

CGROUP

PONTHIEU Hugo, RADULESCU Tristan-Mihai,
TCHILINGUIRIAN Théo

<https://github.com/cloud-design-patterns-journey/cgroups>

Problems

Authorization

Scalability

Fault tolerance

Inventory service

Java => Go

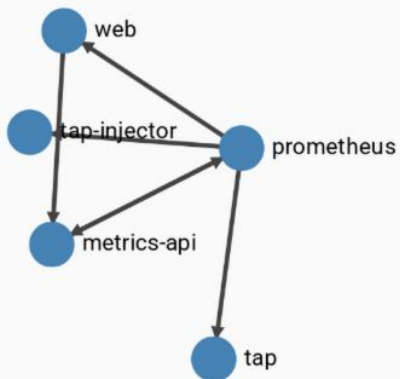
- Memory footprint => scalability

Service Mesh

Solves **Fault tolerance**
helps **Scalability (metrics)**

- Fault tolerance
 - Circuit breaker (retry with timeout)
- mTLS
- Observability => Info on scaling needs

<https://linkerd.io/2-edge/tasks/circuit-breakers/>



Deployments



Deployment	Meshed	Success Rate	RPS	P50 Latency	P95 Latency	P99 Latency
metrics-api	1/1	100.00%	1.07	6 ms	76 ms	95 ms
prometheus	1/1	100.00%	2.03	2 ms	37 ms	46 ms
tap	1/1	100.00%	0.6	1 ms	3 ms	3 ms
tap-injector	1/1	100.00%	0.6	1 ms	3 ms	3 ms

Authorization

Solves **Authorization**



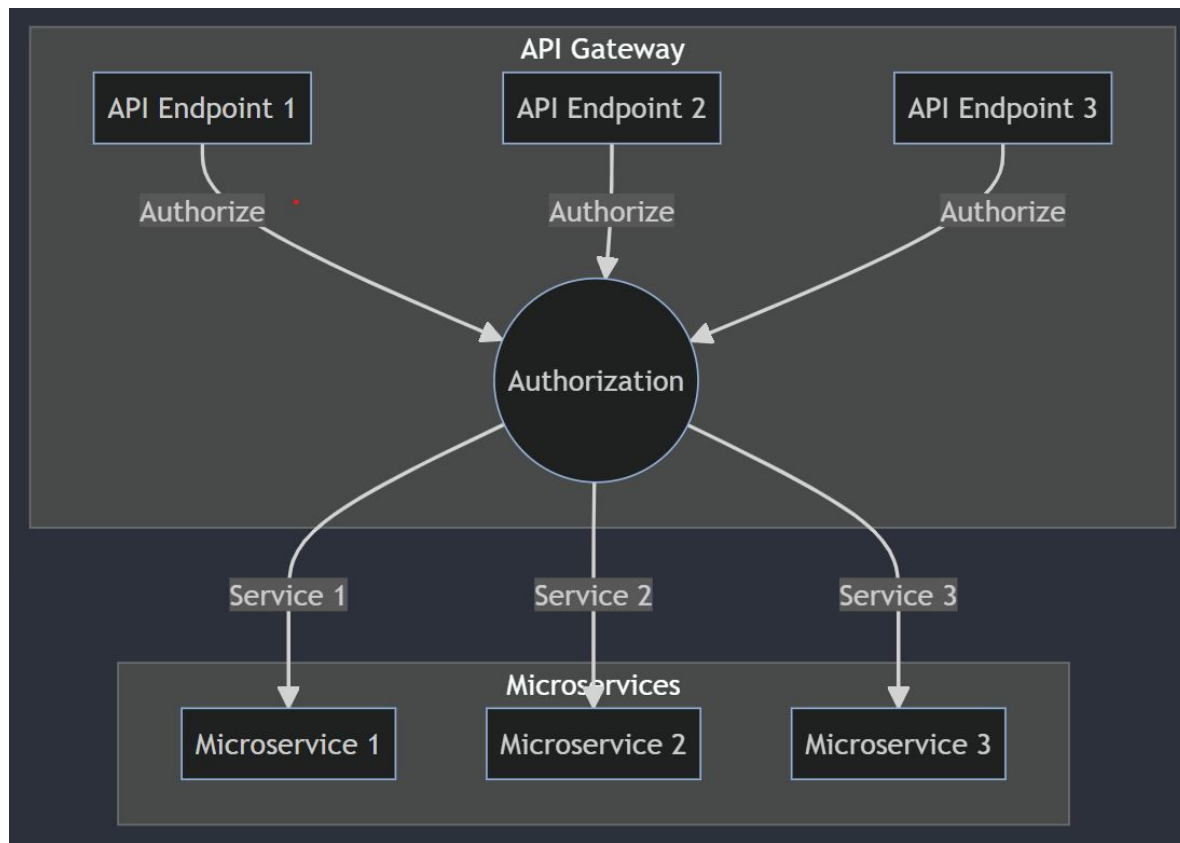
- Aucune gestion fine des droits d'accès : tout le monde peut presque tout faire!



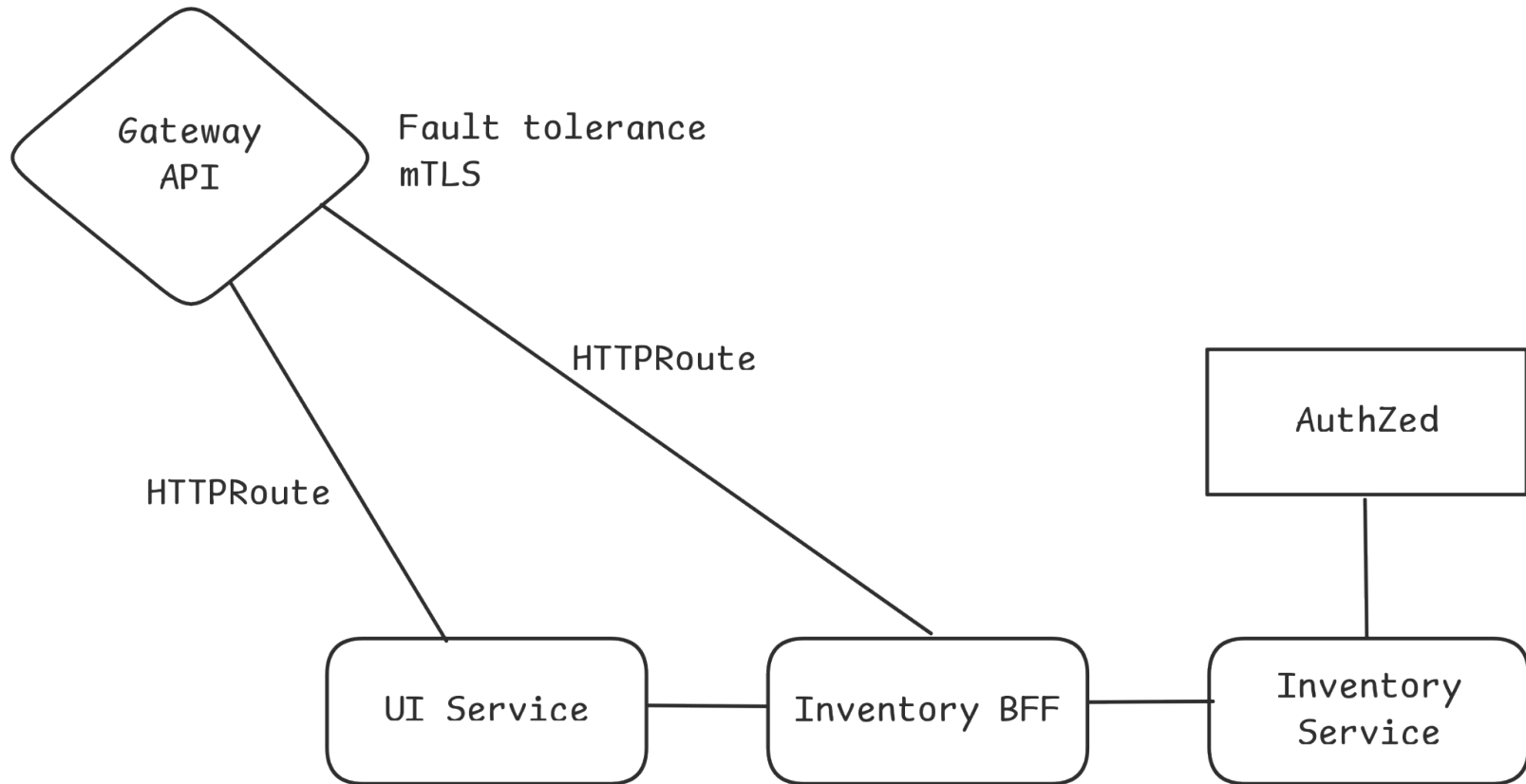
- Scalabilité limitée : dès qu'un influenceur populaire lance un live, les serveurs frôlent l'effondrement.

Authorization

Solves **Authorization**



Deployment diagram



Problems => Solutions

Authorization => AuthZed, API gateway

Scalability => Footprint, metrics (Linkerd) for scaling

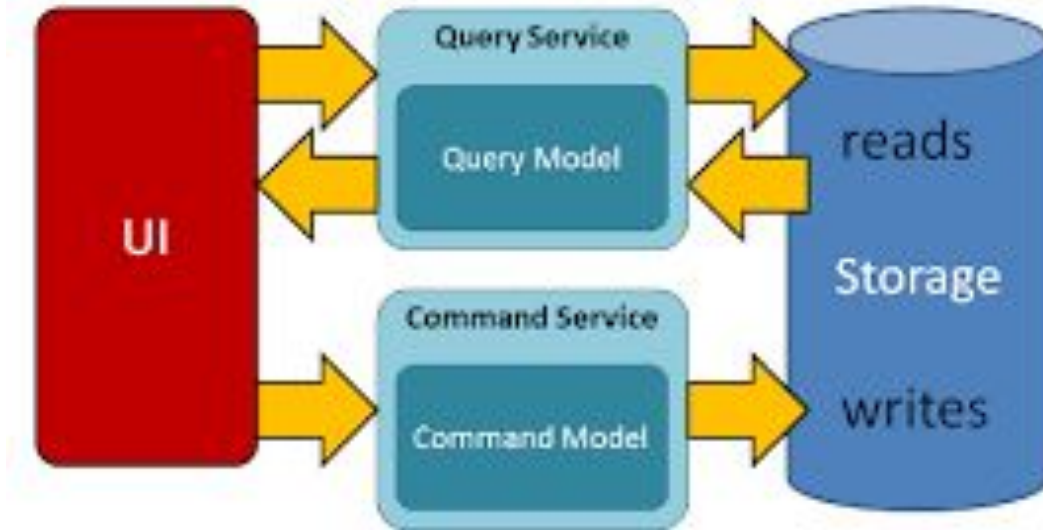
Fault tolerance => Circuit breaking with Linkerd

Next time: Asynchronicity

Solves **Scaling**

- Saga pattern
- CQRS

CQRS Pattern



Questions?

