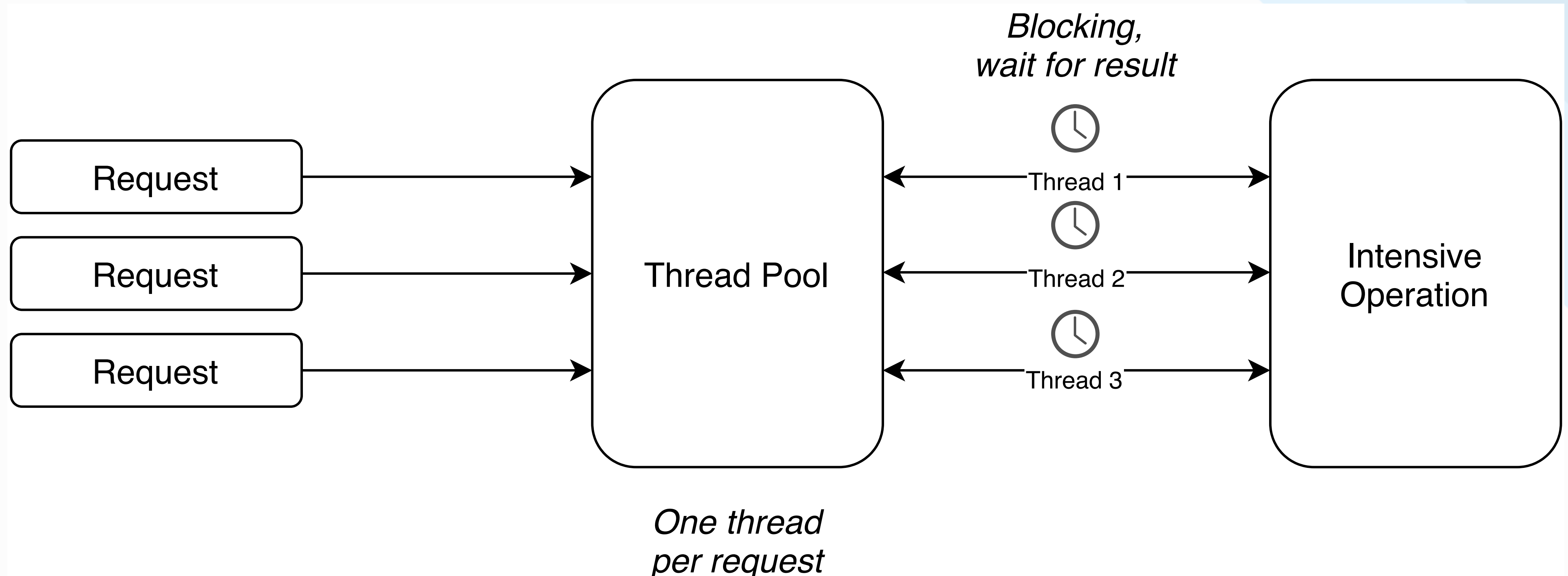
**Cross-cutting concerns in
distributed systems**

The Library System

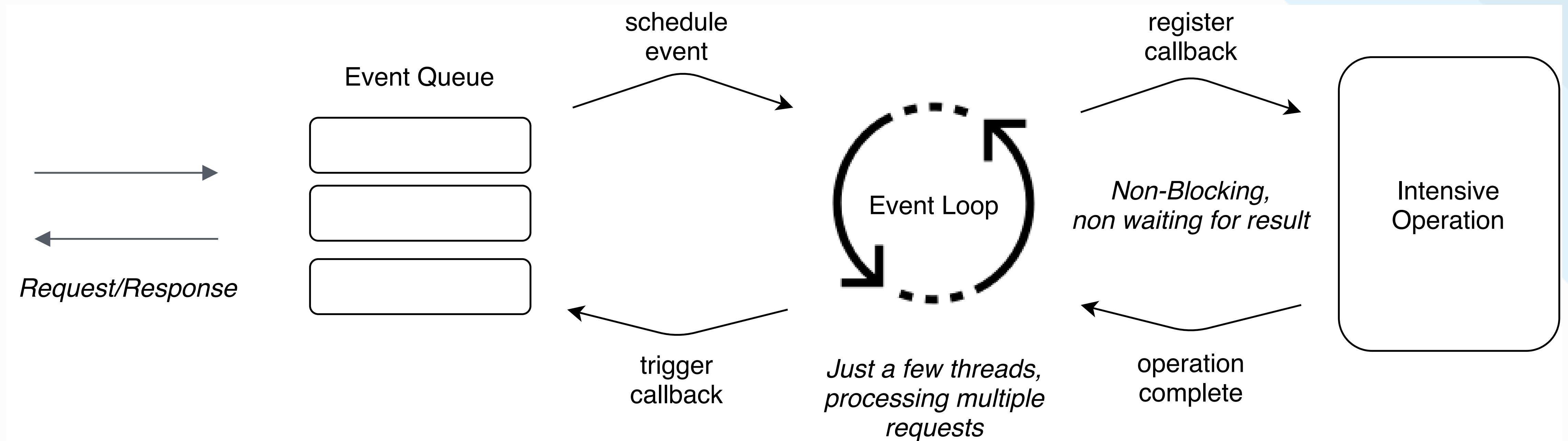


Reactive Spring

Thread-per-request

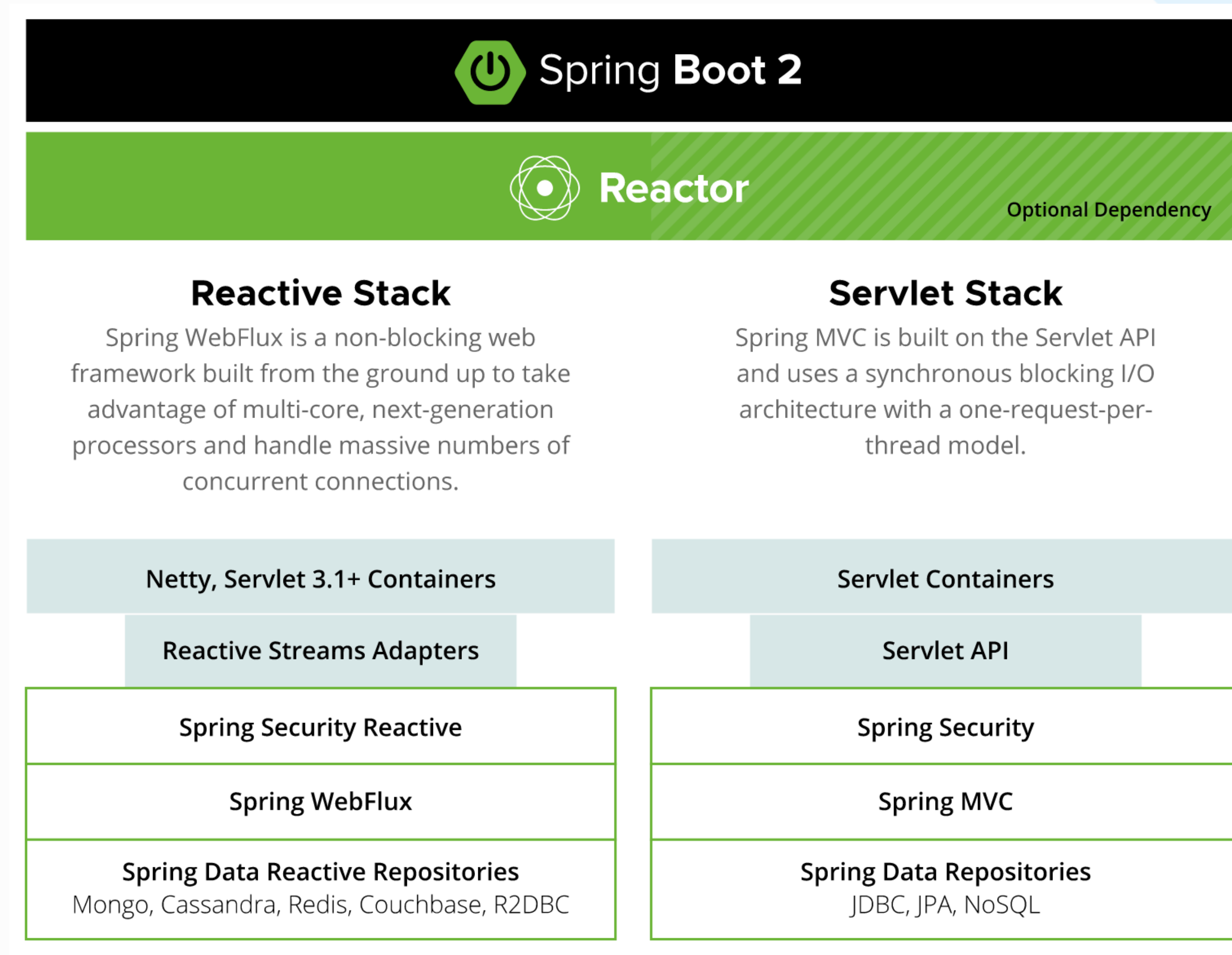


Event Loop



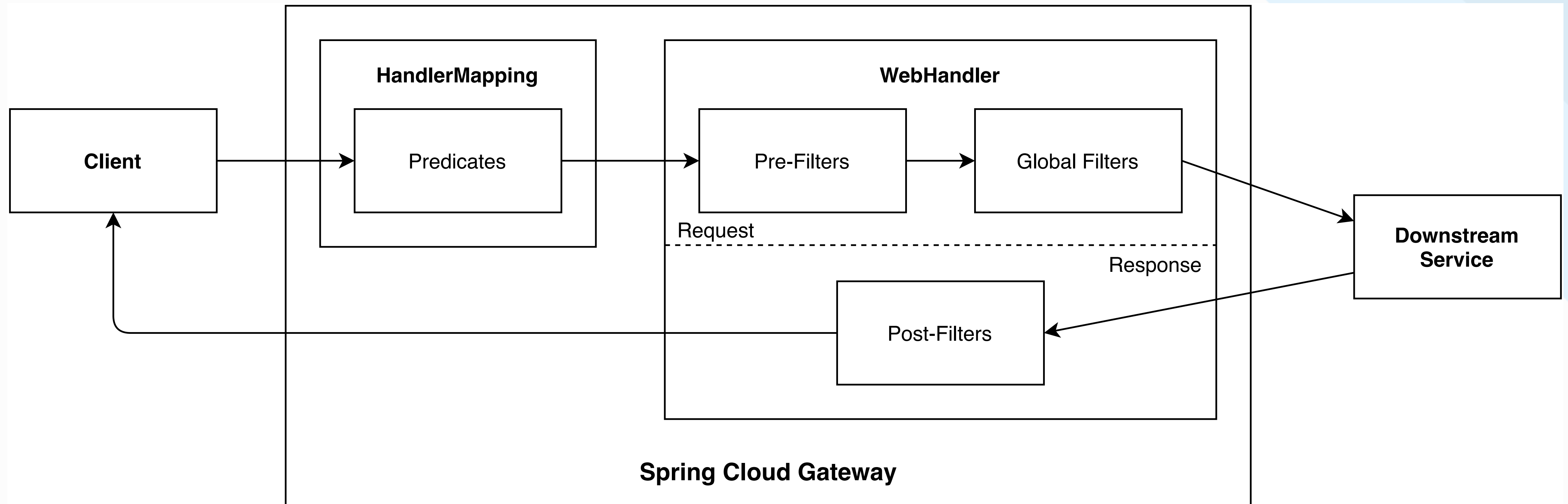
Reactive Spring

<https://spring.io/reactive>



Spring Cloud Gateway

The Architecture

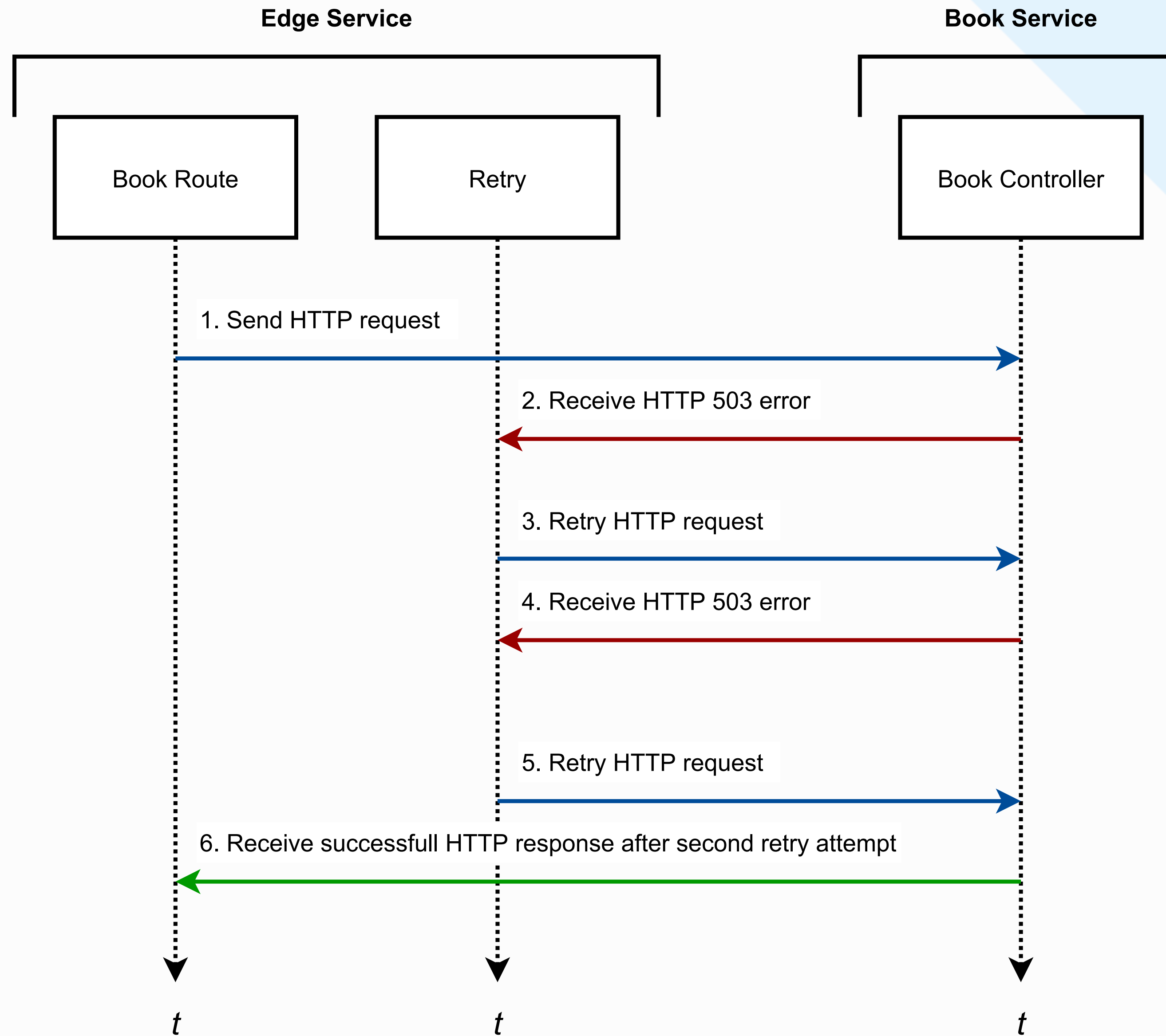


Retry

thomasvitale.com

[@vitalethomas](https://twitter.com/vitalethomas)

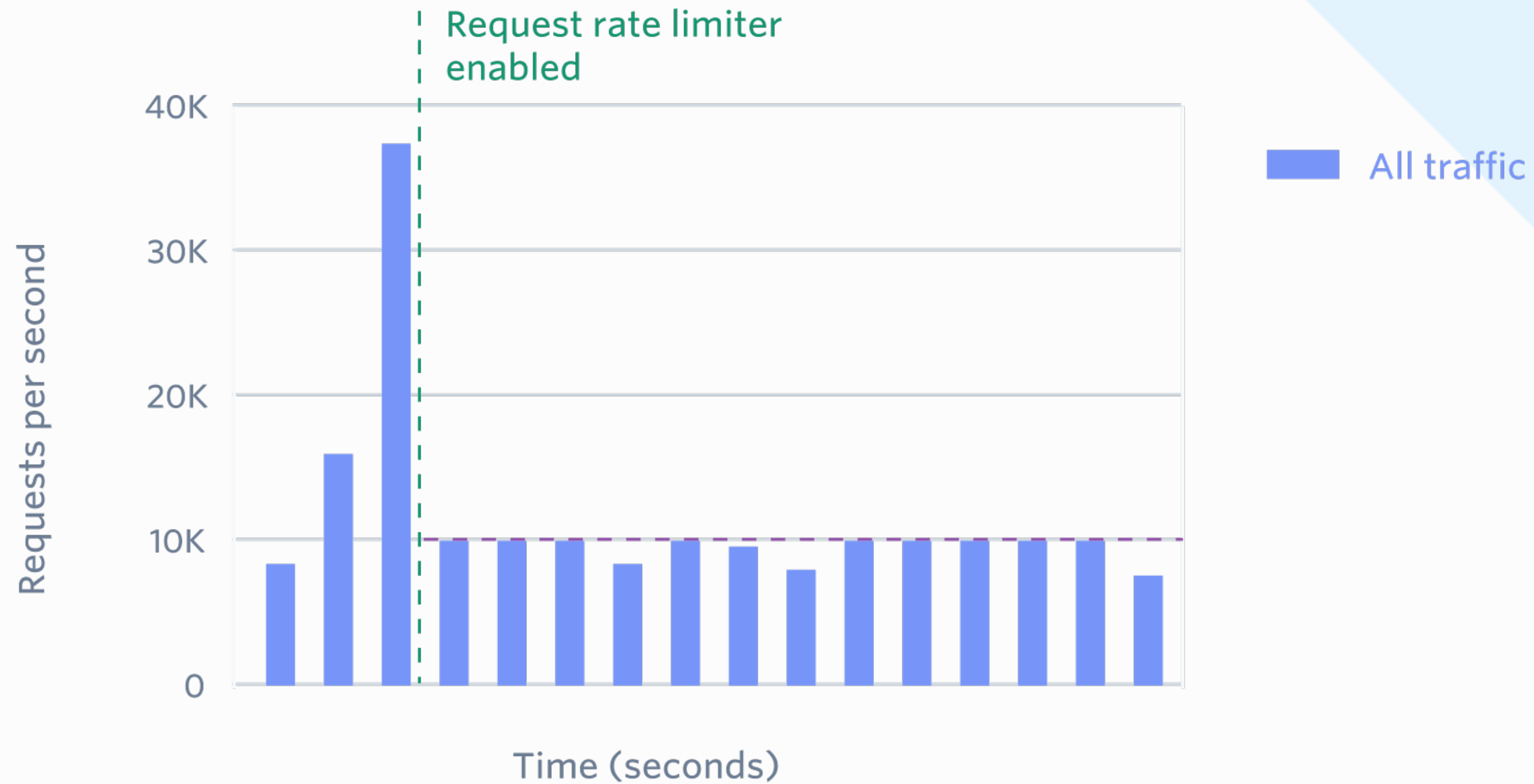
Retry



Request Rate Limiter

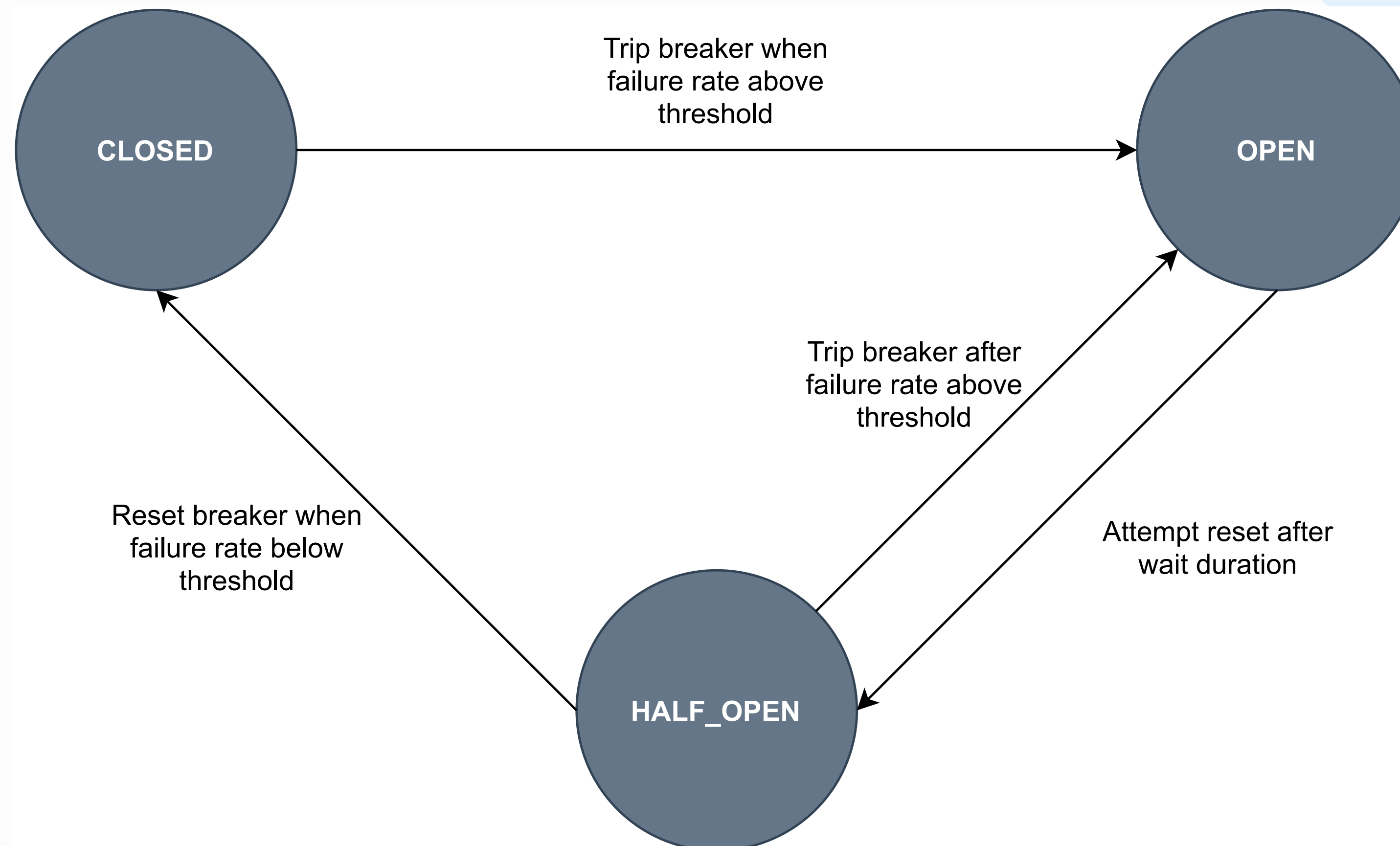
Rate Limiter

<https://stripe.com/blog/rate-limiters>



Circuit Breaker

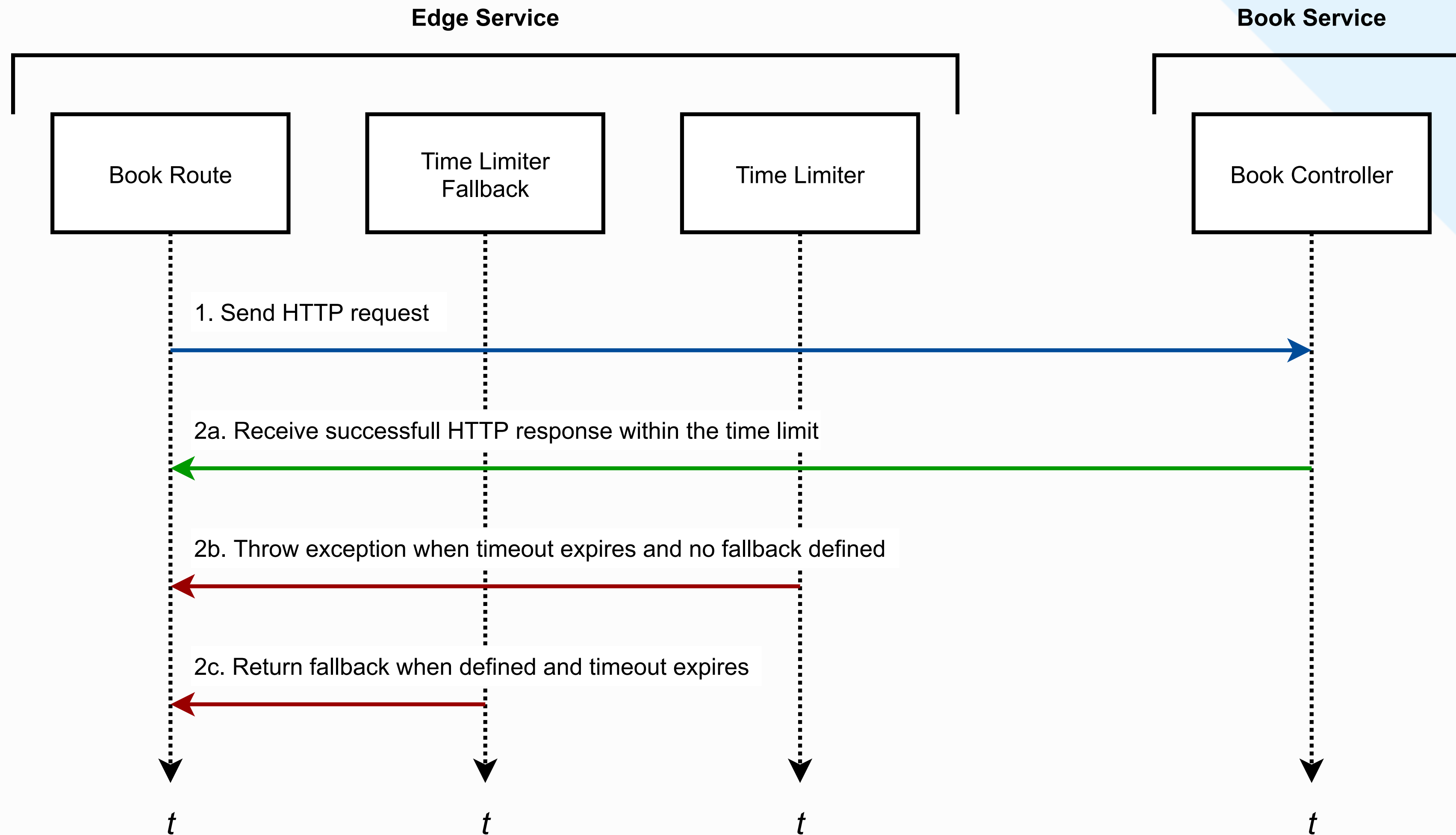
Circuit Breaker



Time Limiter



Time Limiter and Fallback



User Authentication

Security

- 1 Session Management
- 2 OAuth2 Client
- 3 OAuth2 Resource Server

Observability

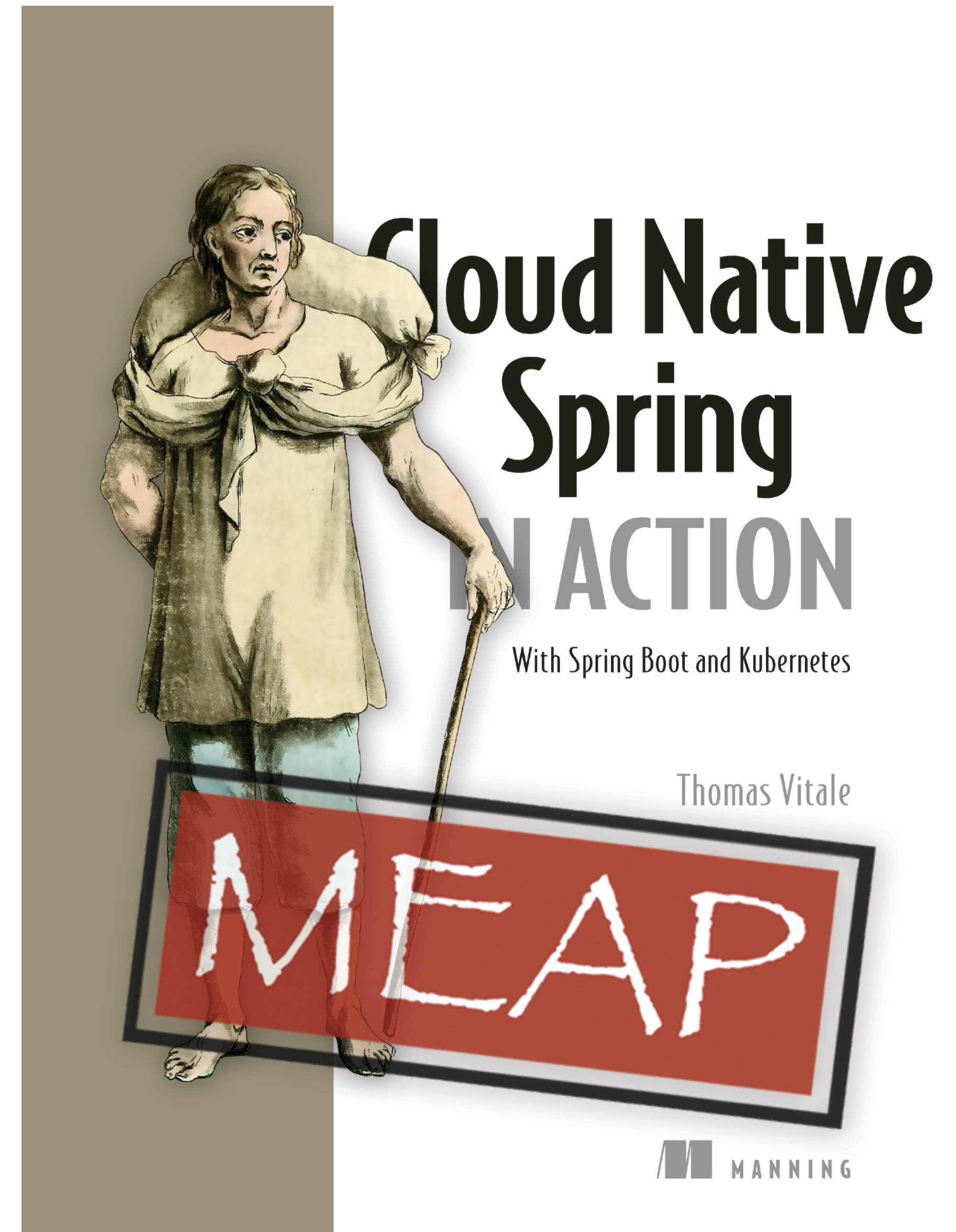
Cloud Native Spring in Action

With Spring Boot and Kubernetes

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