Is OpenStack still needed in 2023?
Hello!

My name is Thierry Carrez
General Manager at the OpenInfra Foundation
Vice-chair at Open Source Initiative

@tcarrez@fosstodon.org
Is OpenStack dead?
40+ million CPU cores
Deployments > 1 M cores
Kubernetes in 2022: 33k GitHub PRs merged
Kubernetes in 2022: 33k GitHub PRs merged

OpenStack in 2022: 29k Gerrit changes merged
An OpenStack history
Back in 2010...
“Open source” was coined
OSI formed

2010
OpenStack

2023
Today
"Open source" was coined
OSI formed

1998

Firefox Ubuntu Git Android

2010

OpenStack

2023

Today
The first 6 years

- Nova + Swift
The first 6 years

- Nova + Swift
- The Linux of the datacenter
The first 6 years

- Nova + Swift
- The Linux of the datacenter
- Startups everywhere!
The first 6 years

- Nova + Swift
- The Linux of the datacenter
- Startups everywhere!
- More than 100k changes per year
The first 6 years

- Nova + Swift
- The Linux of the datacenter
- Startups everywhere!
- More than 100k changes per year
- Scope creep
The first 6 years

- Nova + Swift
- The Linux of the datacenter
- Startups everywhere!
- More than 100k changes per year
- Scope creep
- Who is the user?
“Open source” was coined
OSI formed

1998

OpenStack

2010

Kubernetes

2023

Today
A welcome clarification

- The advent of Kubernetes
Massive Programmable infrastructure APIs on top of compute / storage / networking resources
Massive Programmable infrastructure APIs on top of compute / storage / networking resources.

Users

Physical hardware
Massive programmable infrastructure APIs on top of compute / storage / networking resources

Physical hardware

Hardware virtualization

Application developers & deployers

Users
Massive Programmable infrastructure APIs on top of compute / storage / networking resources

Physical hardware

Hardware virtualization

IaaS APIs

Application developers & deployers

Users
Massive Programmable infrastructure

APIs on top of compute / storage / networking resources

Physical hardware

Hardware virtualization

IaaS APIs

Application deployment APIs

Application developers & deployers
Massive Programmable infrastructure APIs on top of compute / storage / networking resources

Users

Application developers & deployers

Infrastructure providers
Massive Programmable infrastructure APIs on top of compute / storage / networking resources

Users

Kubernetes

Application developers & deployers

Infrastructure providers
A welcome clarification

- The advent of Kubernetes
A welcome clarification

- The advent of Kubernetes
- Infrastructure is a given
A welcome clarification

- The advent of Kubernetes
- Infrastructure is a given
- OpenStack is dead... to me
Providing infrastructure
Massive Programmable infrastructure APIs on top of compute / storage / networking resources
Massive Programmable infrastructure APIs on top of compute / storage / networking resources.

Secure, lightweight CRI compatible virtualized containers.

Programmable infrastructure for VMs, containers and bare metal.

Edge cloud computing infrastructure for high performance, ultra-low latency applications.

Connecting open source projects to production.

CI/CD platform for gating changes across multiple systems/repos.
OpenStack relevance in the next decade
Massive Programmable infrastructure APIs on top of compute / storage / networking resources

Physical hardware

Hardware virtualization

IaaS APIs

Application deployment APIs

Application developers & deployers

Users
Massive Programmable infrastructure APIs on top of compute / storage / networking resources

Physical hardware

Linux

OpenStack

Kubernetes

Application developers & deployers

Users
LINUX
Open source operating system standard

OPENSTACK
Open source cloud standard

KUBERNETES
Open source container orchestration standard

INFRASTRUCTURE
Value proposition

- Cost
- Compliance
- Capabilities
The Cost of Cloud, a Trillion Dollar Paradox

by Sarah Wang and Martin Casado

There is no doubt that the cloud is one of the most significant platform shifts in the history of computing. Not only has cloud already impacted hundreds of billions of dollars of IT spend, it’s still in early innings and growing rapidly on a base of over $100B of annual public cloud spend. This shift is driven by an incredibly powerful value proposition — infrastructure available immediately, at exactly the scale needed by the business — driving efficiencies both in operations and economics. The cloud also helps cultivate innovation as company resources are freed up to focus on new products and growth.

“Repatriation results in one-half to one-third the cost of running equivalent workloads in the cloud”
Number of cores vs Time:

- Public infrastructure makes more sense.
- Private infrastructure makes more sense.
Digital Sovereignty
Energy spent compared between data center types

- **ERE**
- **on premise**
  - for an average workload
  - for servers
- **the average datacenter**
  - for cooling
  - for servers
- **high efficiency datacenter**
  - all wasted
- **Leafcloud**
  - energy re-used for heating
  - at least 50% re-used
In conclusion

- OpenStack is not dead
In conclusion

- OpenStack is not dead
- It might be irrelevant to you, though
In conclusion

- OpenStack is not dead
- It might be irrelevant to you, though
- It will not replace hyperscalers
In conclusion

- OpenStack is not dead
- It might be irrelevant to you, though
- It will not replace hyperscalers
- It is a necessary complement, though
Thanks!
You can find me at:
@tcarrez@fosstodon.org on the Fediverse
thierry@openinfra.dev

Credits
Presentation template by SlidesCarnival.com (CC-BY-4.0)
Photographs by Unsplash.com (Unsplash license)