Discover Rust in production @OVH

4 april 2017 - Lille

Talks

1. Rust in production at OVH

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2. Rust, Lending system, enter The borrow checker

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

Hi

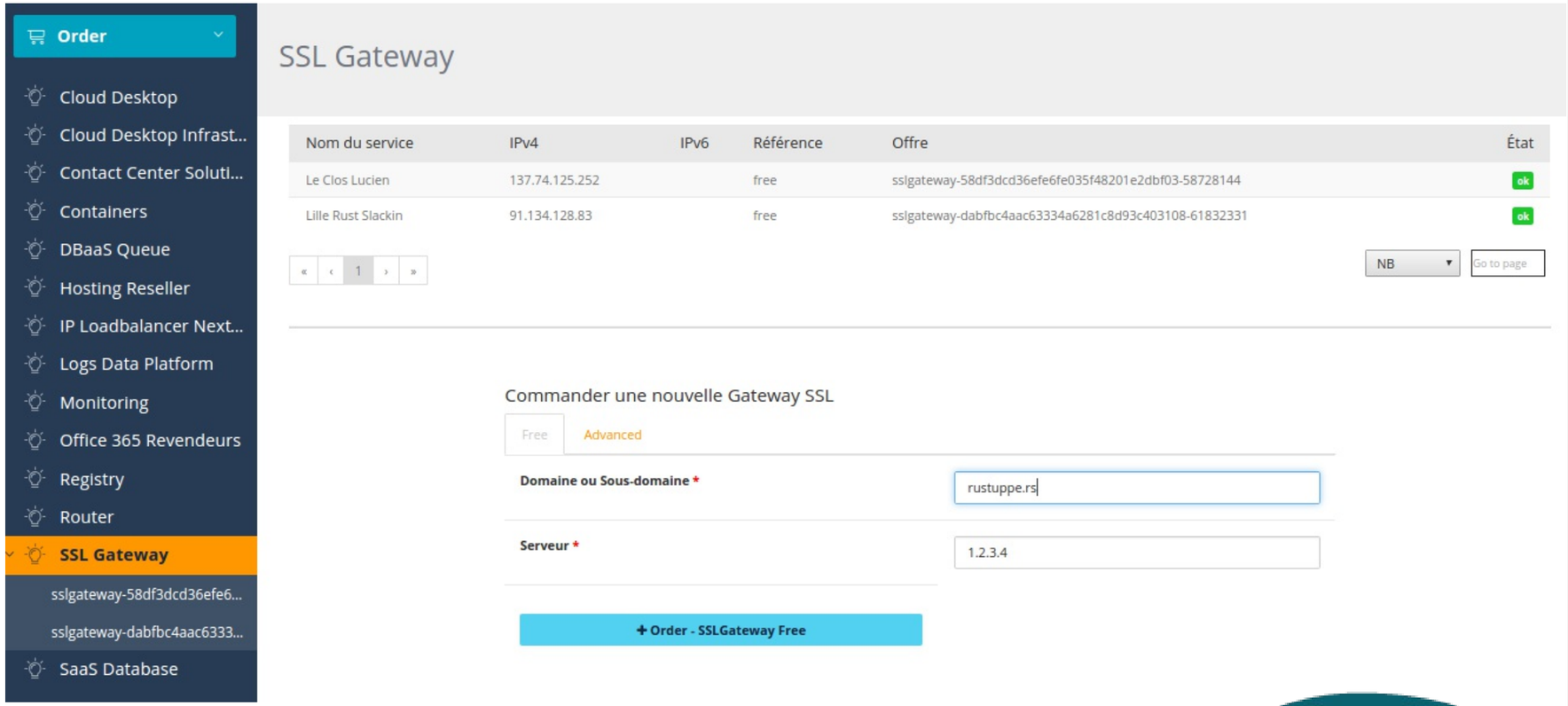
Adrien Bensaïbi - DevOps @OVH

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

OVH


500 000
Nombre d'instances Public Cloud déployées chaque mois
3
Trois niveaux de Cloud : hybride, privé et public
20
Nombre de datacentres sur 4 continents
10
Tbps
Capacité réseau globale

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
NB
Go to page
Commander une nouvelle Gateway SSL
Free
Advanced
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

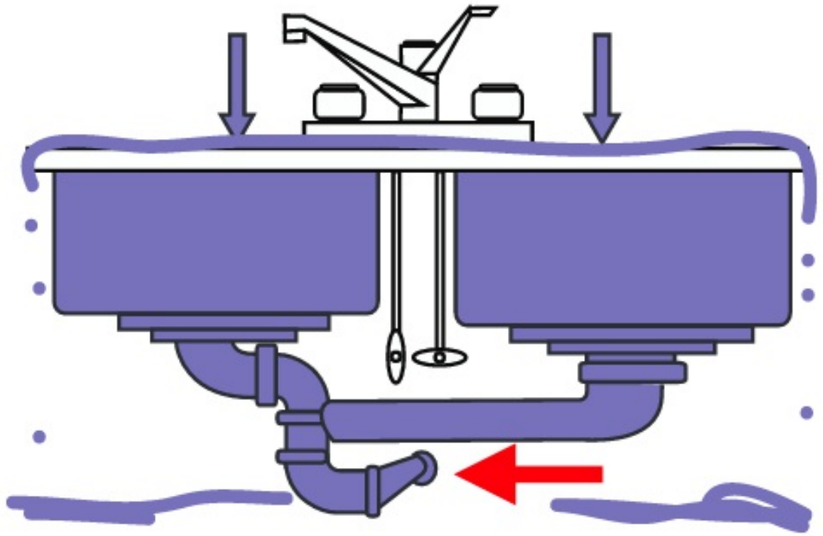
metric collector had a significante otherhead on system

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 ?

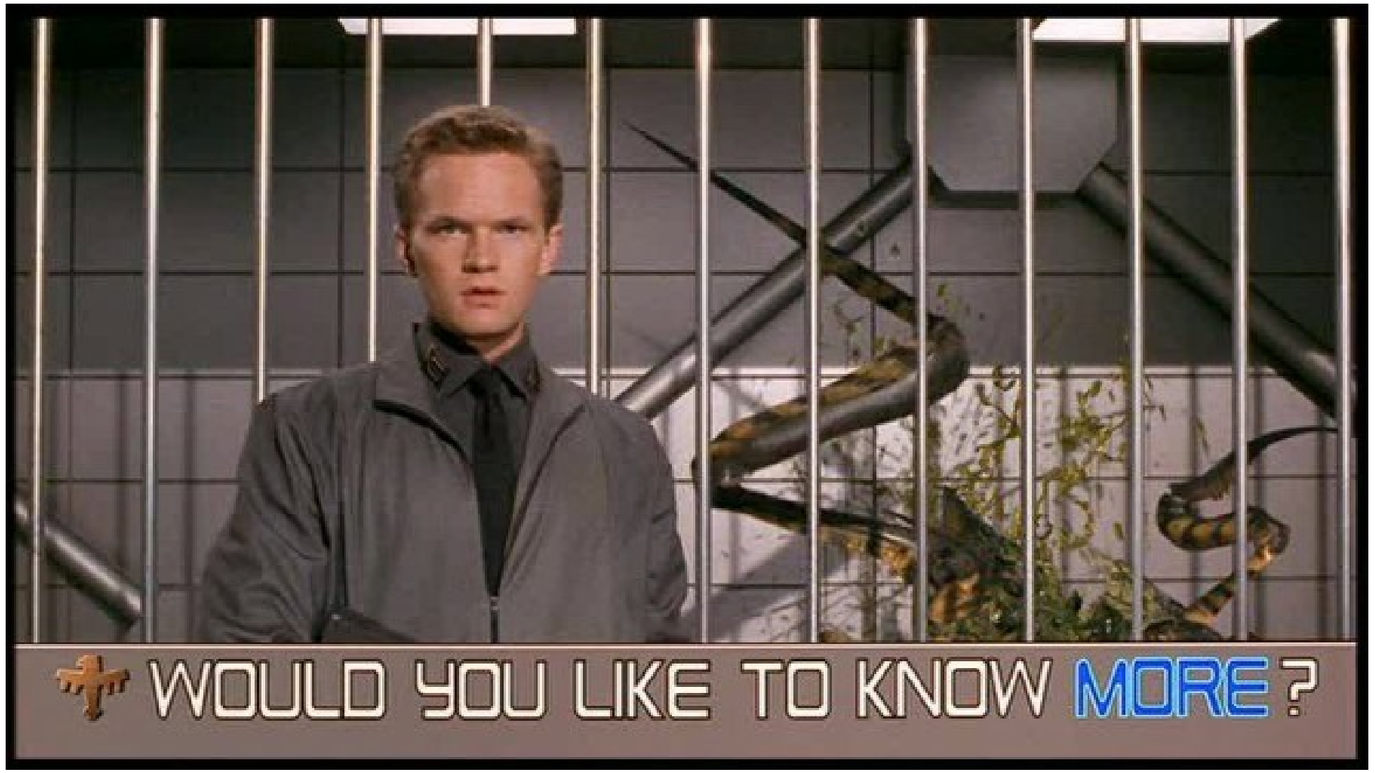
No, we do not

- 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 langage


WOULD YOU LIKE TO KNOW MORE ?

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