



Discover Rust in production @OVH

4 april 2017 - Lille



Talks

1. Rust in production at OVH



Talks

1. Rust in production at OVH
2. Rust, Lending system, enter The borrow checker



Talks

1. Rust in production at OVH
2. Rust, Lending system, enter The borrow checker
3. Servo



Hi



Adrien Bensaïbi - DevOps @OVH

- Working on IP Loadbalancing Next-Gen
- Proud to be part of Lille Rust community
- Passionate about server performance, scalable architecture, and programming languages
- 2017 = Rust, Elixir/Erlang, Solidity
- Twitter @olinkloo



OVH



OVH Sunrise

Order

Cloud Desktop

Cloud Desktop Infrast...

Contact Center Soluti...

Containers

DBaaS Queue

Hosting Reseller

IP Loadbalancer Next...

Logs Data Platform

Monitoring

Office 365 Revendeurs

Registry

Router

SSL Gateway

sslgateway-58df3dcd36efe6...

sslgateway-dabfbc4aac6333...

SaaS Database

SSL Gateway

Nom du service	IPv4	IPv6	Référence	Offre	État
Le Clos Lucien	137.74.125.252		free	sslgateway-58df3dcd36efe6fe035f48201e2dbf03-58728144	ok
Lille Rust Slackin	91.134.128.83		free	sslgateway-dabfbc4aac63334a6281c8d93c403108-61832331	ok

«

«

1

»

»

NB

Go to page

Commander une nouvelle Gateway SSL

FreeAdvanced

Domaine ou Sous-domaine *

rustuppe.rs

Serveur *

1.2.3.4

+ Order - SSLGateway Free



Rust - try 1

IP Loadbalancing NextGen

SSL Gateway

Metrics



Tiny tools



Tiny tools

- simple binary
- use-case focused
- no huge environment (easy to configure)
- simple logging
- predictable
- easy to restrict
- easy to scale



What we do

- 150 000 VM public cloud
 - 200 000 VM private cloud
 - 270 000 Servers
1. deal with huge volume of datas.
 2. in a safe manner.
 3. in realtime, because we have to act fast.



Challenge

metric collector had a significant overhead on system

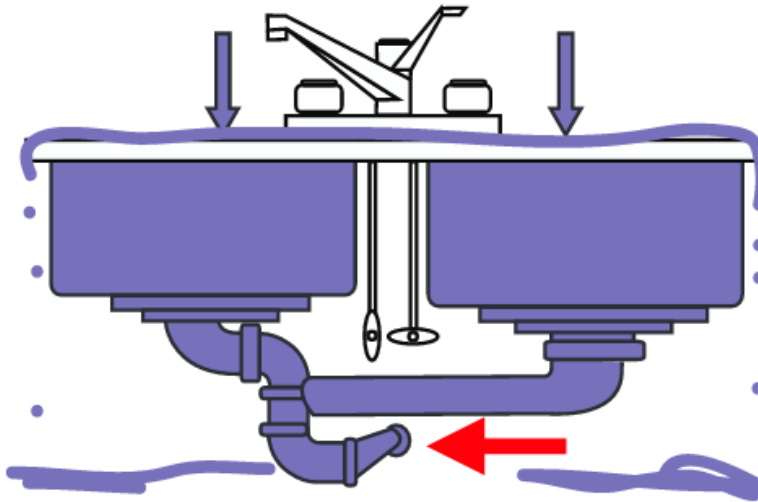
We tried

- scollector
- tcollector
- snap



Analyse

- CSV parser
- too much modules



Metric team comes with a solution

Beamium + HAProxy exporter



Result

- ~30% CPU on the system, now 0.6%, with filtering !
- 800k points/s sends to OVH Metrics
- 1,8M points/s per beamium thread



Rust - try 2

CDN



Challenge

lot's of purge request to invalidate files.

we break limite of our purge module.



Change design

- ~12k purge per hour
- complexe rules of purges, lead to invalidate 300 000 files
- remove files faster with an index



Work

- At first, i tend to develop index in C
- But writing safe C, in a C system is error prone
- Well i develop some parts in Rust



Results

—

- has to duplicate struct declaration
- build system does not fit, some work to do

+

- FFI
- fast development cycles
- crates !

project

- develop faster
- could easily handle all this purges



Rewrite everything in Rust now ?



Rewrite everything in Rust now ?

No, we do not

- be modest
- strong system are less exposed to bad events
- translate is maybe a better approche [Corrode](#)
- experiences



But

If you start a new system Today:

- integrate with existing systems, to make it safer.
- reducing time to production and maintenance, in case you work in C.
- for speed with high level language





Links

projects use in ovh

- [Beamium](#), a fast metric collector
- [Flowgger](#), a fast log collector
- [ovh-rs](#), self promotion
- [edgeDNS](#), a DNS cache



OVH sunrise

- [SSLGateway](#)
- [IP Loadbalancing NextGen](#)
- [Metrics](#)
- [CDN](#)



Community

- [Forum](#)
- [Meetup](#)

Careers

- [OVH careers](#)

