

Easy HTTPS For Your Microservice Architectures - Julien Salleyron, Containous

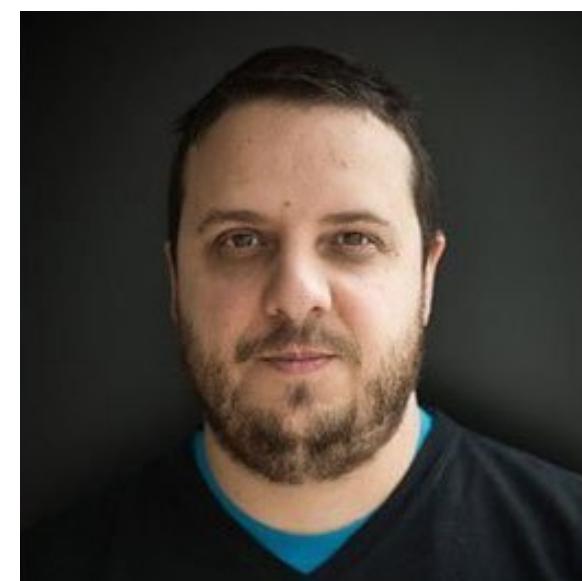


Open Source Summit Europe - Lyon 2019

Whoami

Julien Salleyron

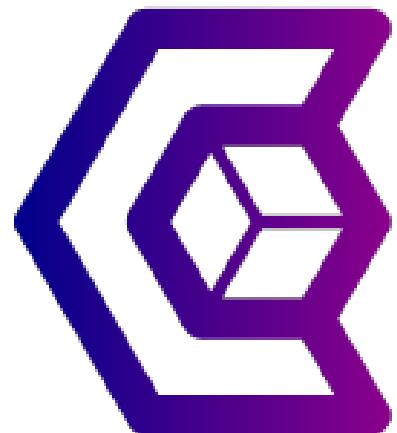
- Træfik's Senior Software Engineer @ Containous
 -  juliens



Containous

<https://containo.us>

- We Believe in Open Source
- We Deliver Traefik and Traefik Enterprise Edition
- Commercial Support
- 30 people distributed, 90% tech



Evolution Of Software Design

THE EVOLUTION OF SOFTWARE ARCHITECTURE

1990's

SPAGHETTI-ORIENTED
ARCHITECTURE
(aka Copy & Paste)



2000's

LASAGNA-ORIENTED
ARCHITECTURE
(aka Layered Monolith)



2010's

RAVIOLI-ORIENTED
ARCHITECTURE
(aka Microservices)



WHAT'S NEXT?

PROBABLY PIZZA-ORIENTED ARCHITECTURE

By @benorama

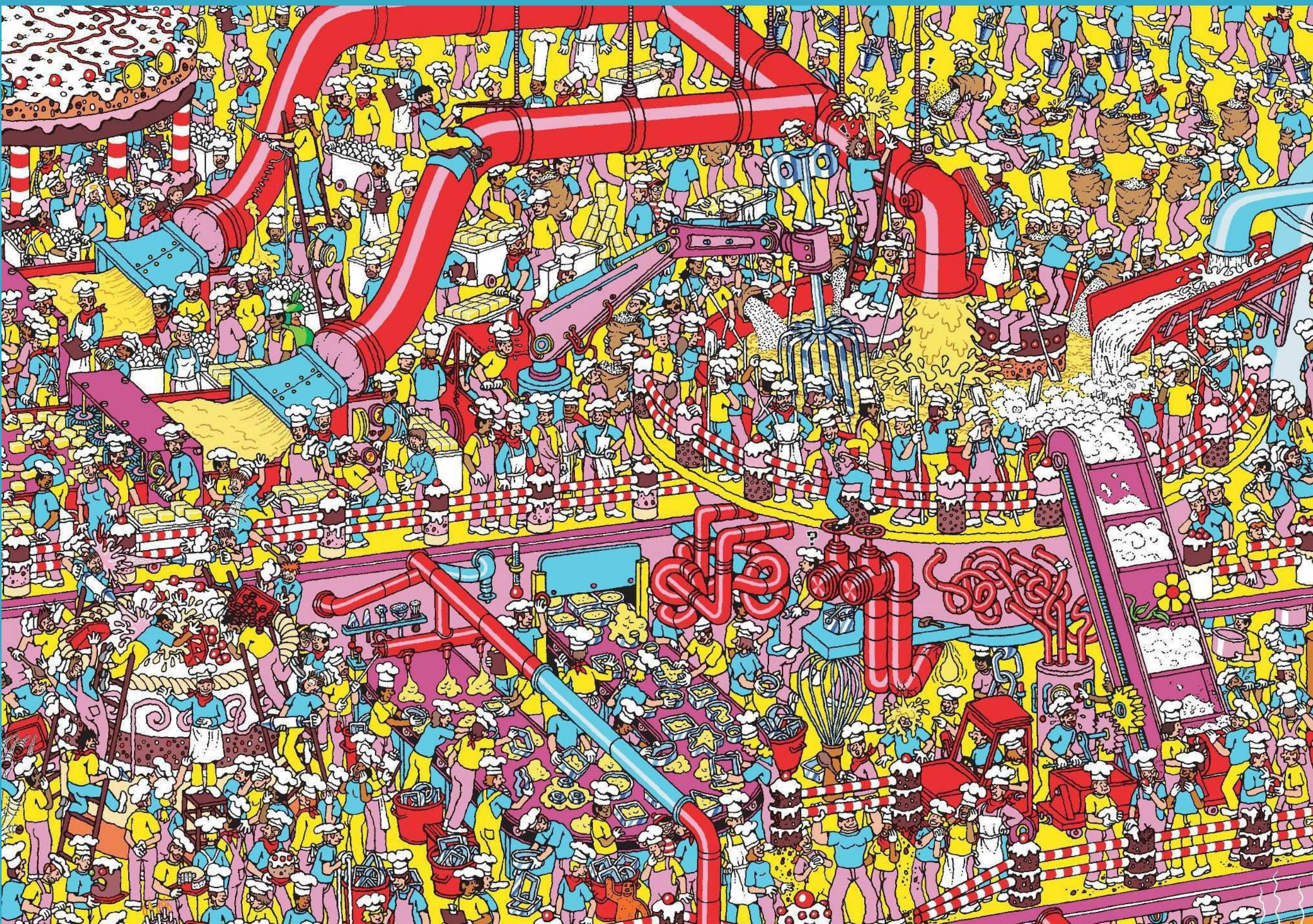
The Premise Of Microservices...



...And What Happens

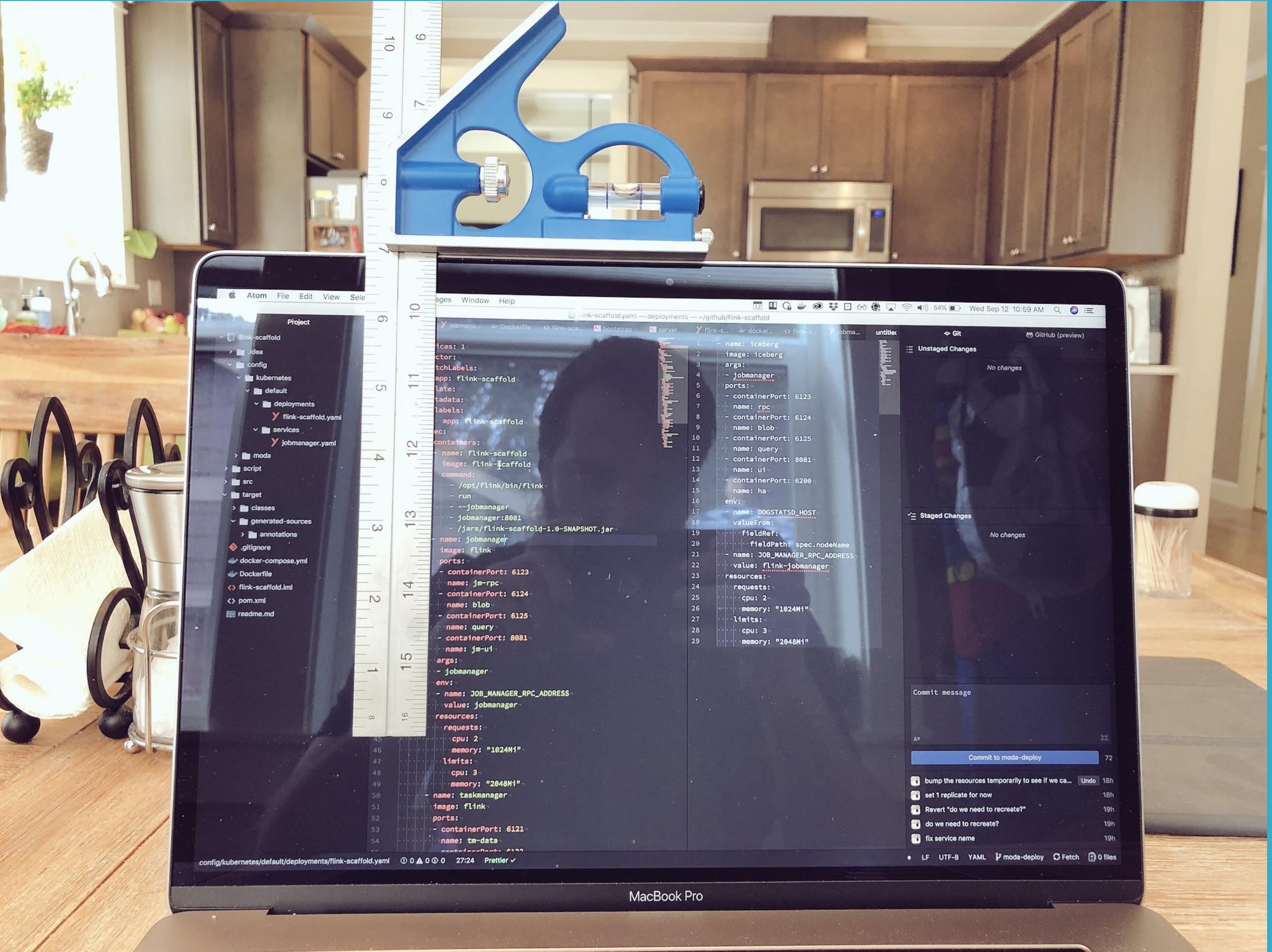


Where's My Service?



Tools Of The Trade





Source: <https://twitter.com/Caged/status/1039937162769096704>

Why Traefik?



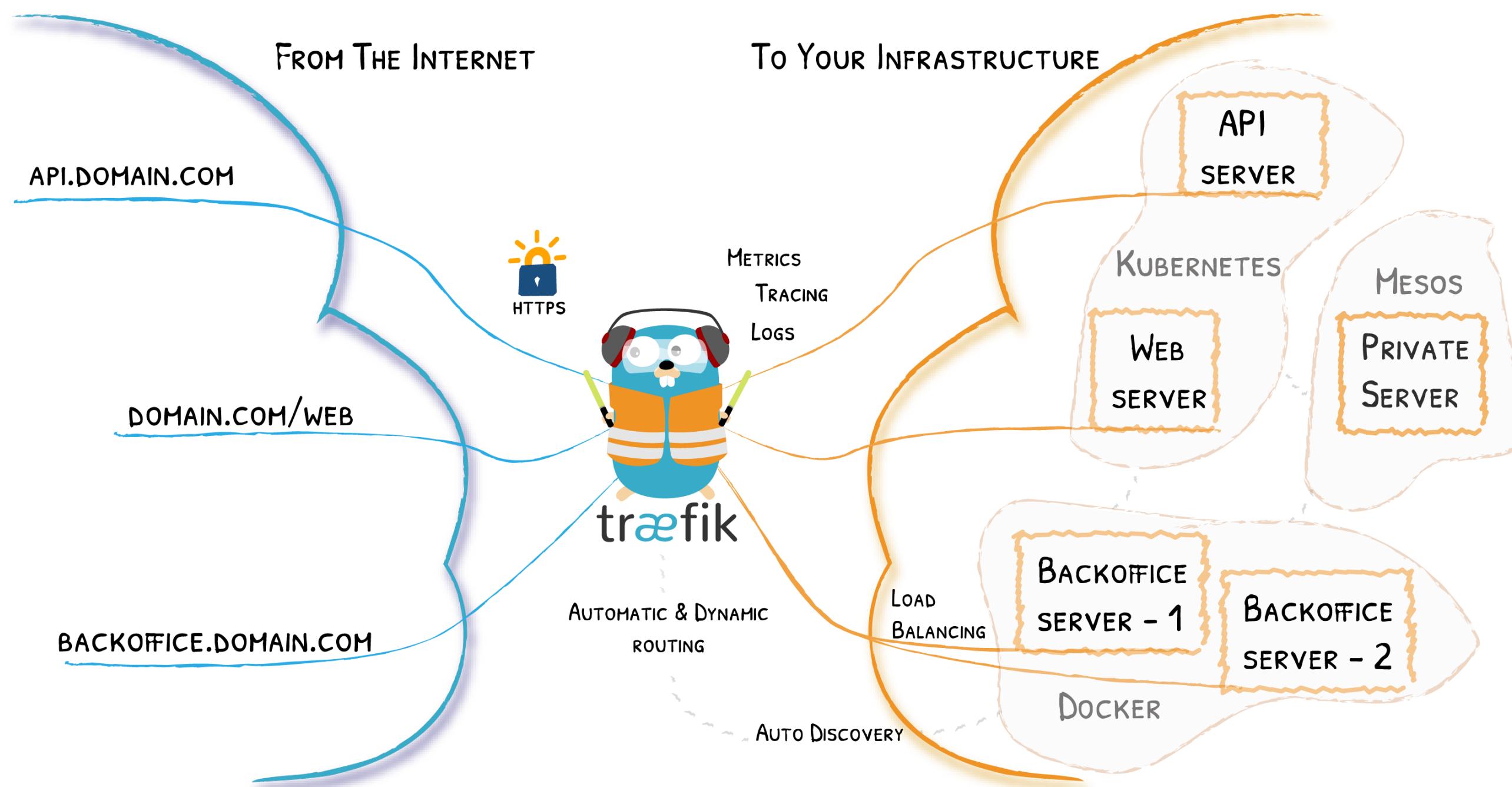
Why, Mr Anderson?

What If I Told You?



That You Don't Have to Write This Configuration File…?

Here Comes Traefik!



Traefik Project

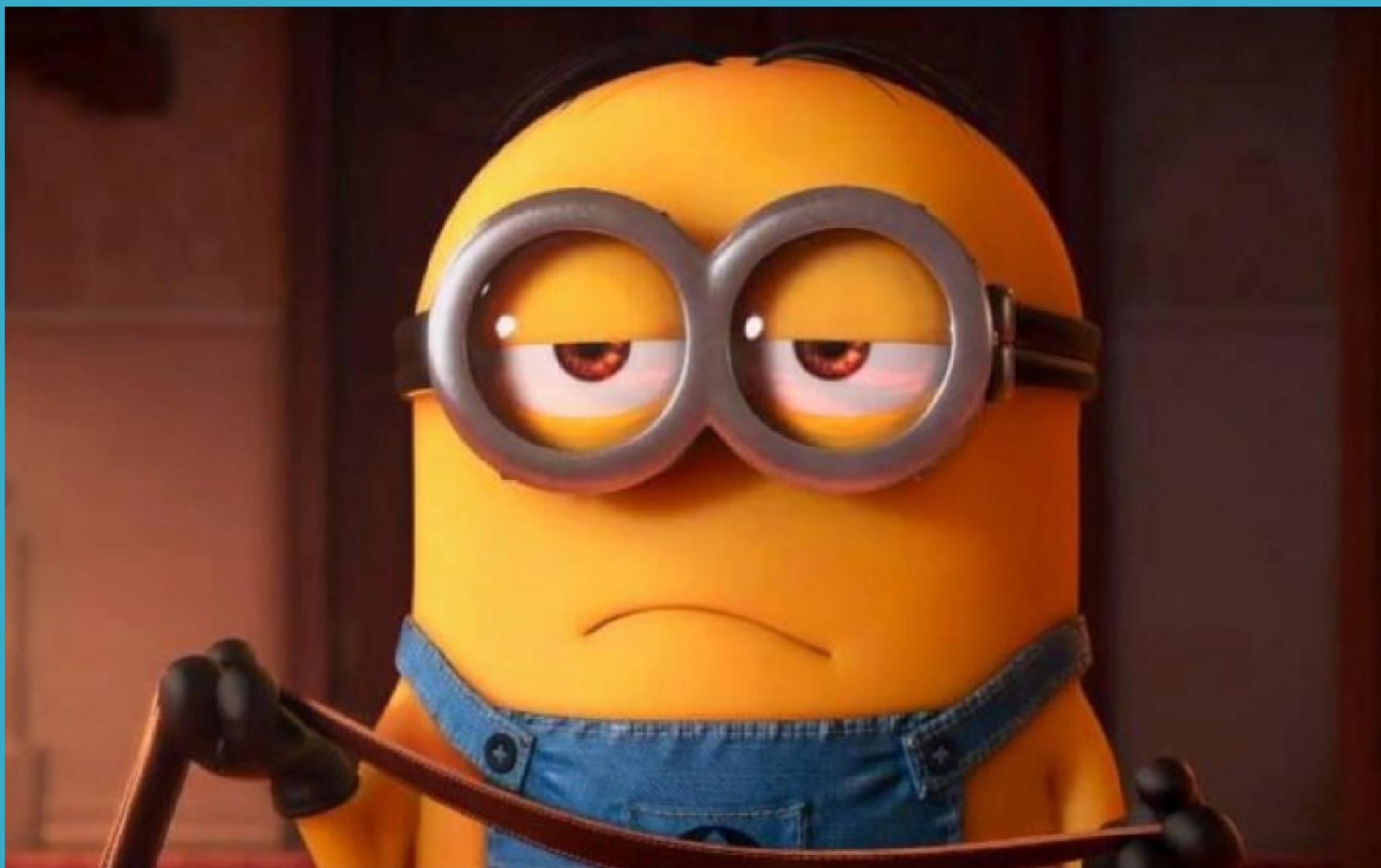
-  <https://github.com/containous/traefik>
- MIT License
- Written in Go
- 25,000+ ⭐ 1B+ ↓ 400+ 
- Created in 2015, 4Y 
- Current stable branch: v2 . 0

Traefik 2.0 Quick Overview

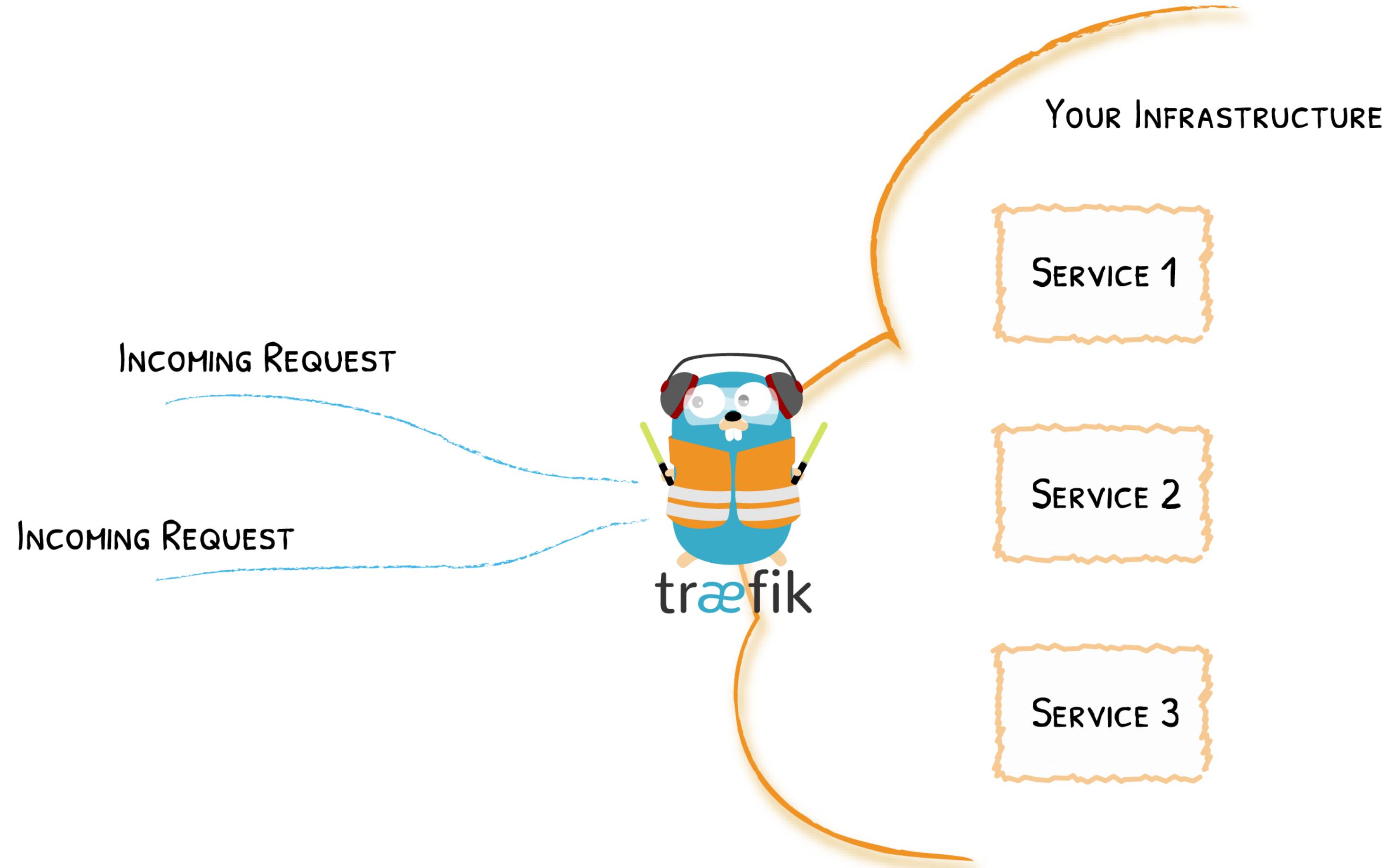
- Revamped Documentation
- Clarified Concepts
- Expressive Routing Rule Syntax
- Middlewares
- TCP Support
- Canary / Mirroring
- And so Much More…

[Learn more on the blog post](#)

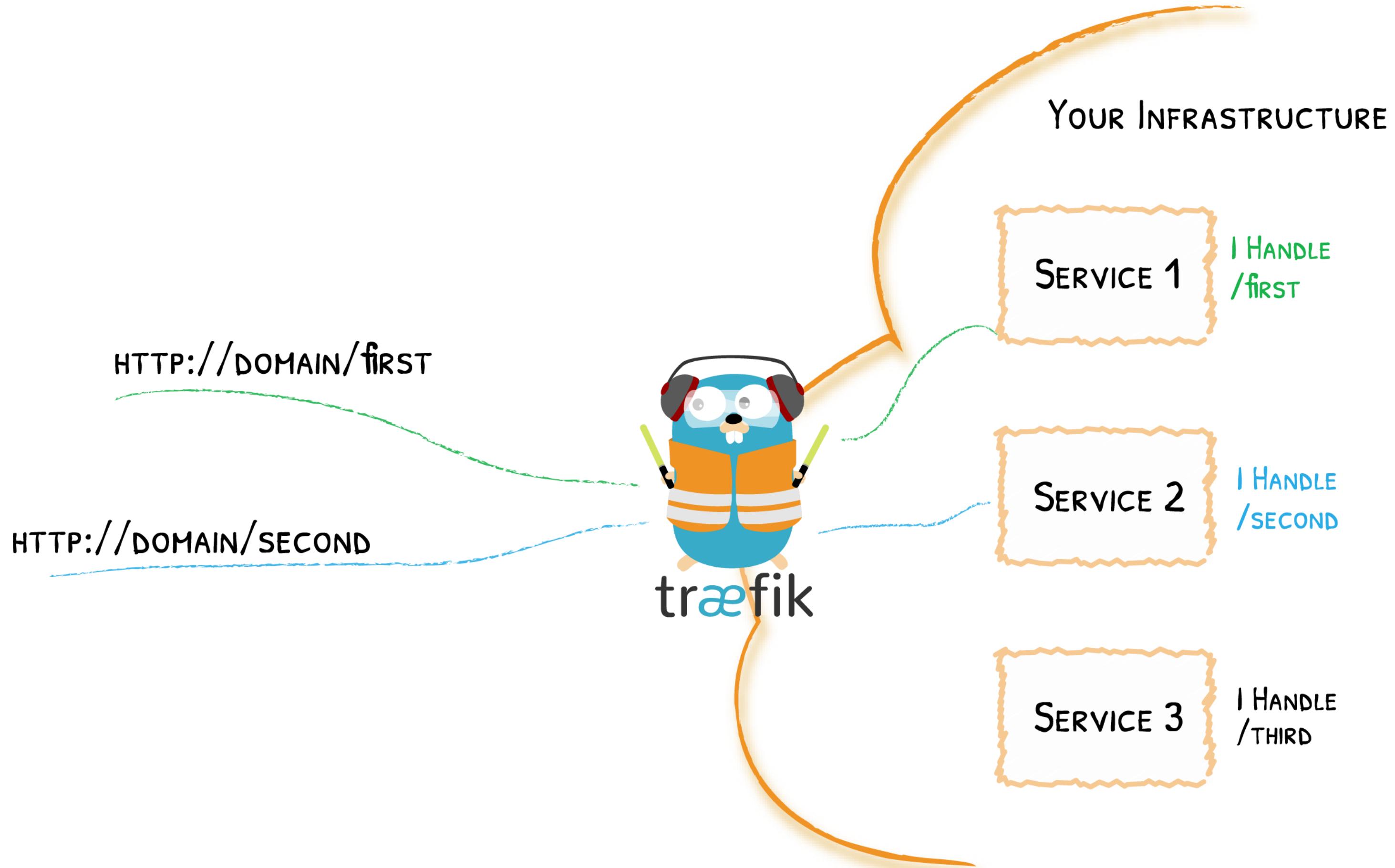
Traefik (V2.0) Core Concepts



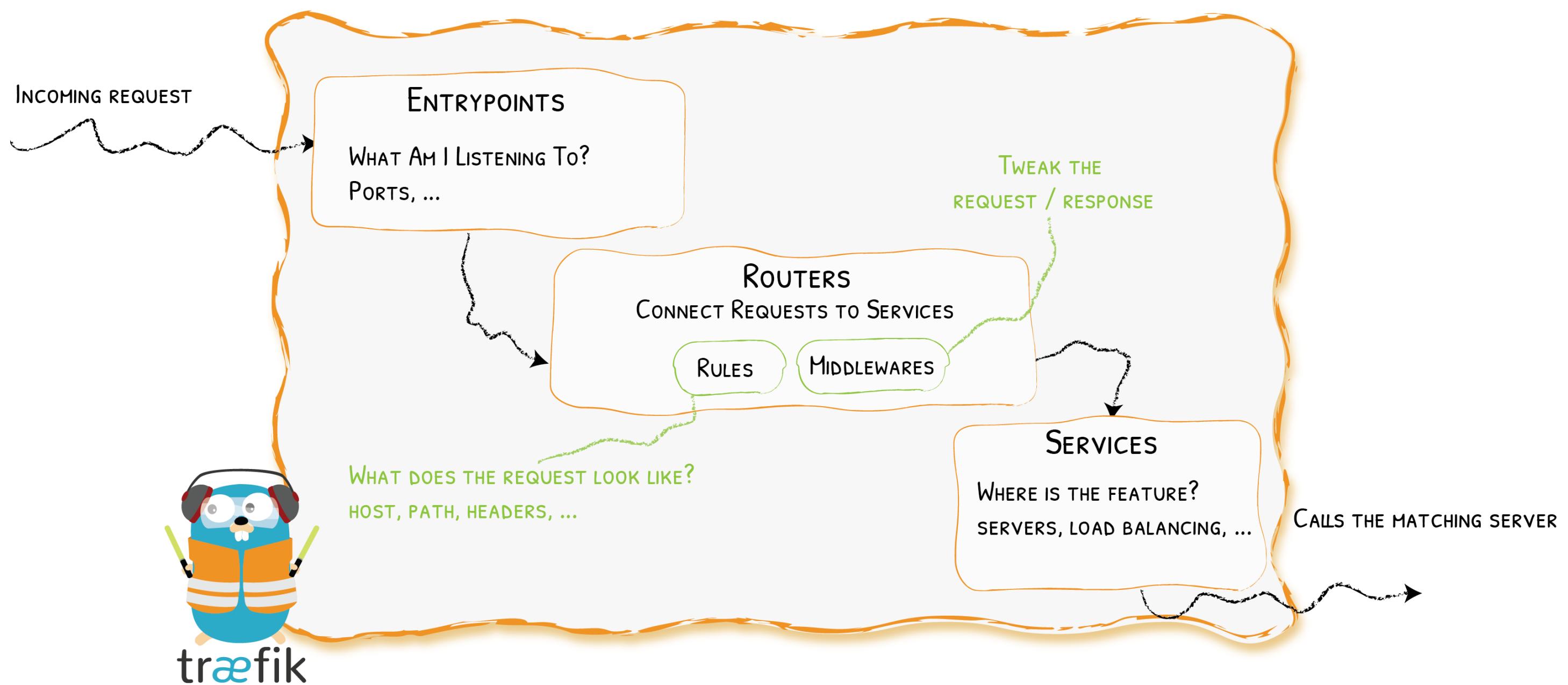
Traefik Is An Edge Router



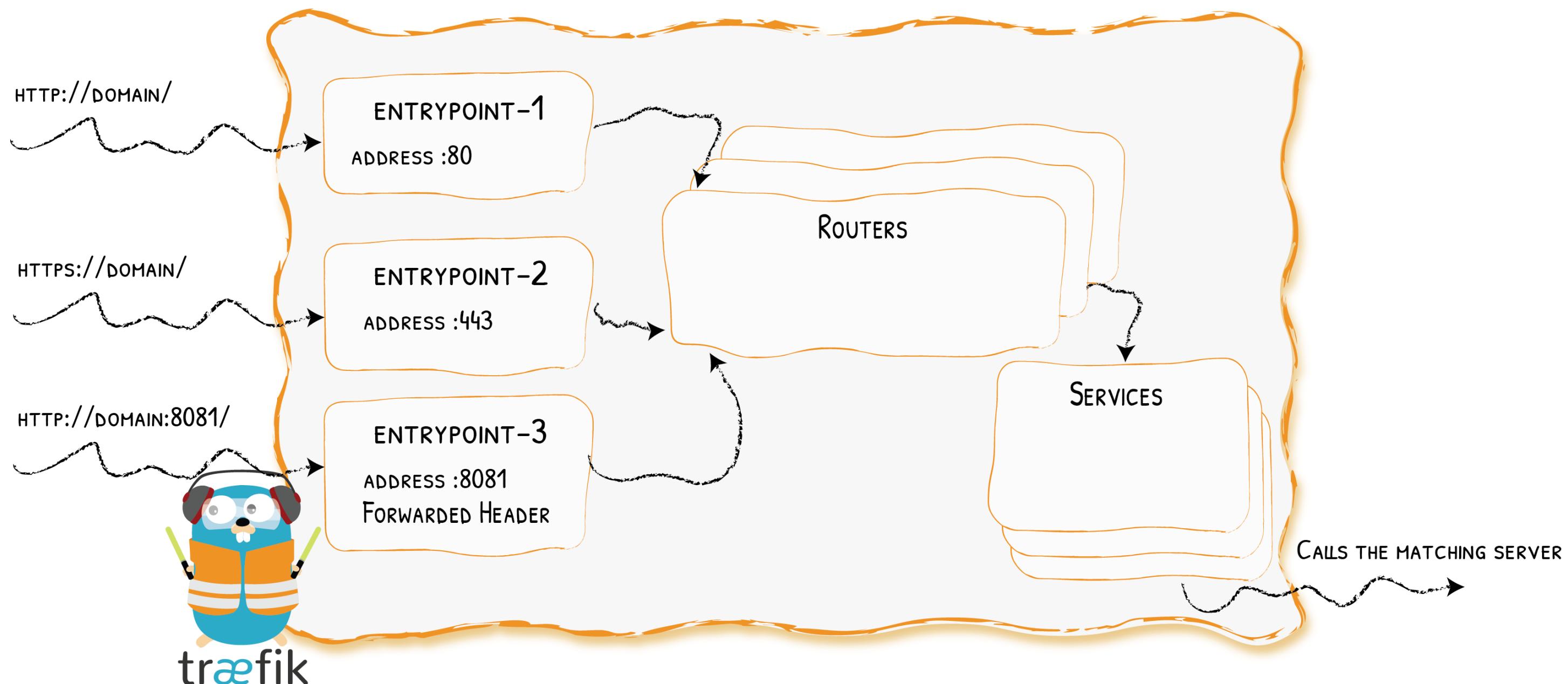
Dynamically Discovers Services



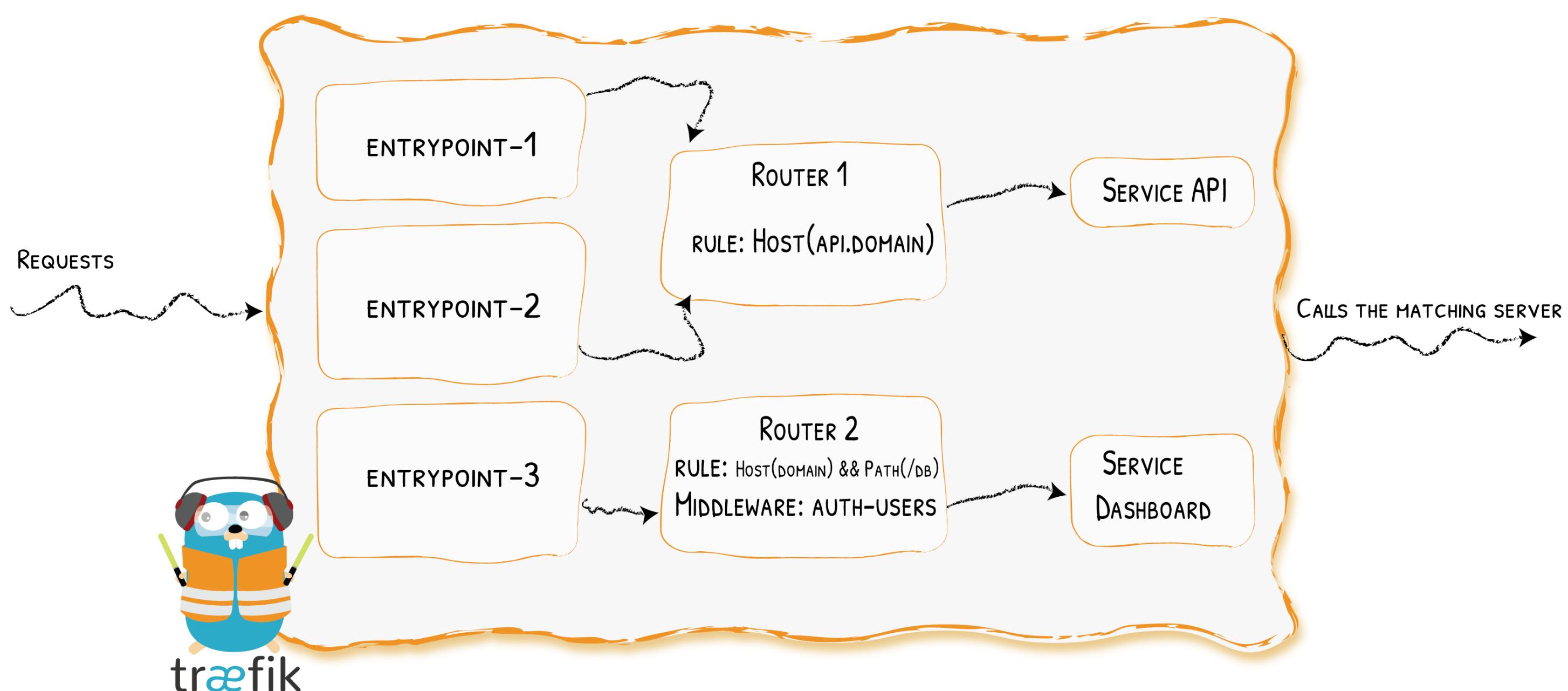
Architecture (V2.0) At A Glance



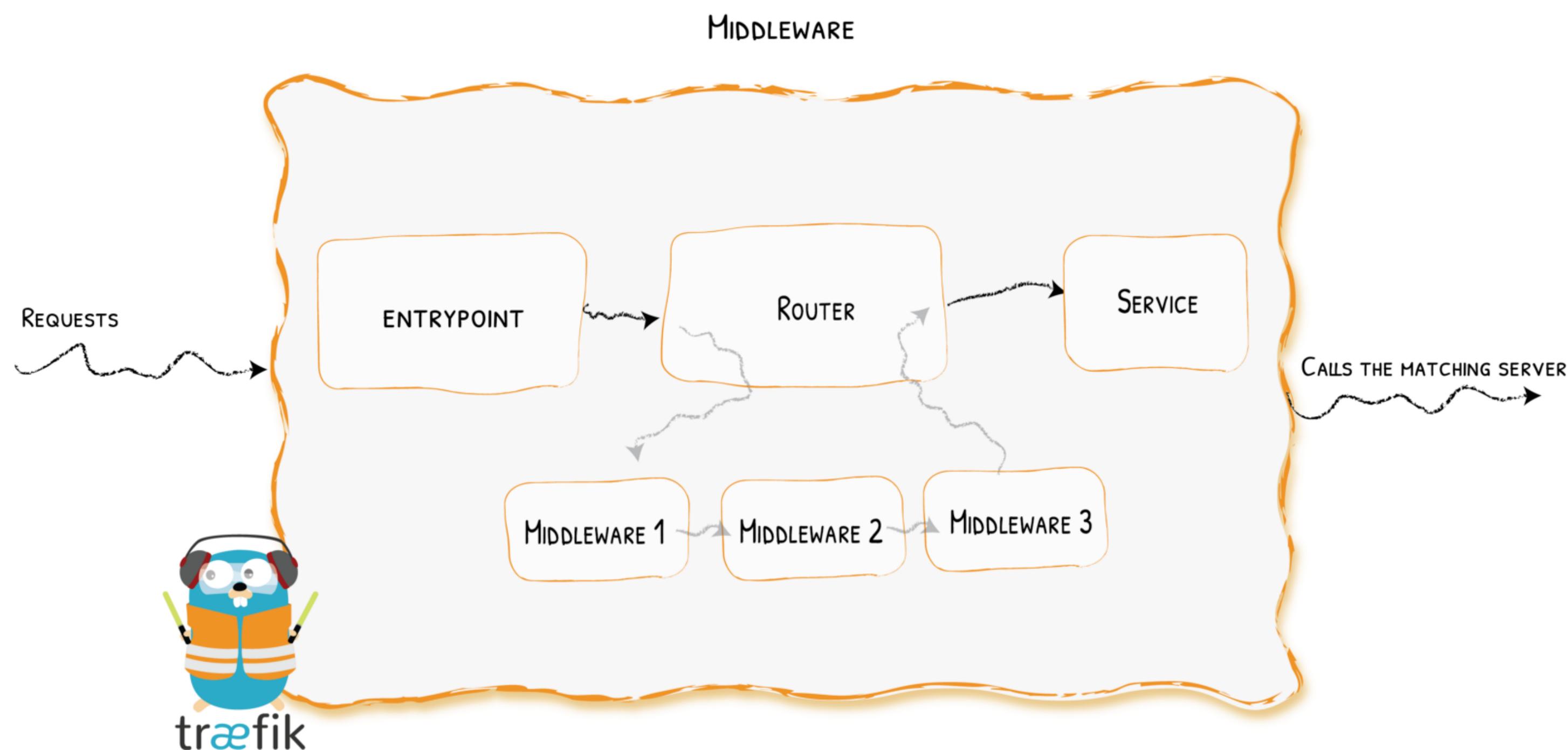
Entrypoints



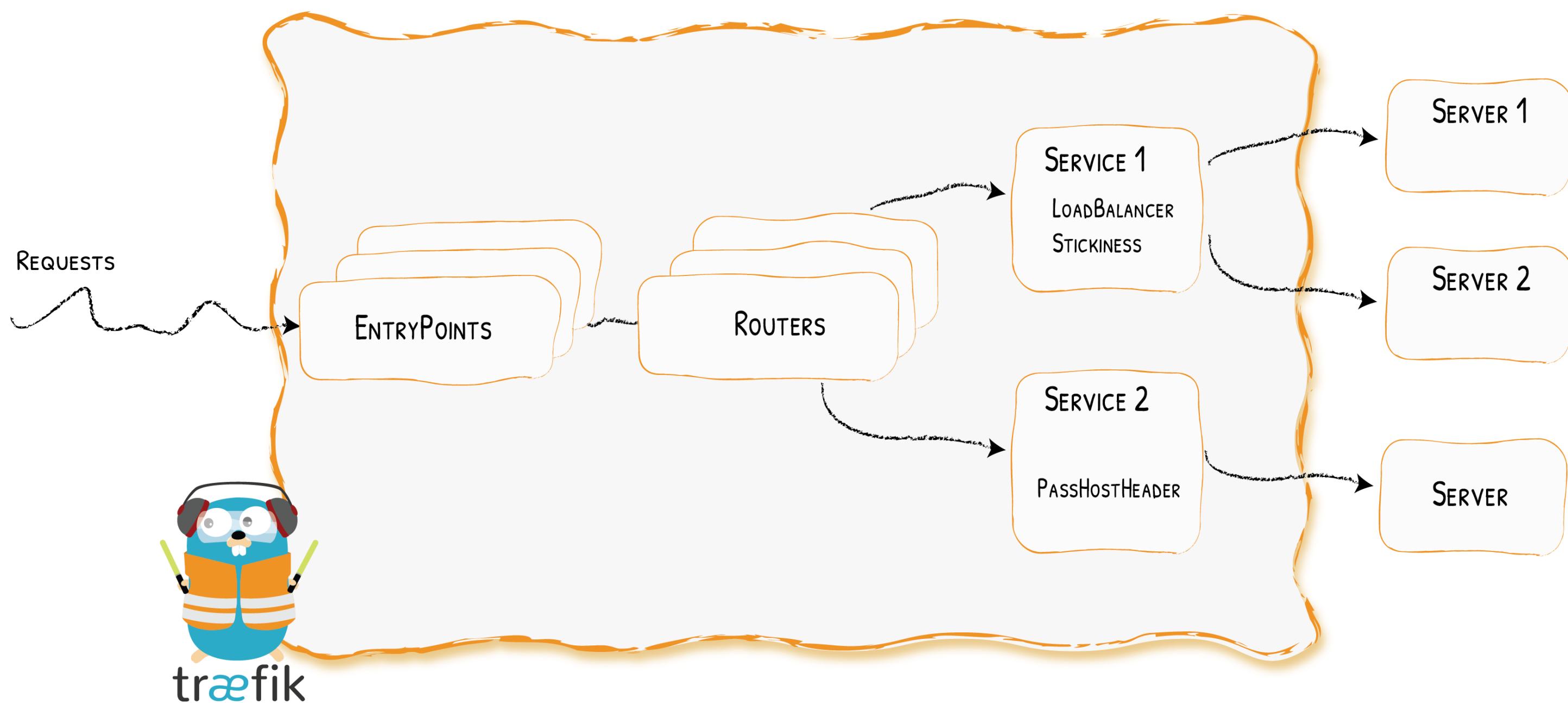
Routers



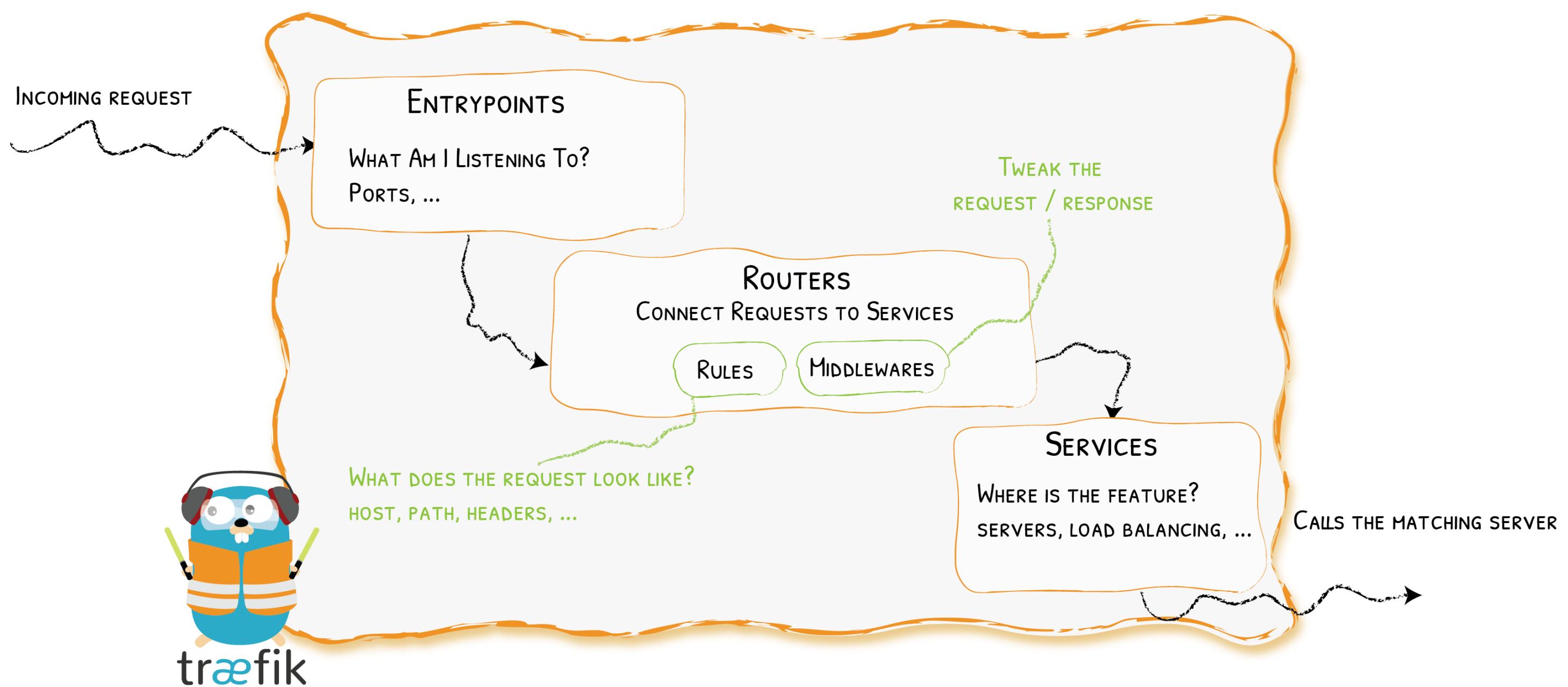
Middlewares



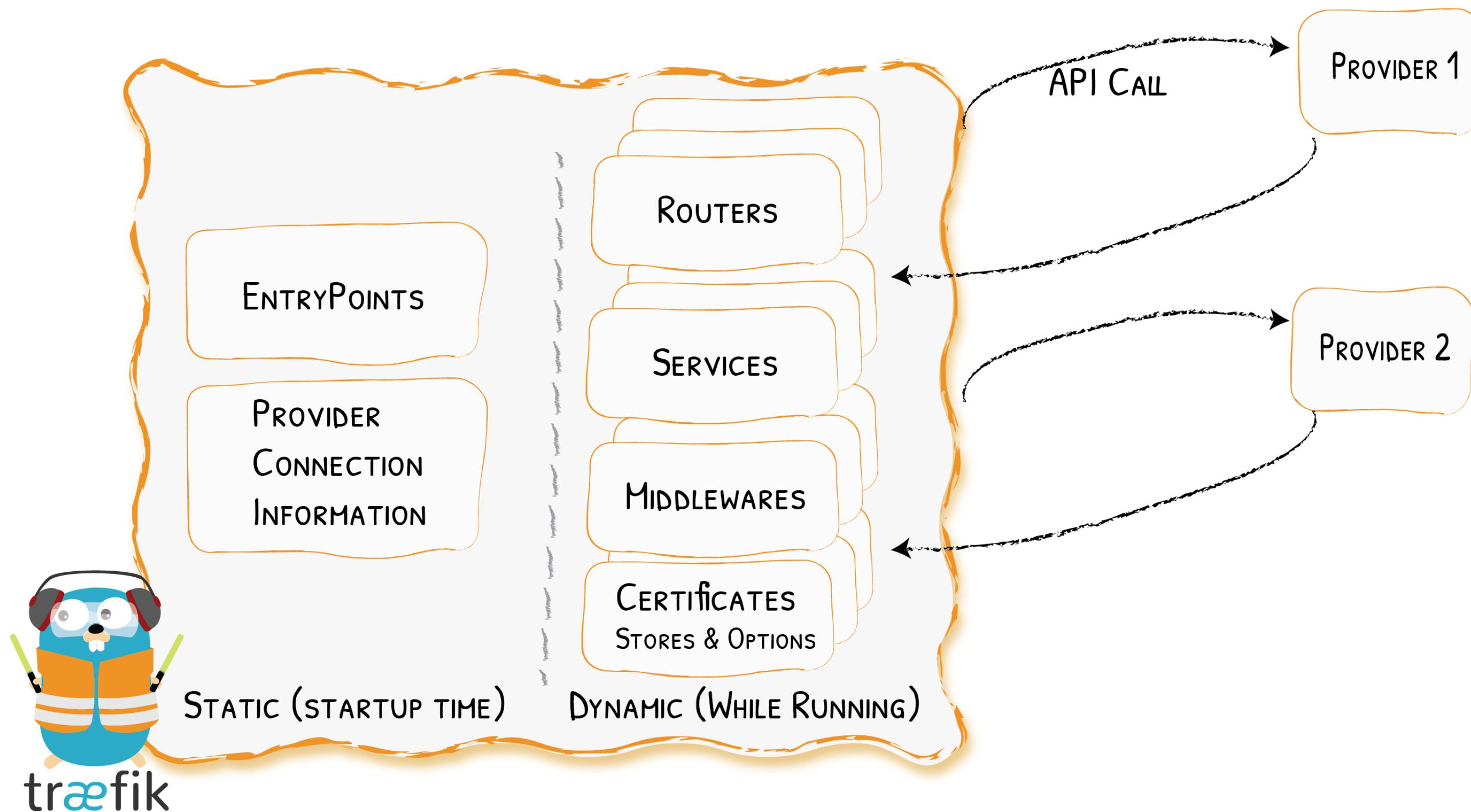
Services



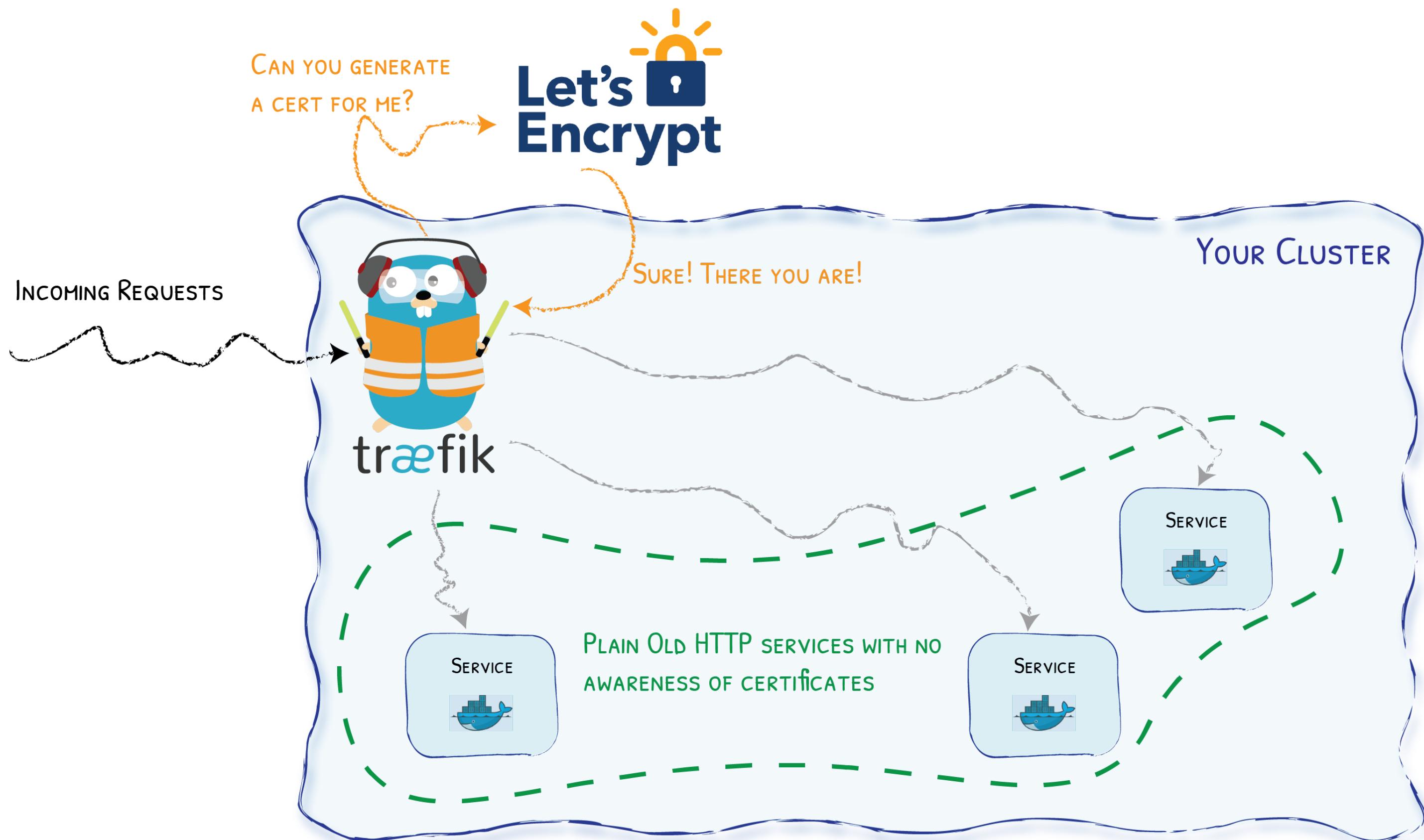
Architecture (Again) At A Glance



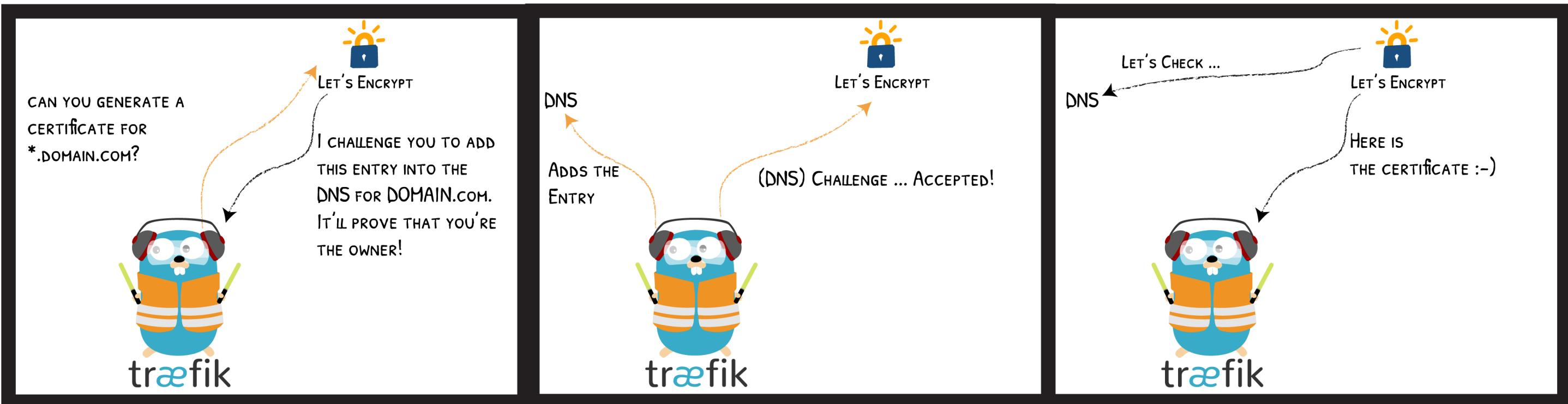
Static & Dynamic Configuration



HTTPS & Let's Encrypt



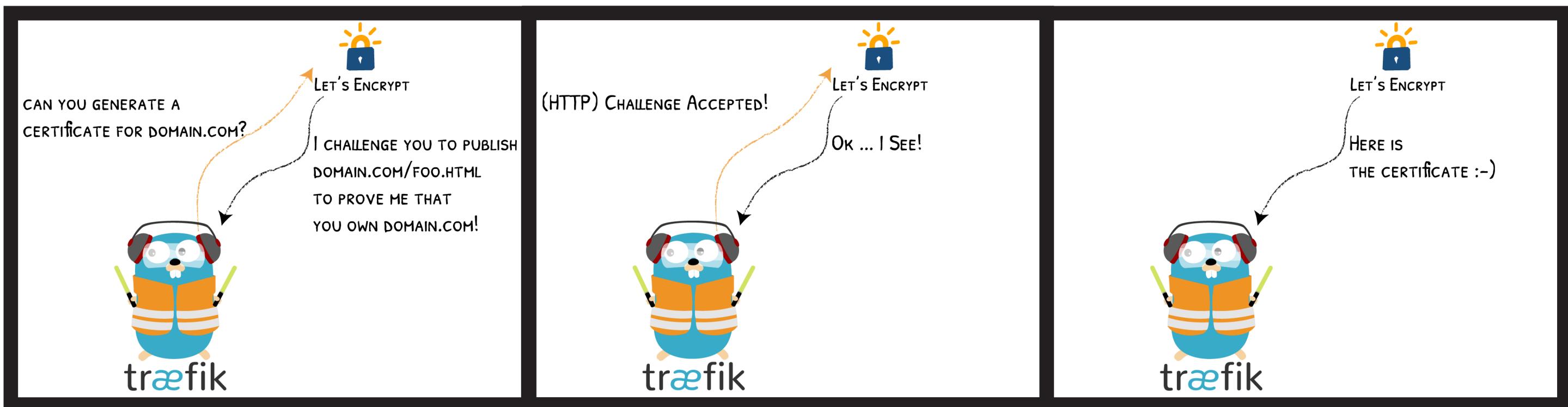
Let's Encrypt DNS Challenge



Let's Encrypt HTTP Challenge



Let's Encrypt TLS Challenge



Demo



Demo Menu

1. Deploying Traefik and configure a service
2. Configure a dashboard
3. Configure the load balancing for scaled service
4. Configure a service on a specific path
5. Configure Let's encrypt in Traefik
6. Generate certificates for our services

Deploying Traefik And Configure A Service

Configure A Dashboard

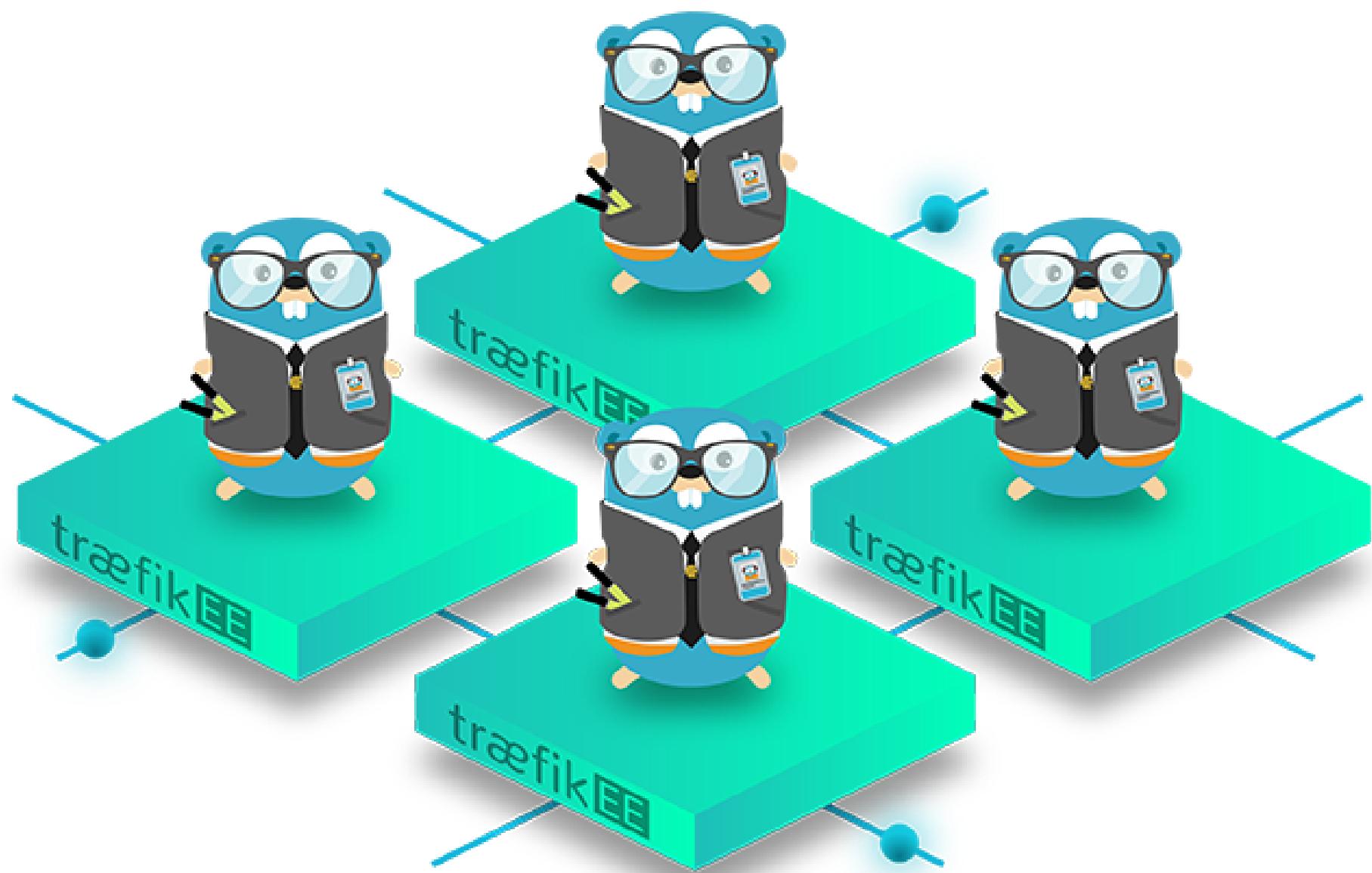
Configure The Load Balancing For Scaled Service

Configure A Service On A Specific Path

Configure Let's Encrypt In Traefik

Generate Certificates For Our Services

Traefik Also Comes In Herd





HIGH AVAILABILITY

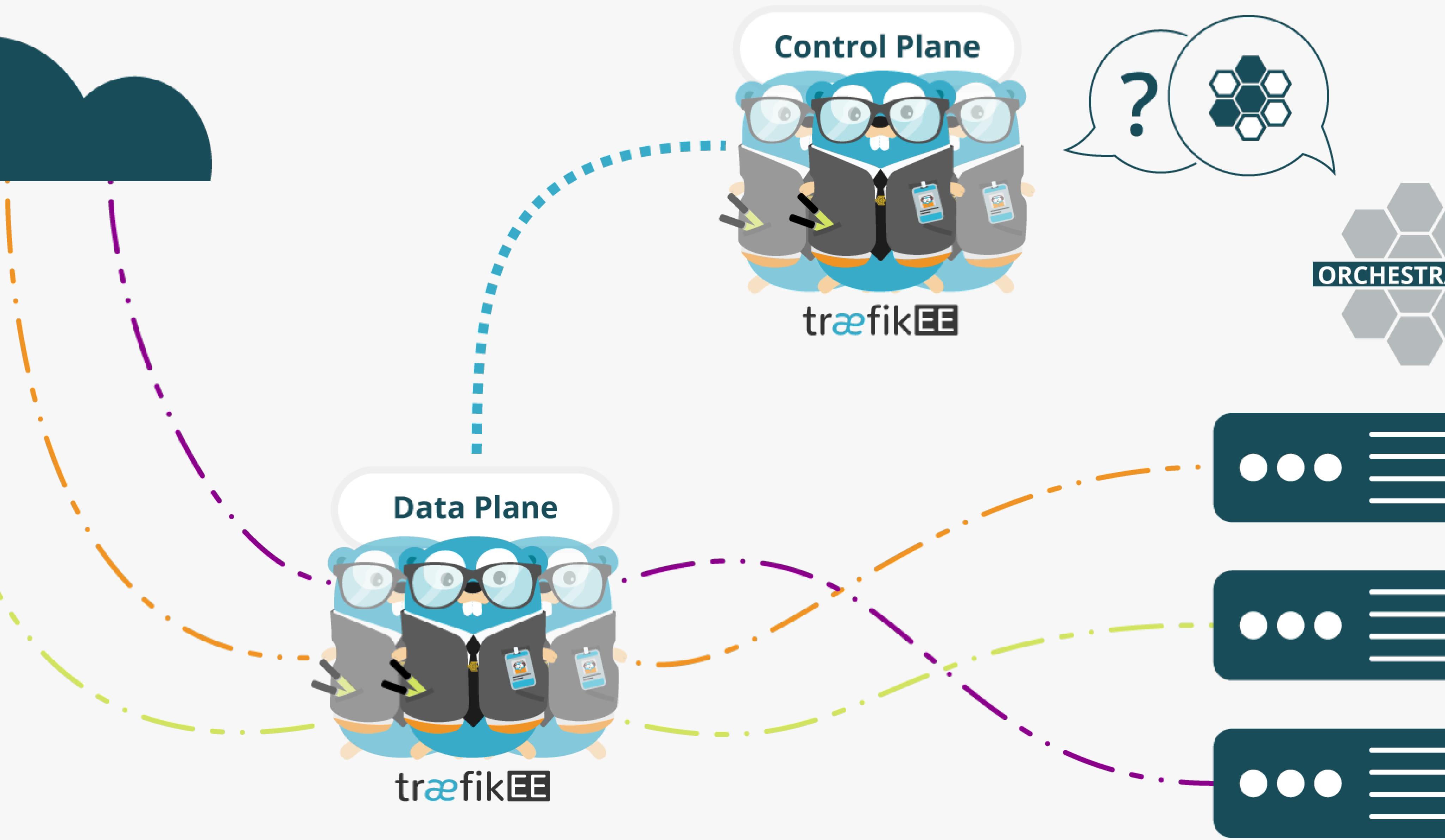
traefik ENTERPRISE EDITION

SECURITY

traefik ENTERPRISE EDITION

SCALABILITY

traefik ENTERPRISE EDITION



As Simple As Traefik

- Install it:

```
# Cluster Installation
traefikeectl install \
  --licensekey="SuperSecretLicence" \
  --dashboard \
  --kubernetes # Or --swarm
```

- Configure it:

```
# Routing Configuration, same as Traefik's
traefikeectl deploy \
  --acme.email=ssl-admin@mycompany.org
  --acme.tlsChallenge
  ...
```

Free Trial

<https://containo.us/traefikee>

We Also Missed Talking About ...

A circular word cloud centered around the word "CIRCUIT-BREAKERS". The words are arranged in a circle and include: mesos, ZIPKIN, LIMITING, KUBERNETES, Dynamic, Metrics, CERTIFICATE, HTTP, ERROR, TLS, Reverse-Proxy, HEADERS, GRPC, DYNAMIC/WILDCARD, Security, Configurations, Tracing, PROXY, SECRETS, PROMETHEUS, JAEGER, WEBSOCKETS, SSL, FORWARD, REDIRECTS, DOCKER, CHECKS, PROTOCOL, HEALTH, HSTS, CLUSTER, AUTH, RATE, CONSUL, SWARM, MODE.

What's Next

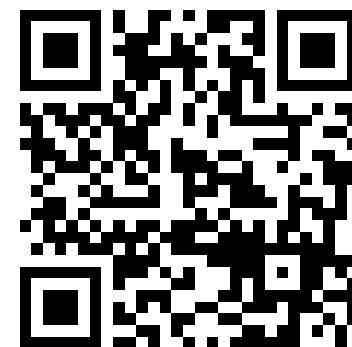
- KV Store
- UDP
- And More...

More Info

- Back to Traefik 2.0
- Community Forum
- Official Documentation

Thank You!

-  juliens



- Slides (HTML): <https://containous.github.io/slides/Idez-patch-1>
- Slides (PDF): <https://containous.github.io/slides/Idez-patch-1/slides.pdf>
- Source on : <https://github.com/containous/slides/tree/Idez-patch-1>