



Why do microservices need an API gateway?

Jussi Nummelin, Kontena Inc. - @JNummelin

Me, myself and I



Name Jussi Nummelin

Current Work Developer Advocate @ Kontena, Inc.

Previous Tecnotree, Digia, Tieto, Nokia, ...

Bio All-around handyman on technical topics.
Passionate developer and solution architect
Working with containers & microservices for ~4 years
Avid fly-fisher

Twitter / Github @jnummelin / jnummelin

I'll be rambling about

Microservices

APIs

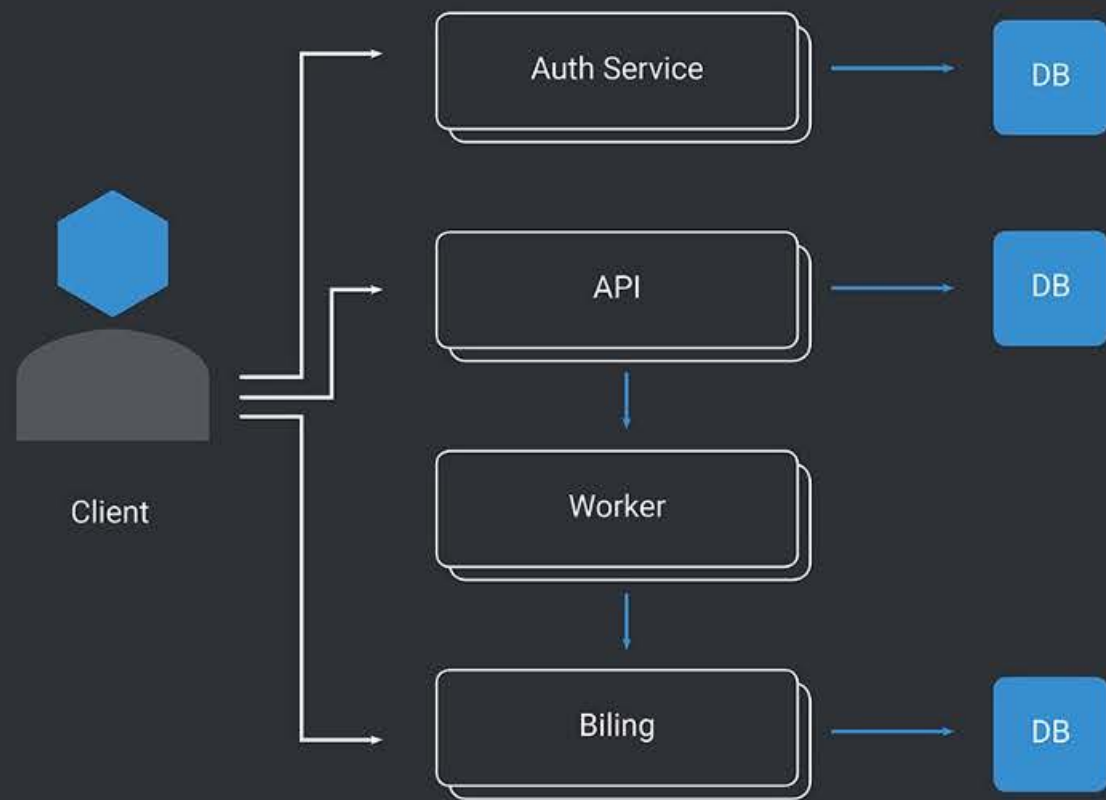
API Gateway

Practical example, a.k.a live demo



Microservices – for context

Independently deployable
Isolation
Loose coupling

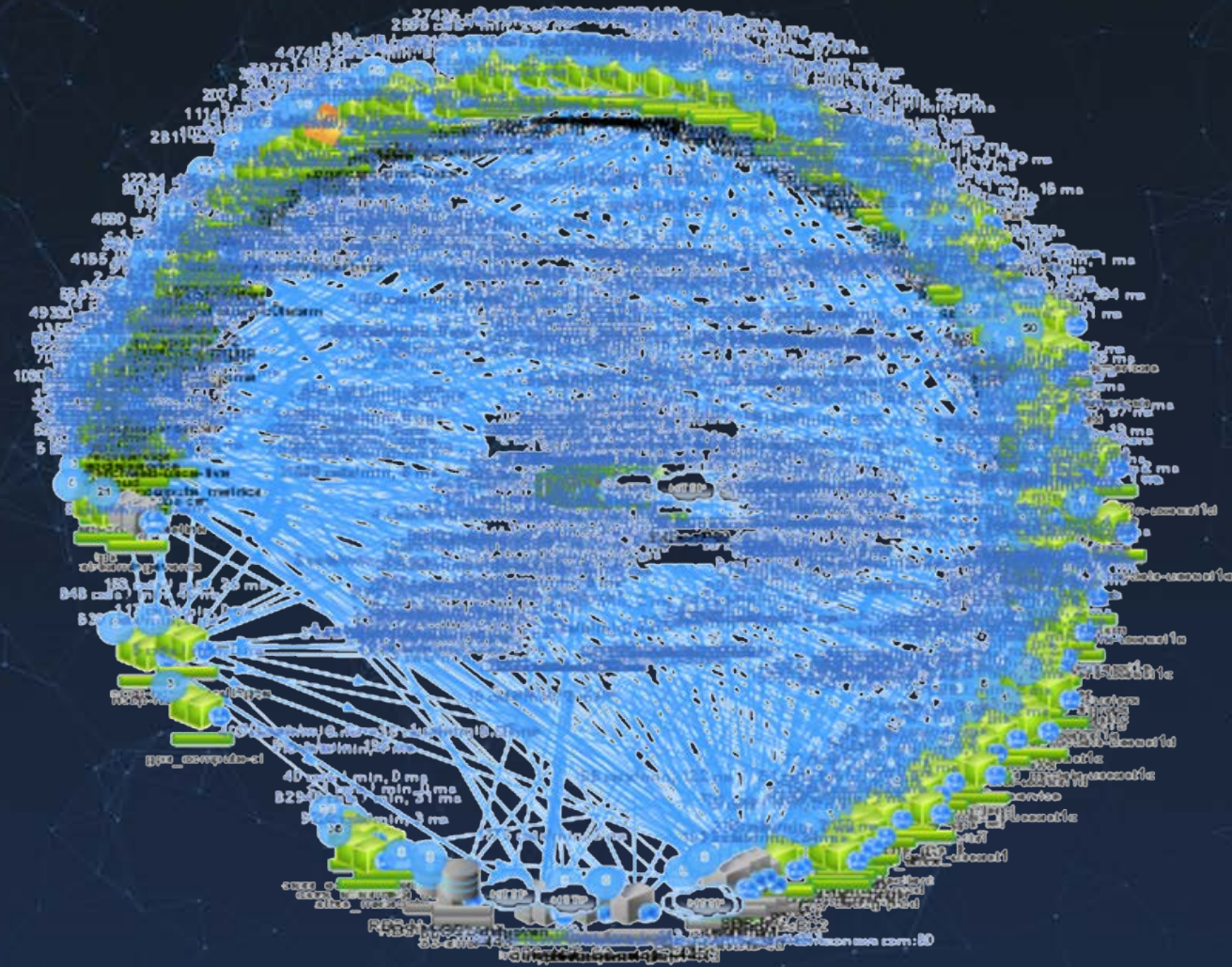


Microservices – gains

Faster development cycles
Quality (long term)
Loose coupling

The road to hell is paved with good intentions

- Saint Bernard of Clairvaux, ca 1150



Microservices – pains

Complexity
Traceability
Connectivity

Client needs to

Adapt to internal changes

Support multiple protocols

Handle variations with each service

Enter API Gateway

Knight in the shining armor

Façade pattern

The Facade design pattern is often used when a **system is very complex** or difficult to understand because the system has a **large number of interdependent classes** or its source code is unavailable. This pattern **hides the complexities** of the larger system and provides a **simpler interface** to the client.

- Wikipedia / Gang of Four

API Gateway

Intelligent service proxy
Middleware
API Optimization



API GW as entrypoint

Single entrypoint

Routing

Protocol translation?

API GW as Auth enforcer

Most services need auth

Auth enforcement in each service

Vs.

One-time auth enforcement

API GW as Middleware

Rate limiting
Caching
Analytics
Retry policies

API GW as Traceability enabler

Request/response correlation
Tracing injection

API GW vs. ESB

API GW is **NOT** an ESB

API are consumption oriented

ESB is orchestration/reuse focused

API GW vs. Service Mesh

Service Mesh is a **network function**

API GW **exposes** the services

There is a bit of **overlap**

DevOps?

API GW & DevOps

Another tool for DevOps
Enabler
Continuous Delivery

Apps & API GW

Dynamic config
Apps driven config

Options

Some of them

API Gateways

Kong

Tyk

ApiGee

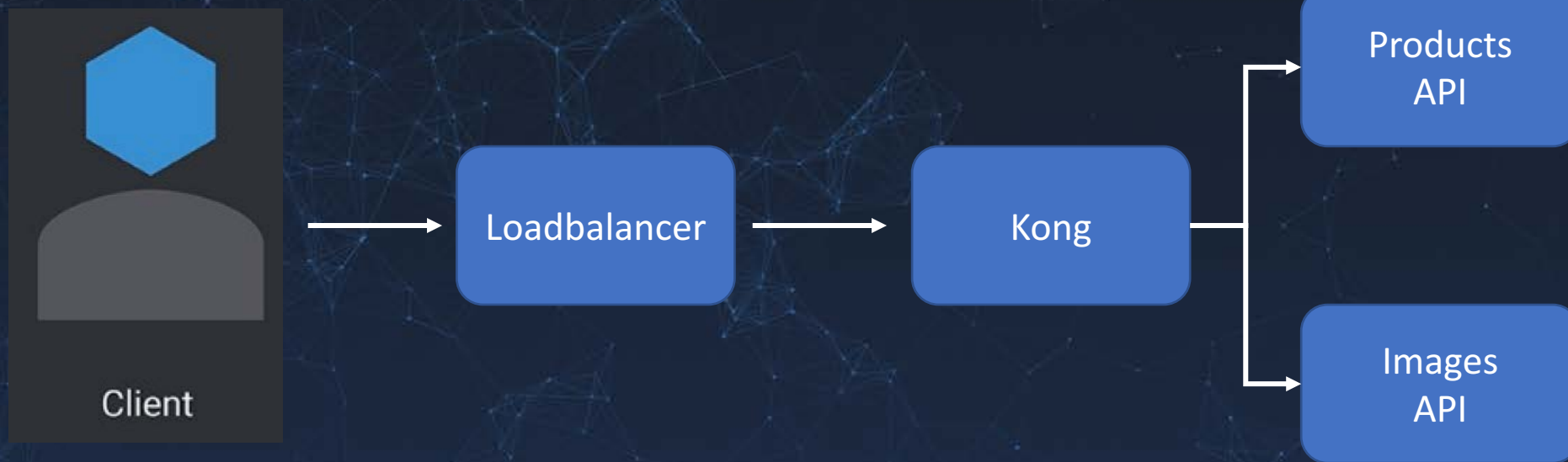
AWS, GCP, Azure,...

BRACE YOURSELF



LIVE DEMO COMING

memegenerator.net



<https://github.com/jnummelin/api-gw-example>

API Gateway

Intelligent service proxy
Middleware
Hide the complexity
Enabler for DevOps



Thank You!



info@kontena.io



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



slack.kontena.io



github.com/kontena/kontena



meetup.com/pro/kontena



www.kontena.io