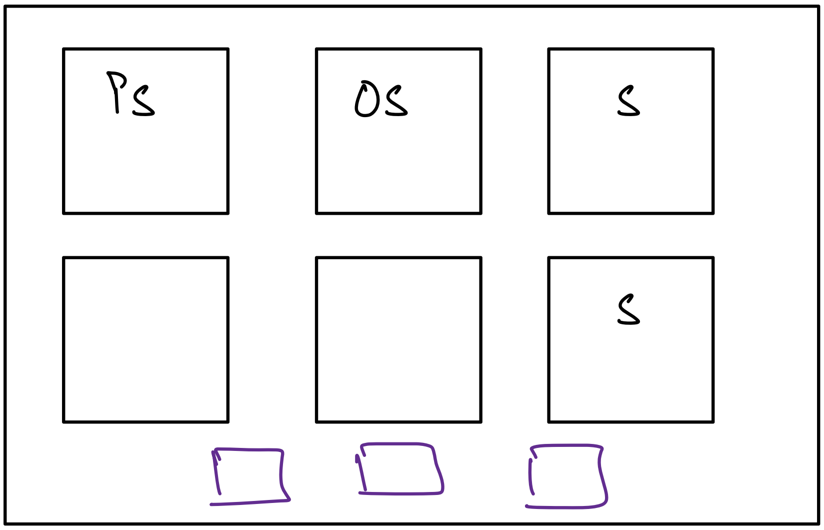
Agenda.

- → Monolithic
- → Microservices
- → Pros & Cons of Monolith vs Microservices
- → Communication b/w Microservices

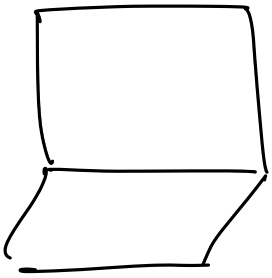
flipkart.

↳ 2008.

- → ProductService
- → Order Service
- → PaymentService
- → Trackingservice
- → SearchService
- → AuthService



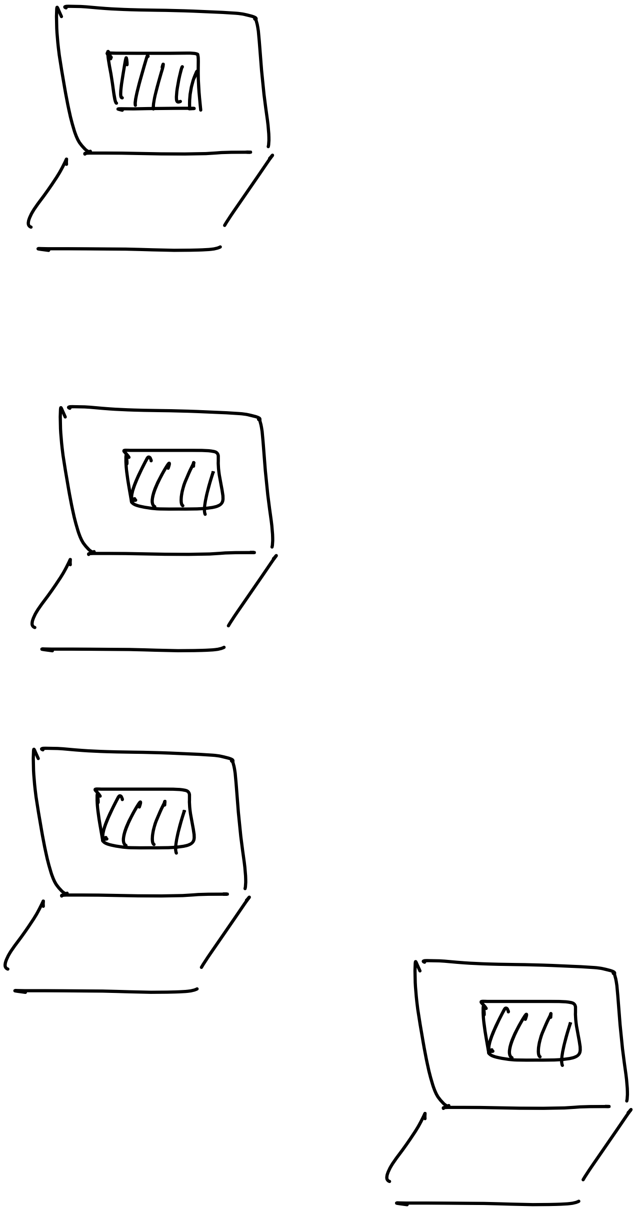
~100 orders/ Day.



=> SPOF

2012

↳ 10K orders/ Day.

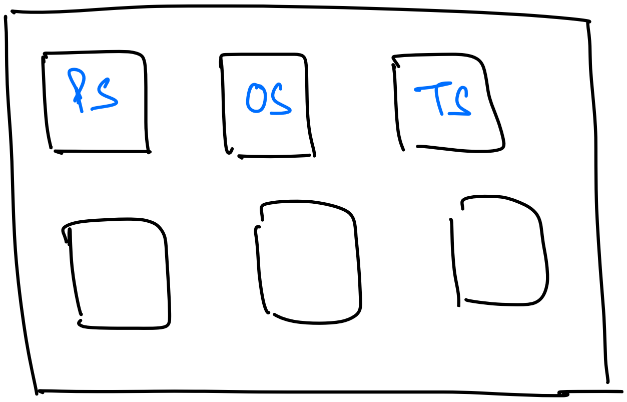


2018

↳ 1M orders| Day.

⇒ 1000's of servers.

⇒ 100+ Software Engineers.



⇒ Single Deployment

⇒ Single Executable file.

⇒ Monolithic

↓

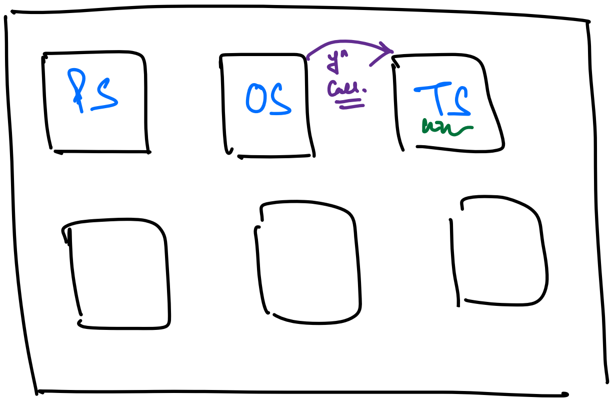
When all the components are part of the same application.

Strangler Fig Pattern

⇒ Transportation Org

⇒ GTS : Global Transportation service.

⇒ ↳ Migrate GTS to MicroServices.

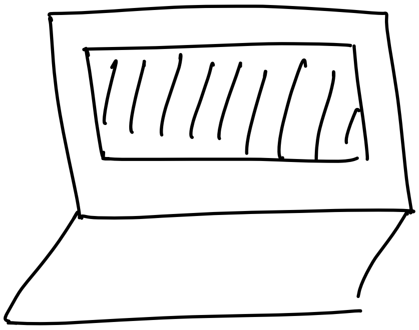


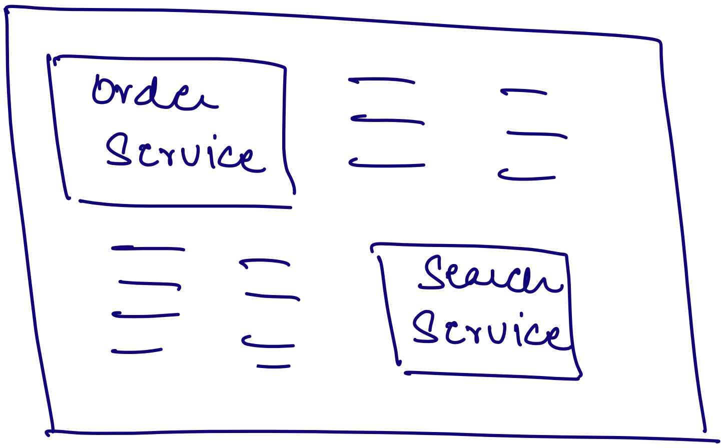
Pros:

- Single Deployment.
- Services can talk to each other via a simple fun call.
  - Low latency

Cons.

- No tech stack flexibility.
- A small issue can bring the entire app down.
- Huge deployment time.
- Developer Onboarding might be difficult
- No selective scaling





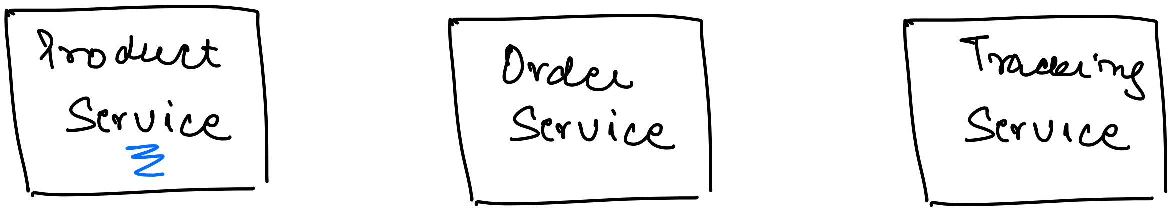
Traffic of Search Search > > > >
Traffic of Order Search

Microservices.

⇒ Divide the Codebase into smaller & individual services.

⇒ Multiple executable files.

⇒ Small independent codebases.



Product Service

Order Service

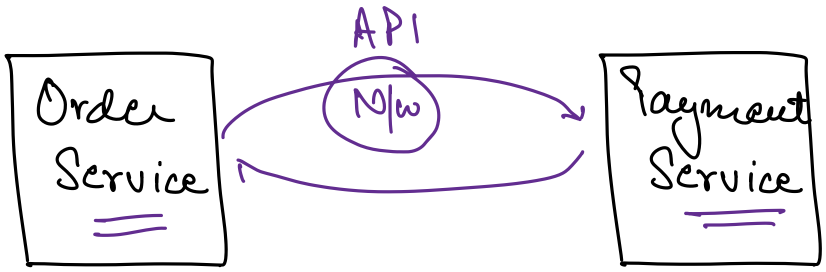
Tracking Service

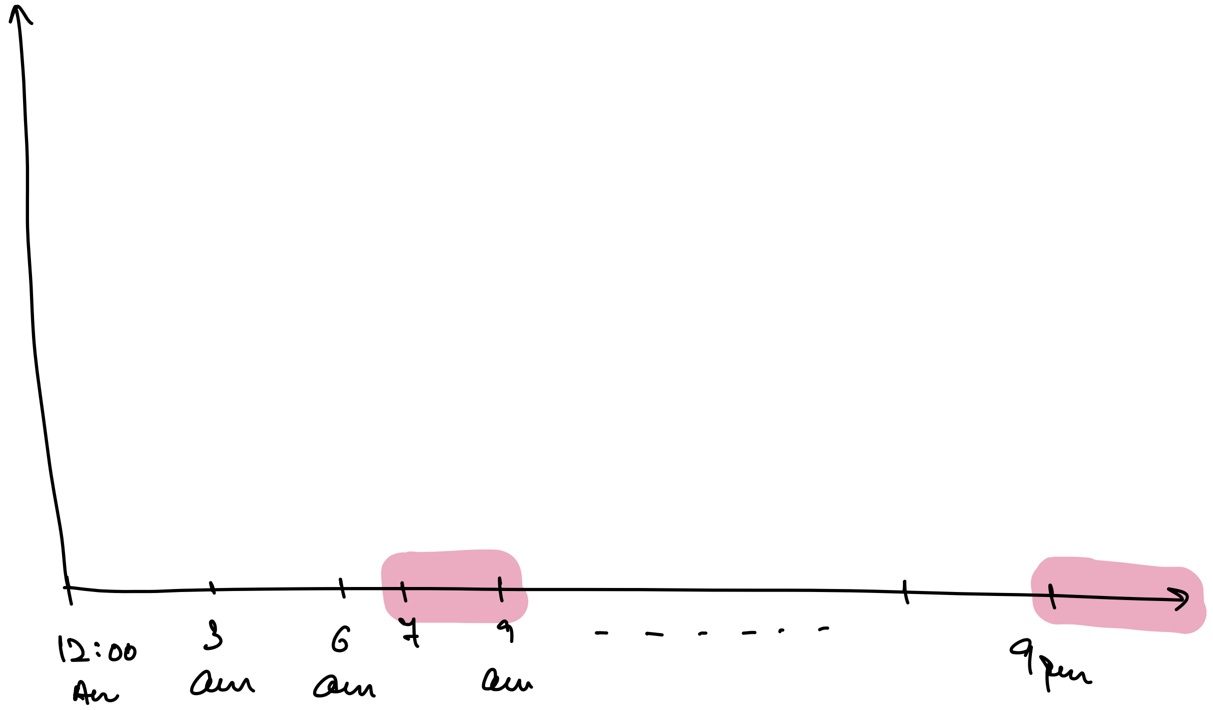
Pros.

- → Individual deployments are feasible.
- → No cascading failures.
- → Tech stack flexibility.
- → Selective Scaling is feasible.
- → Developer Onboarding is Easy.

Cons.

- → Managing so many microservices can be a very big challenge.
- → Request tracking can be difficult.
- → Different services are going to talk to each other over the n/w.
  - ↳ Extra latency
- → Infra Cost can go up.


API
N/W
Order Service
Payment Service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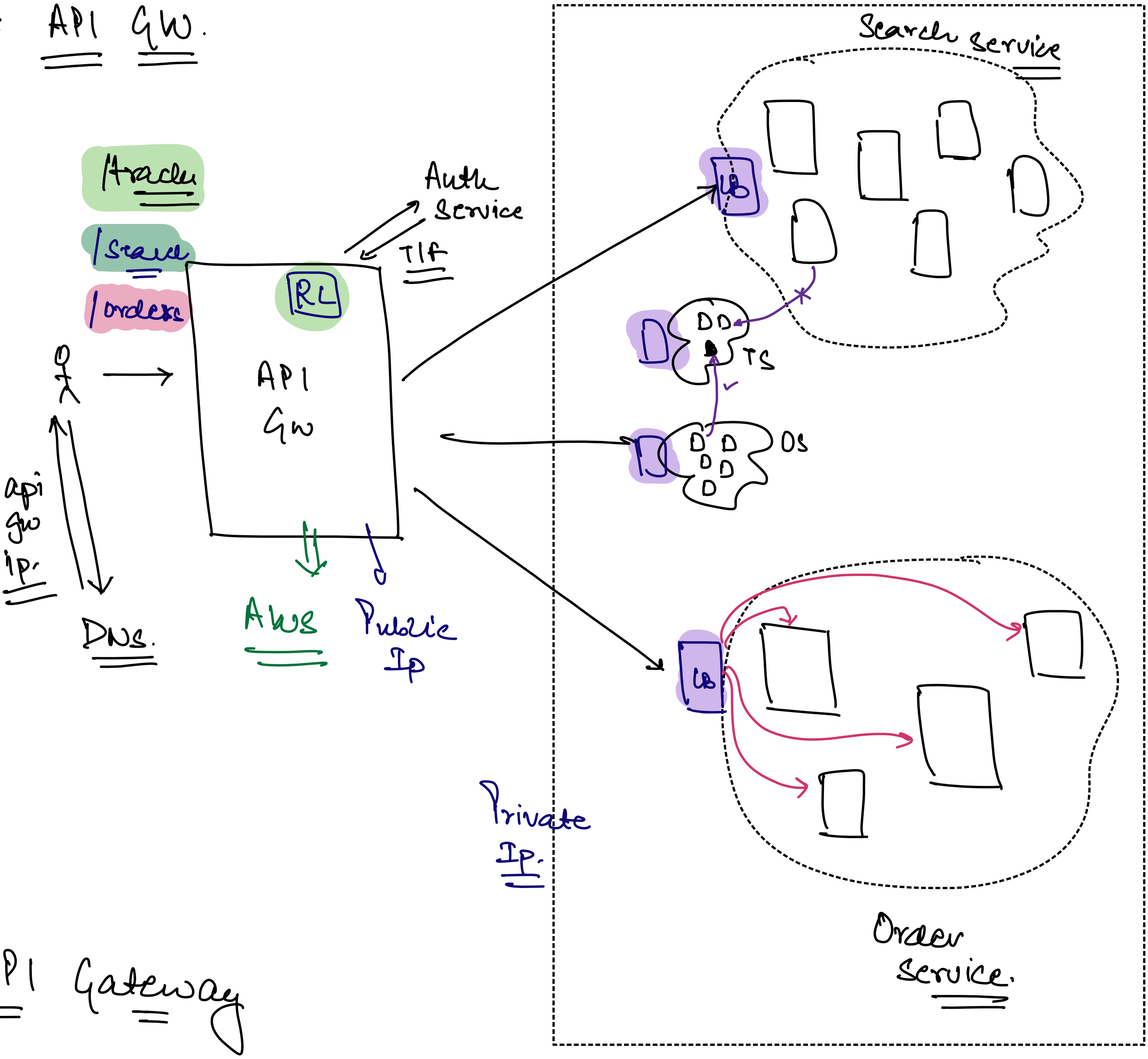
9pm

API GW.



API Gateway

I) Router the traffic to the correct Microservice

II) Rate limiting.

III) Authentication.

Inbound Rules : from where we want to allow the incoming traffic.

Outbound Rules : Where we can send the response.

—— * ——

⇒ Microservices communication

⇒ CQRS , SAGA , Circuit Breaker