

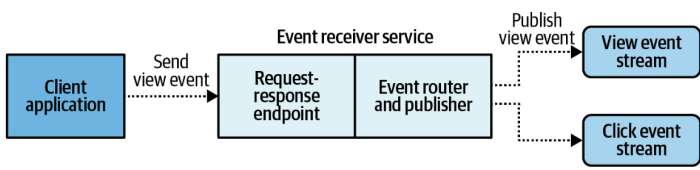
Adam Bellemare - Building Event-Driven Microservices

13. Integrating Event-Driven and Request-Response Microservices

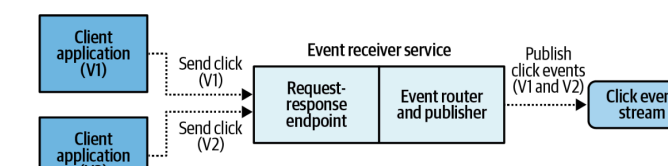
Handling External Events

Autonomously Generated Events

sent from client to server autonomously by your products (analytical events)



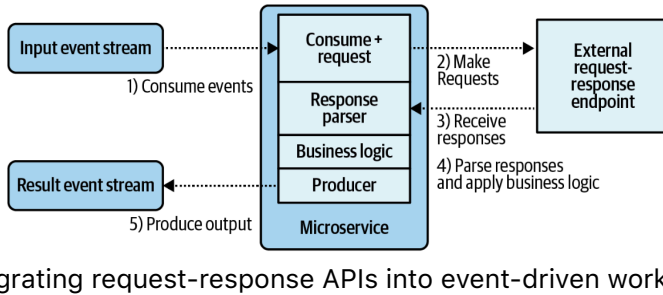
Collecting analytical events from an external source



External sources generating analytical events with different versions

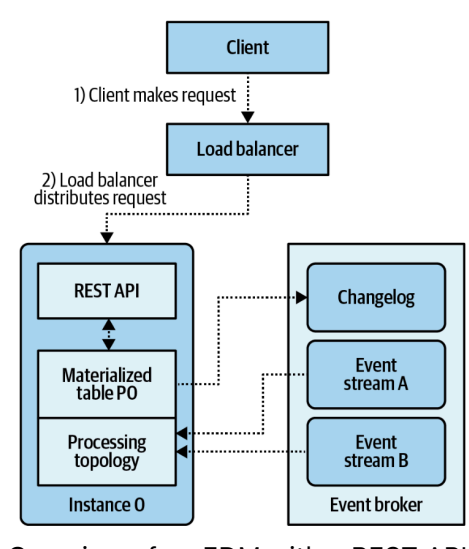
Reactively Generated Events

generated in response to a request from one of your services

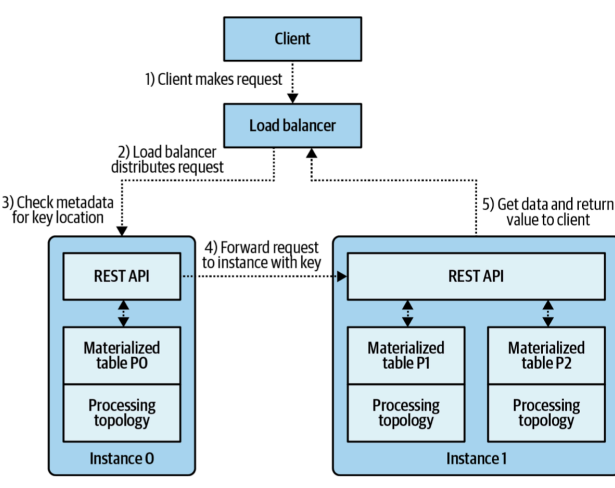


Integrating with Third-Party Request-Response APIs

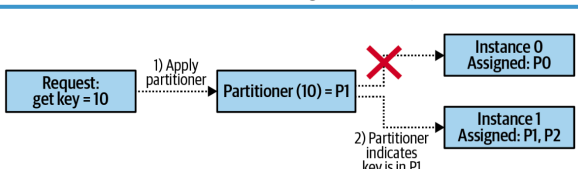
Integrating request-response APIs into event-driven workflows



Overview of an EDM with a REST API serving content to a client

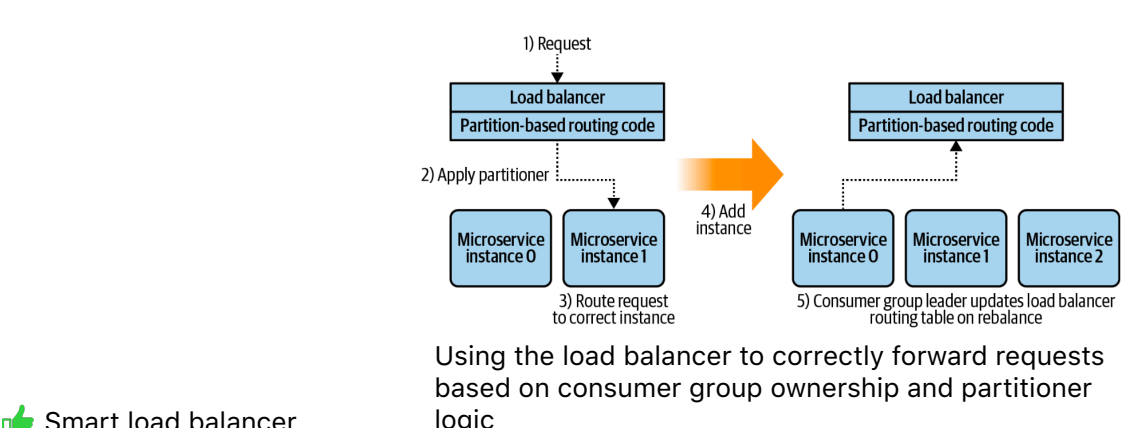


Using partition assignments to determine where materialized state for a given key is located



Workflow illustrating the routing of a request to the correct instance

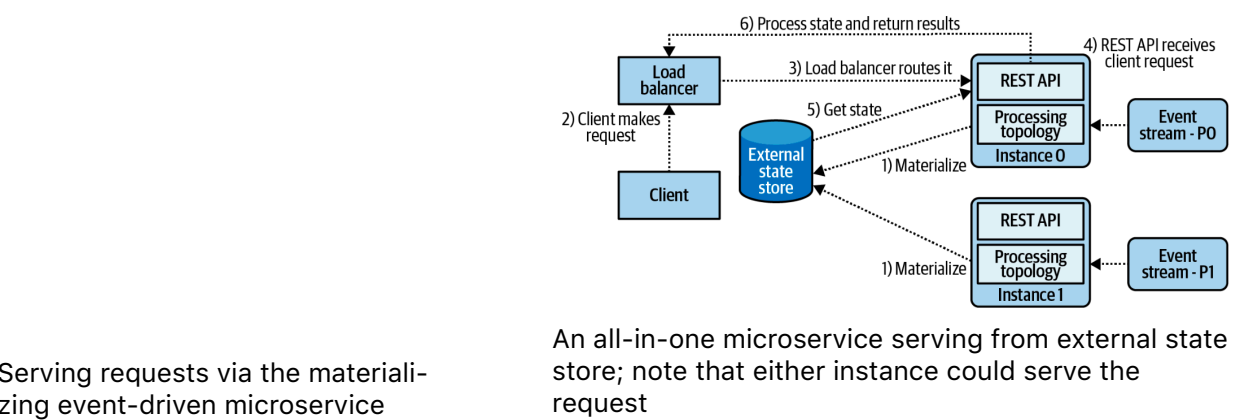
Simple (e.g. round robin) load balancer



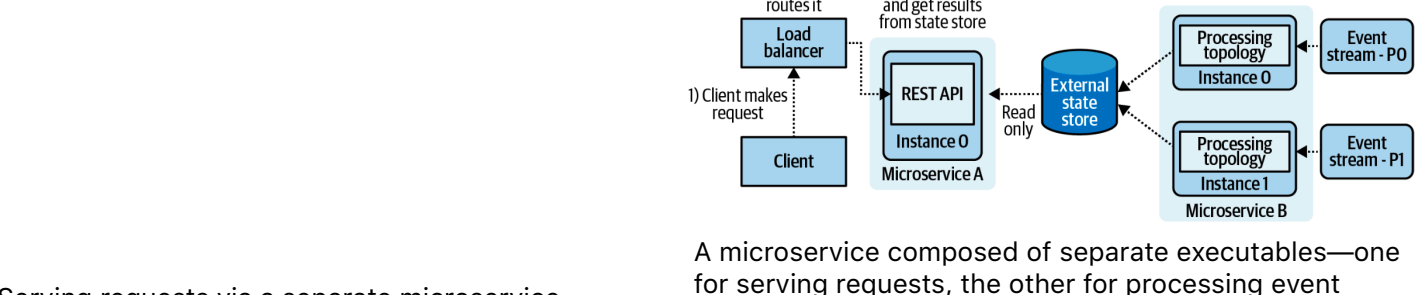
Smart load balancer

All state is available for all instances

Consumer group rebalances don't need to rematerialize the internal state in the new instance



Serving requests via the materializing event-driven microservice



Serving requests via a separate microservice

These two microservices are treated as a single COMPOSITE SERVICE

They reside within the same code repository and are tested, built, and deployed together

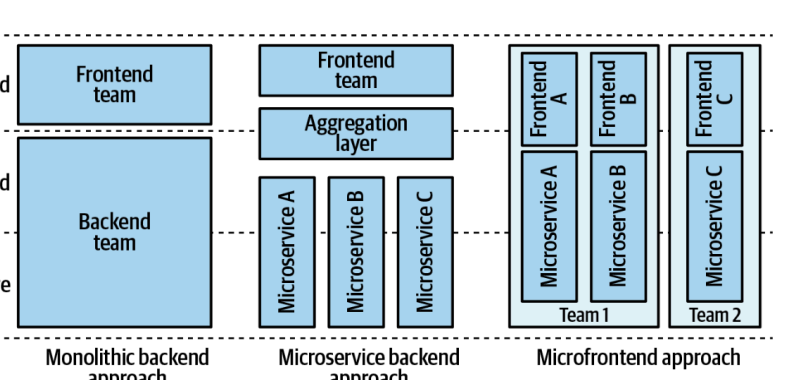
Processing and Serving Stateful Data

Serving Real-Time Requests with Internal State Stores

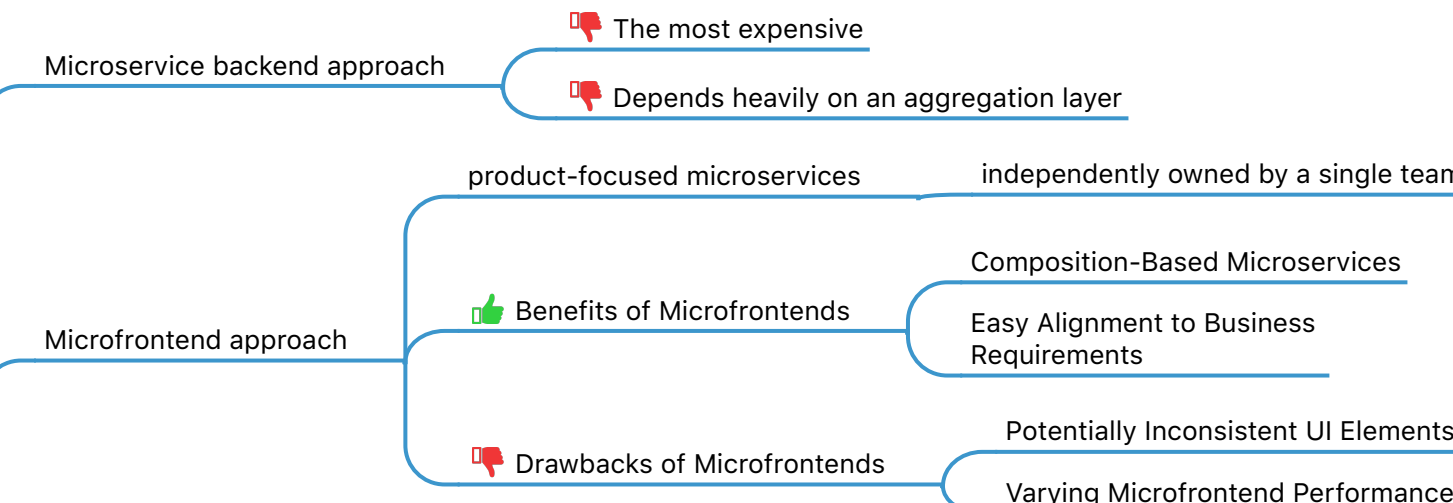
Serving Real-Time Requests with External State Stores

Handling Requests Within an Event-Driven Workflow

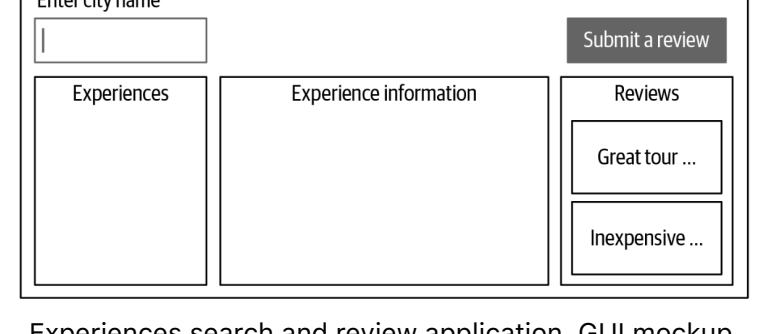
Processing Events for User Interfaces



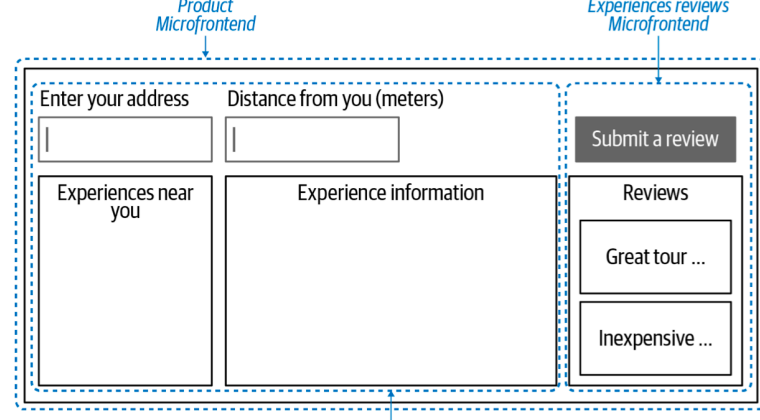
Three main approaches to organizing products and teams for customer-facing content



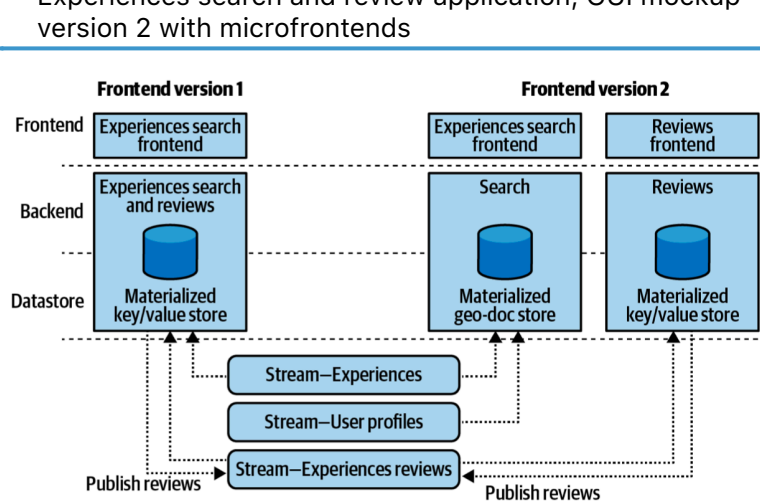
Micro-Frontends in Request-Response Applications



Experiences search and review application, GUI mockup version 1 with monolithic frontend



Experiences search and review application, GUI mockup version 2 with microfrontends



The flexibility of microfrontends paired with backend event-driven micro-services