



IT >

Le Cloud Native

En 15 minutes

Définitions

Définition par la CNCF

CNCF : Cloud Native Computing Foundation

github.com/cncf/foundation

“Cloud native technologies empower organizations to **build and run scalable applications in modern, dynamic environments** such as public, private, and hybrid clouds.

Containers, service meshes, microservices, immutable infrastructure, and declarative APIs exemplify this approach.

These techniques enable **loosely coupled systems that are resilient, manageable, and observable**. Combined with robust automation, they allow engineers to make high-impact changes frequently and predictably with minimal toil.”

Définition par Amazon

aws.amazon.com/what-is

“Cloud native is the software approach of **building, deploying, and managing modern applications in cloud computing environments.**

Modern companies want to build highly scalable, flexible, and resilient applications that they can update quickly to meet customer demands.

To do so, they use modern tools and techniques that inherently support application development on cloud infrastructure.

These cloud-native technologies support **fast and frequent changes to applications without impacting service delivery**, providing adopters with an innovative, competitive advantage.”

Définition par Google

cloud.google.com/learn

“Cloud native means **adapting to the many new possibilities**—but very different set of architectural constraints—**offered by the cloud** compared to traditional on-premises infrastructure.

Unlike monolithic applications, which must be built, tested, and deployed as a single unit, cloud-native architectures decompose components into **loosely coupled services** to help manage complexity and improve the speed, agility, and scale of software delivery.”

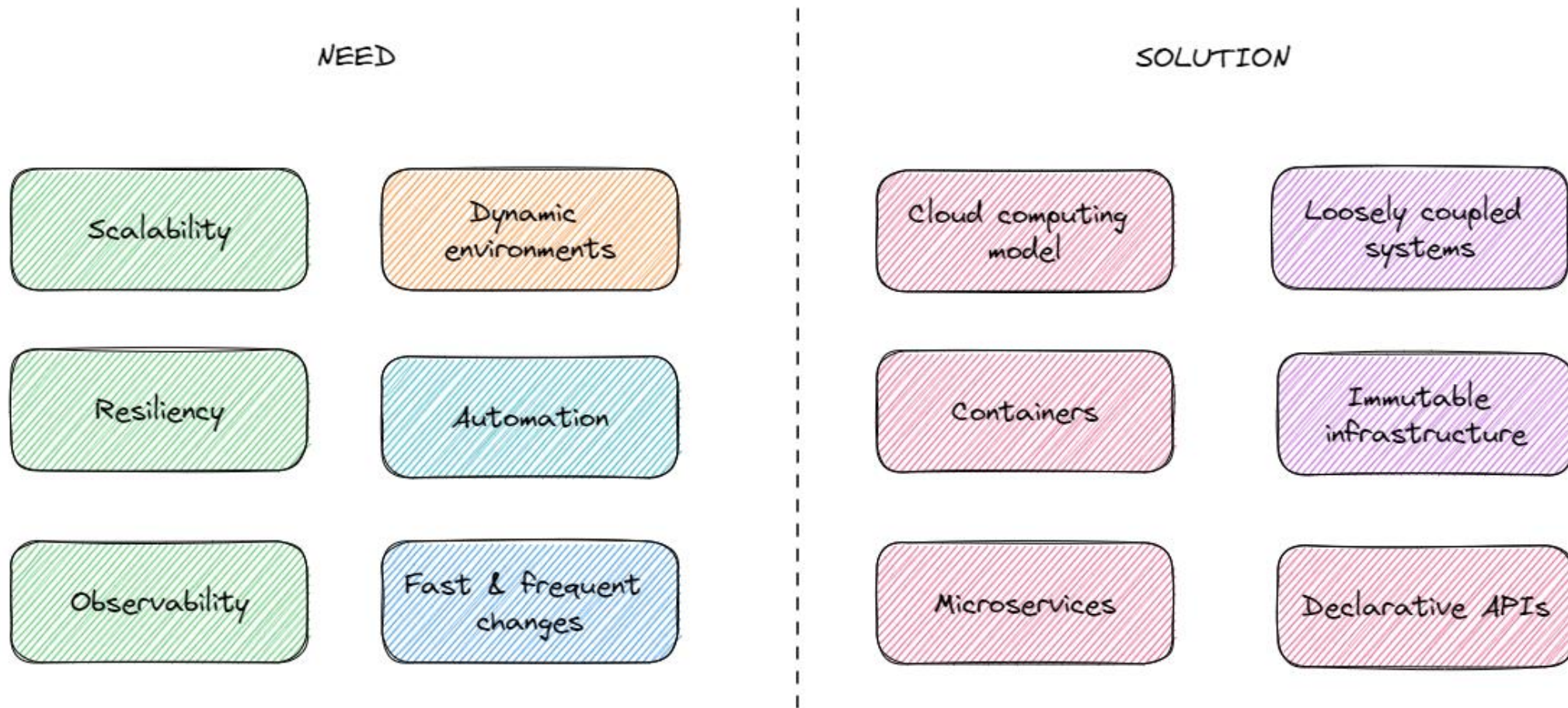
Définition par Microsoft

learn.microsoft.com/dotnet/architecture

“Cloud-native architecture and technologies are **an approach to designing, constructing, and operating workloads** that are built in the cloud and take full advantage of the cloud computing model.

Cloud native is about **speed and agility**. Business systems are evolving from enabling business capabilities to weapons of strategic transformation that accelerate business velocity and growth. It's imperative to get new ideas to market immediately.”

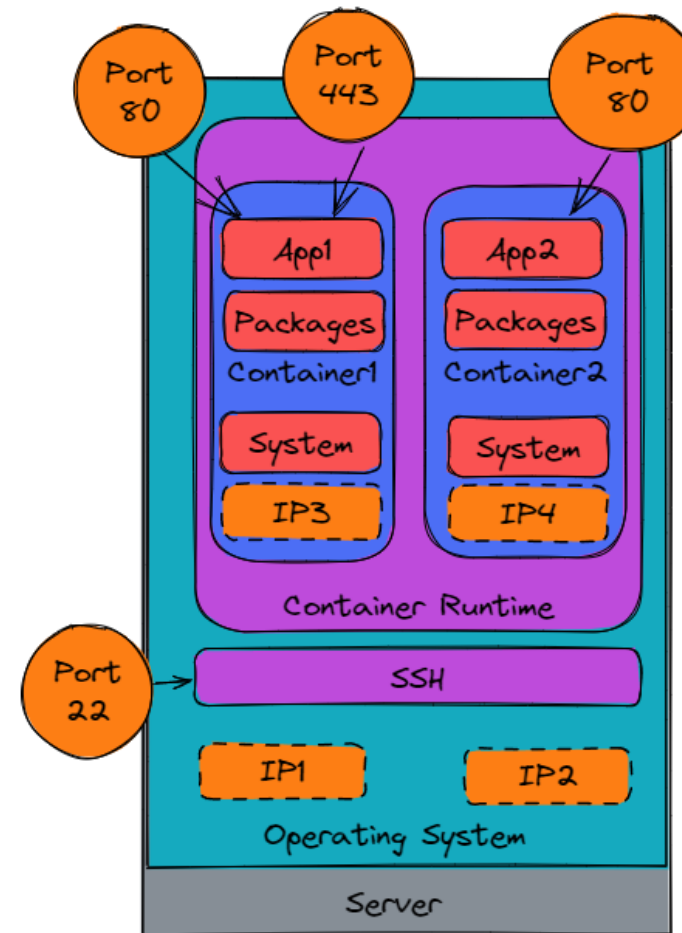
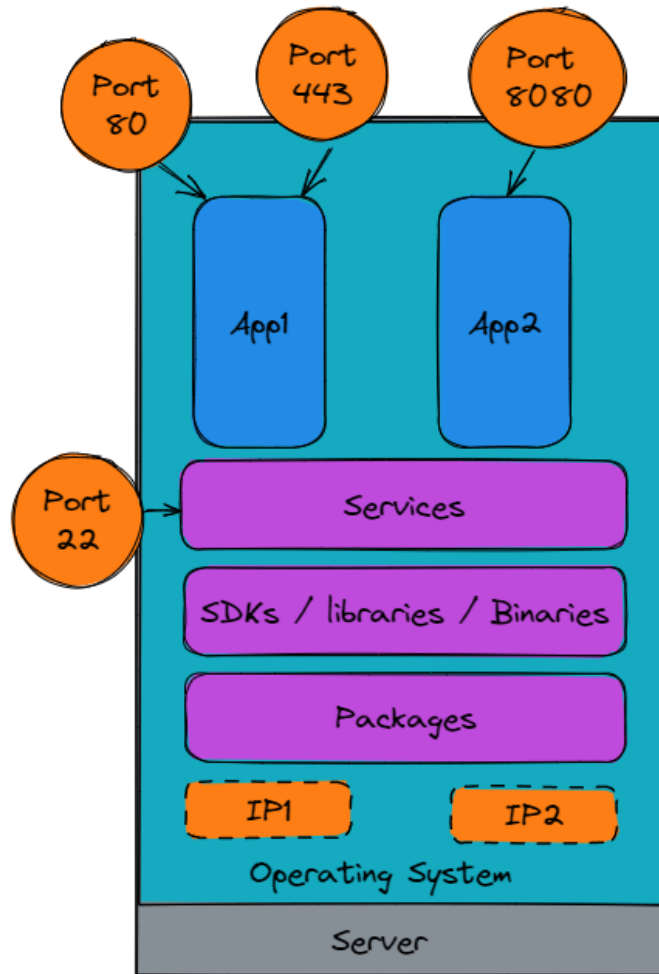
En résumé



Comparaisons

VM vs Conteneurs

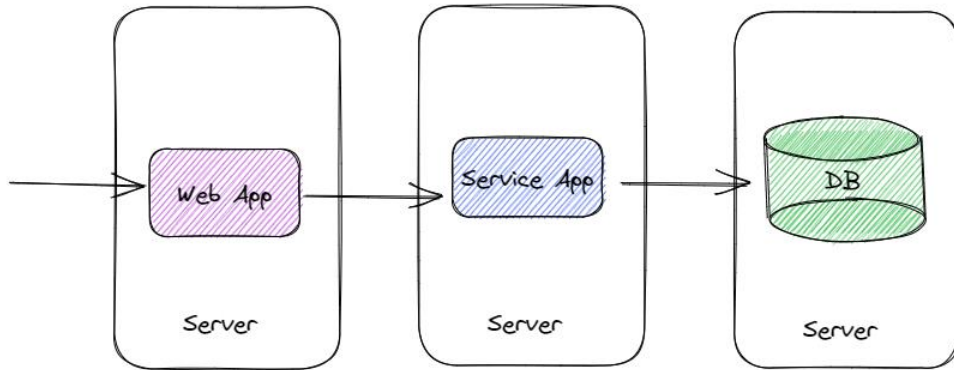
VM : Machine Virtuelle



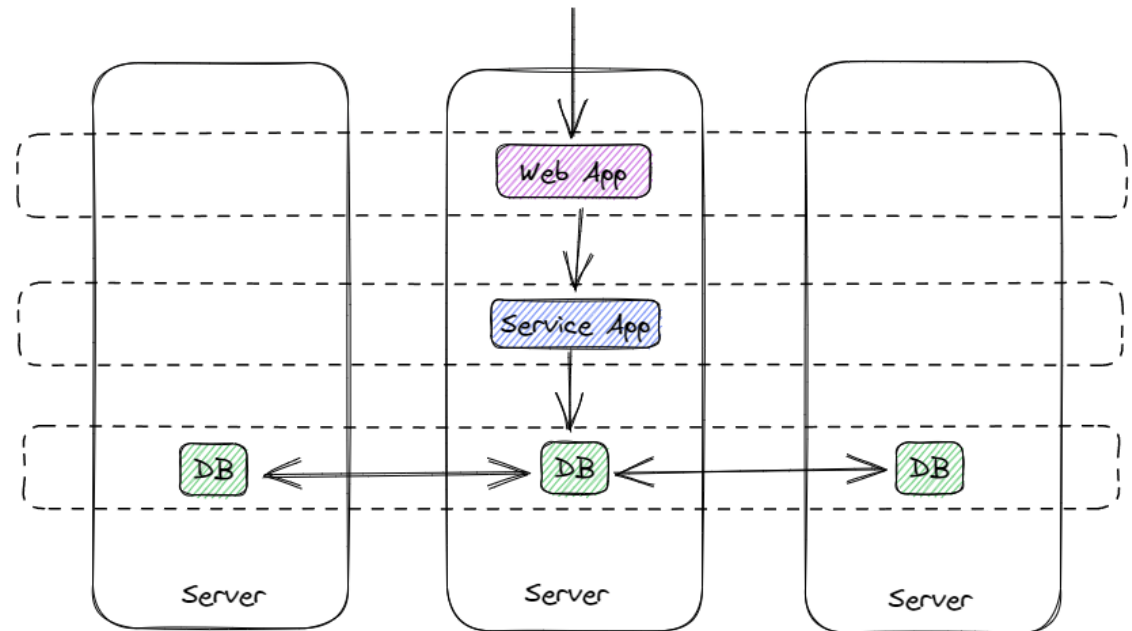
Passage sur des conteneurs

App : Application
DB : Base de données

Avant



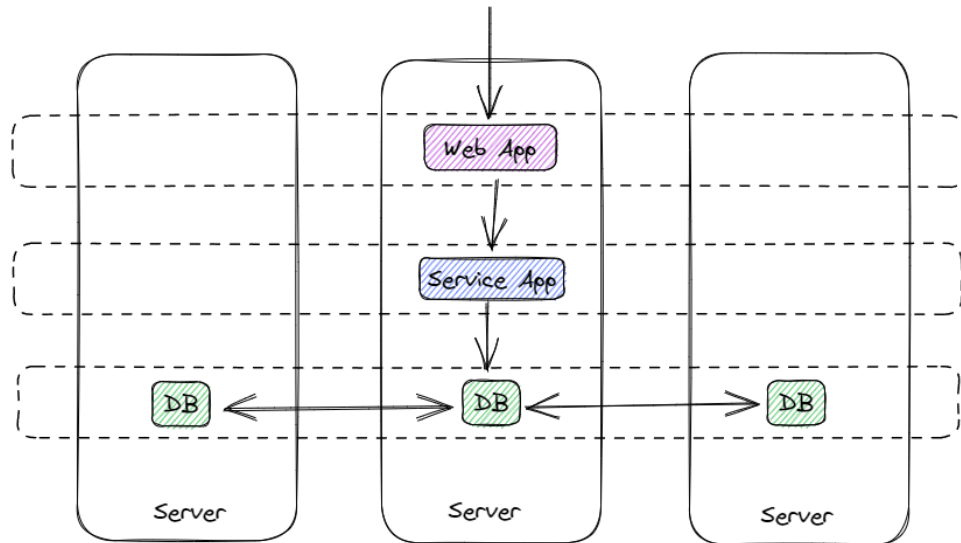
Après



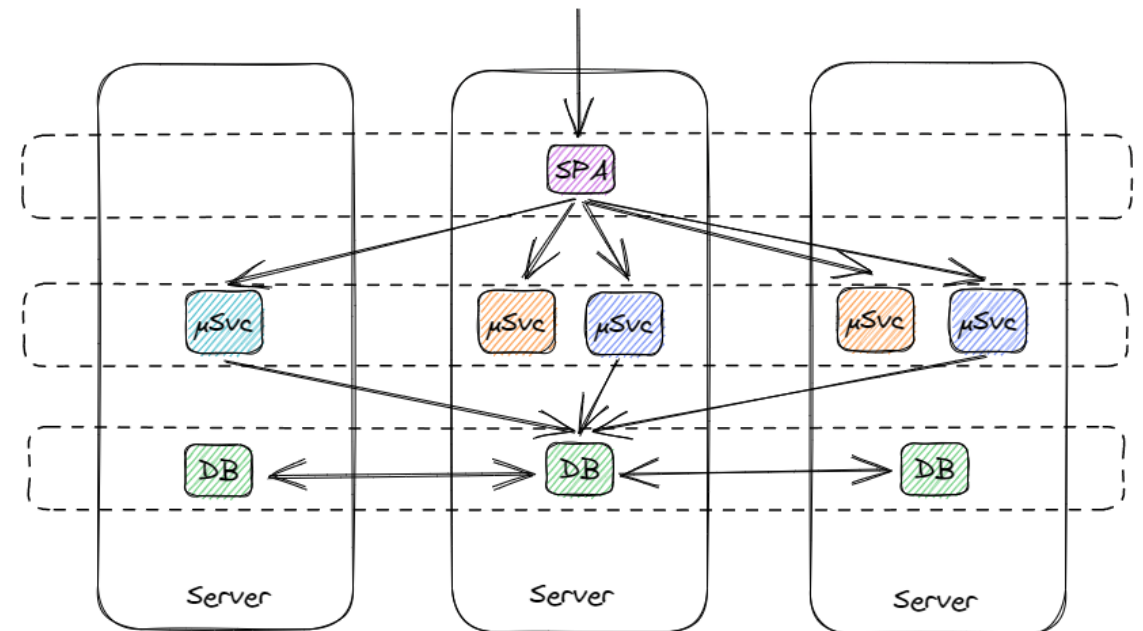
Passage en Cloud Native

App : Application
SPA : Single Page Application
 μ Svc : Microservice
DB : Base de données

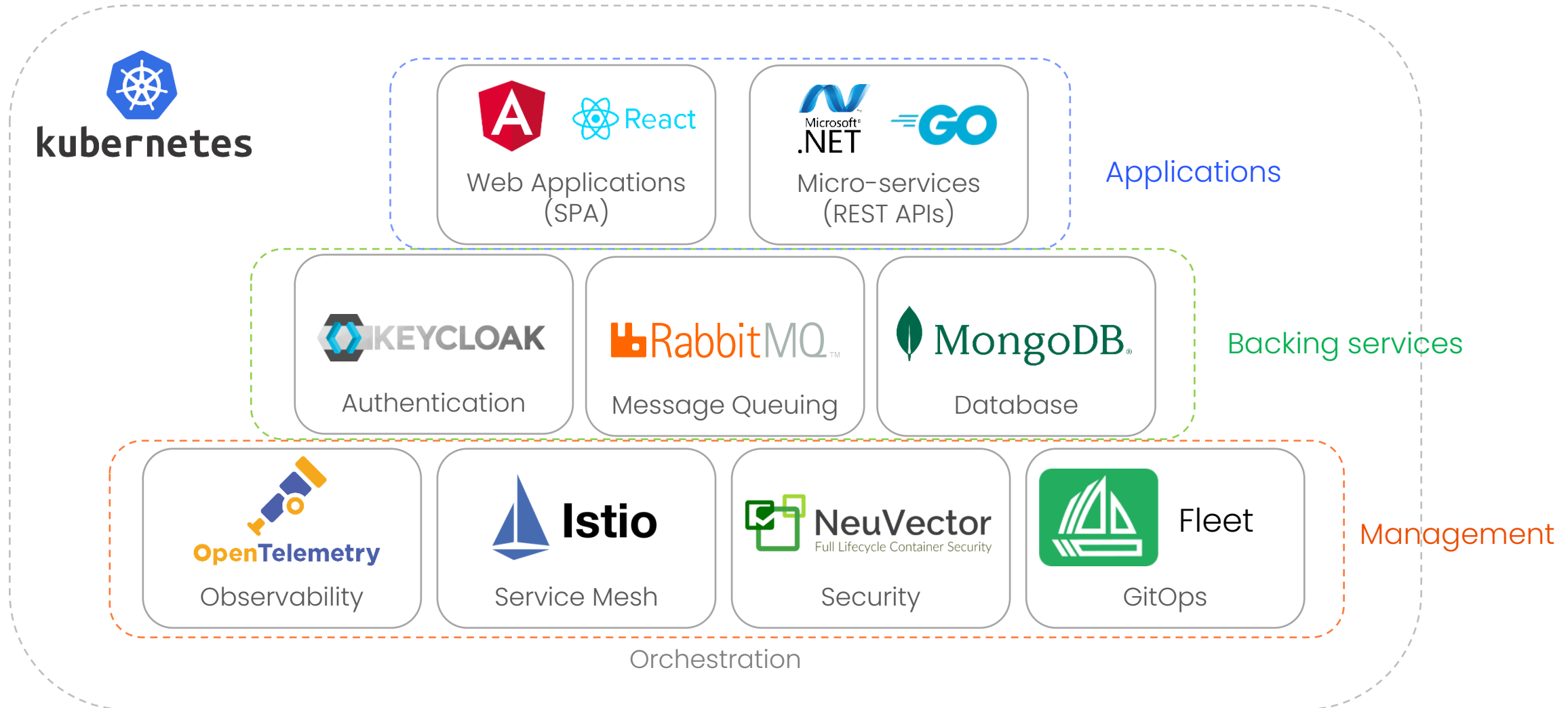
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Après

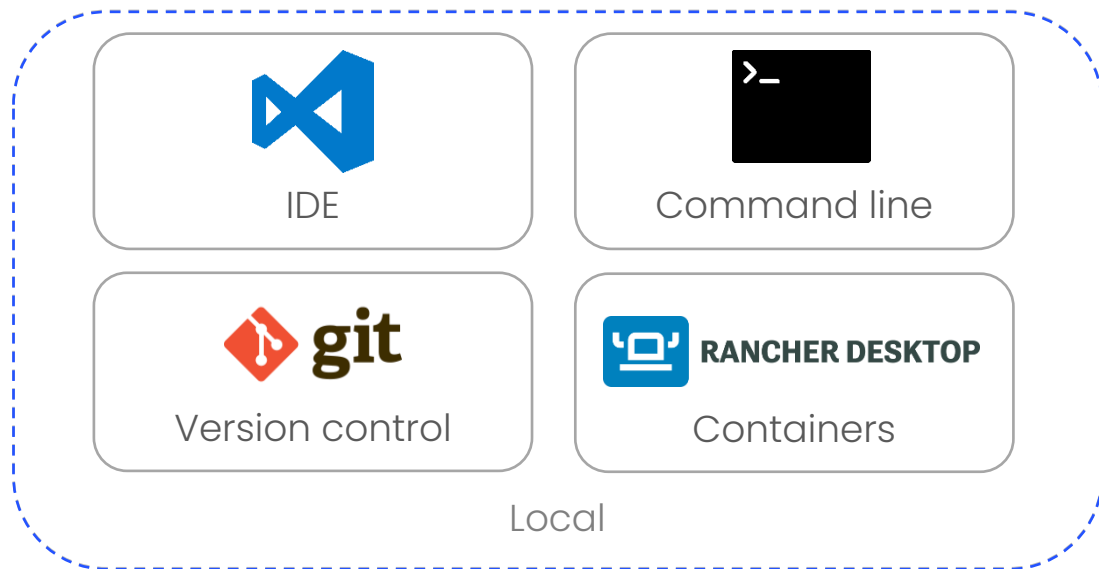


Conception Cloud Native



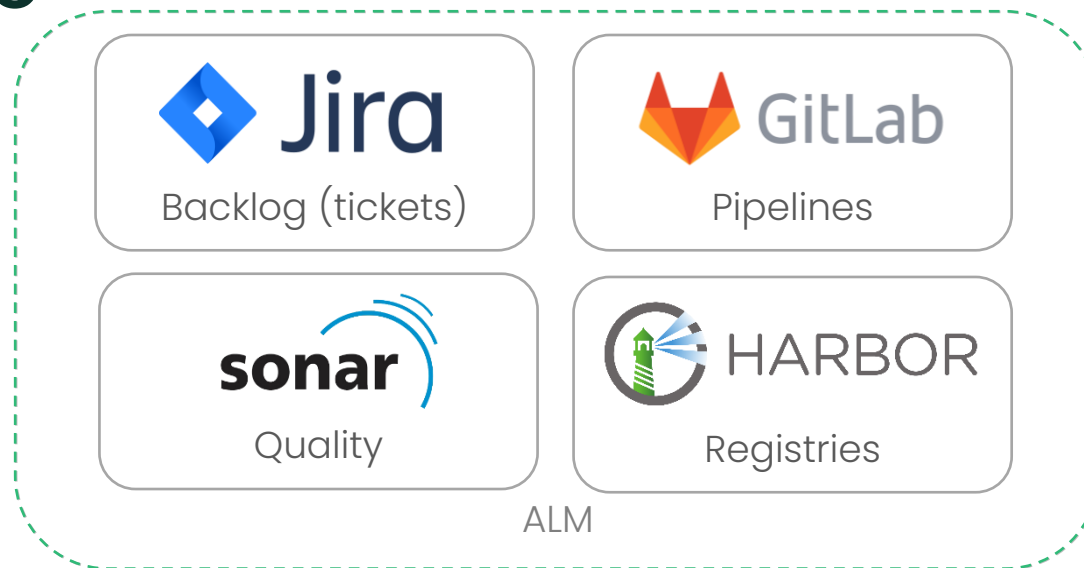
Usine logicielle Cloud Native

Continuous Integration / Continuous Delivery

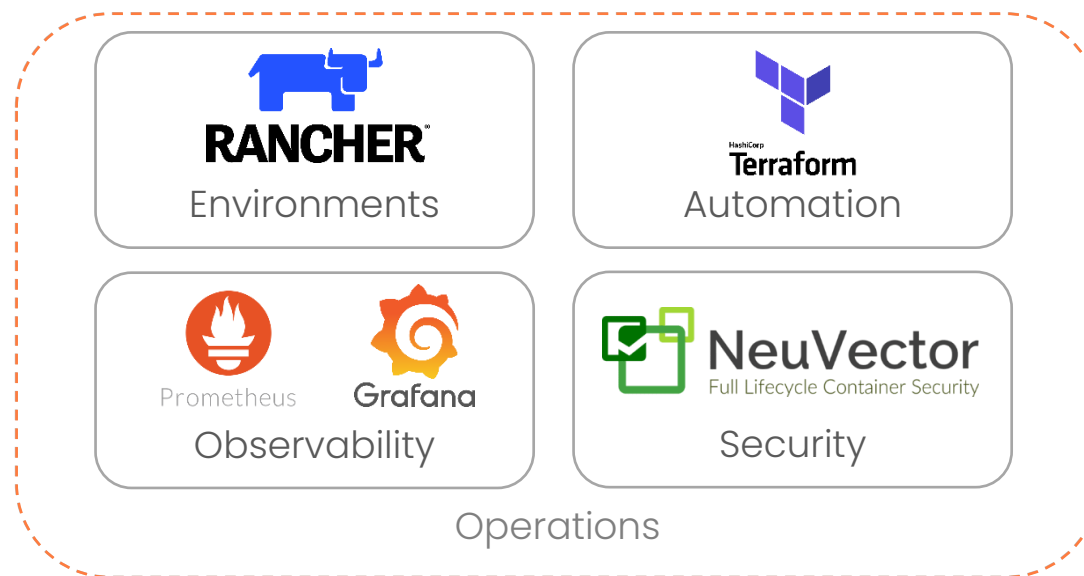


Local

Development



ALM

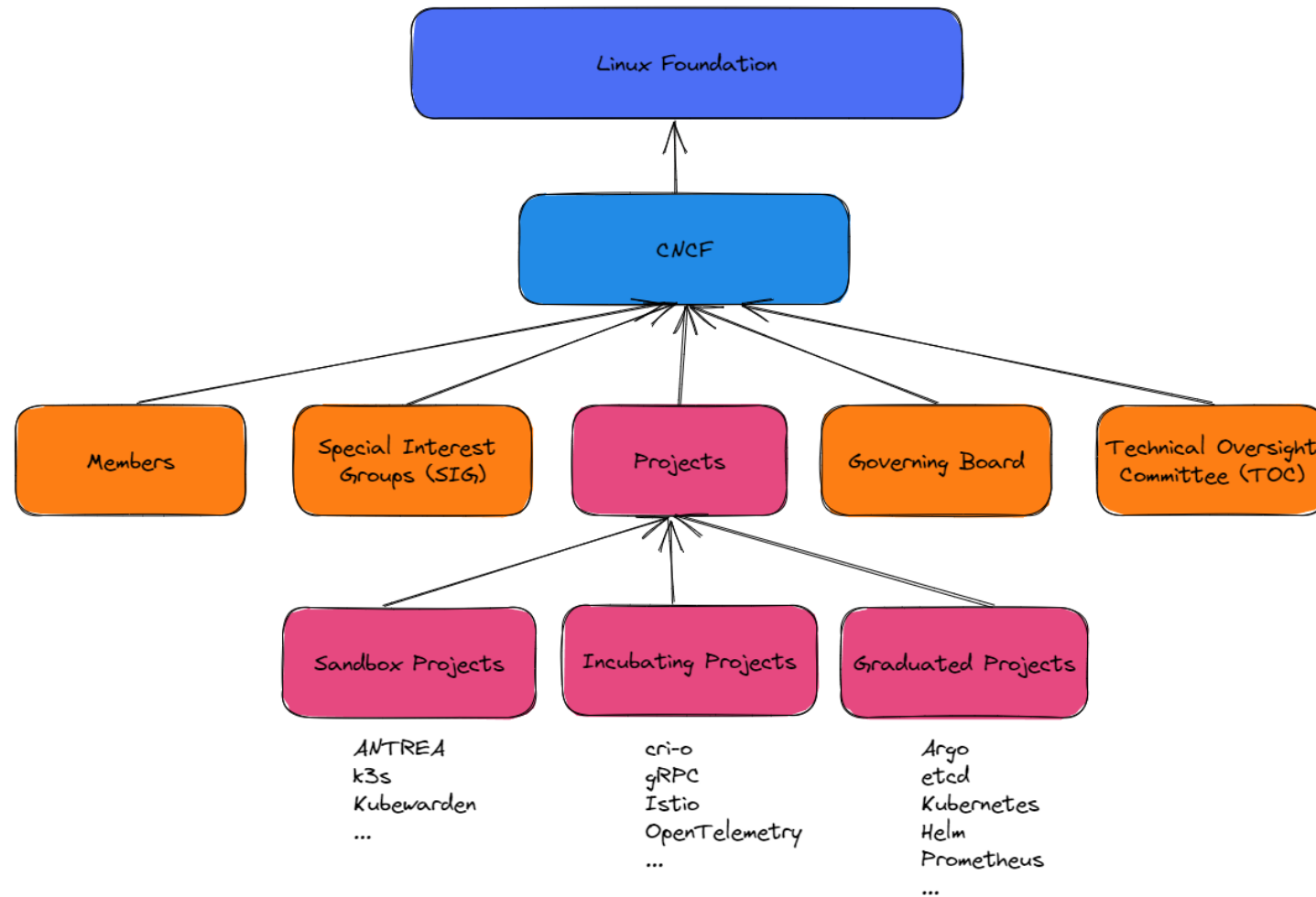


Operations

Continuous Deployment / Observability / Security

L'écosystème

Cloud Native Computing Foundation (CNCF)



CNCF Landscape

The image displays a detailed 'CNCF Landscape' grid, organized into several main sections:

- App Definition and Development:** Includes logos for KV, V, Helm, Flux, and others.
- Scheduling & Orchestration:** Features logos for Kubernetes, Argo, and others.
- Coordination & Service Discovery:** Includes logos for etcd, Consul, and others.
- Service Proxy:** Includes logos for Istio, Envoy, and others.
- API Gateway:** Includes logos for Kong, Traefik, and others.
- Service Mesh:** Includes logos for Istio, Linkerd, and others.
- Cloud Native Storage:** Includes logos for MinIO, Ceph, and others.
- Container Runtime:** Includes logos for CRI-O, Kata, and others.
- Cloud Native Network:** Includes logos for Cilium, Calico, and others.
- Automation & Configuration:** Includes logos for Ansible, Terraform, and others.
- Container Registry:** Includes logos for Harbor, Quay, and others.
- Security & Compliance:** Includes logos for Falco, Clair, and others.
- Key Management:** Includes logos for Spiffe, Vault, and others.
- Observability and Analysis:** Includes logos for Prometheus, Grafana, and others.
- Logging:** Includes logos for FluentD, ELK, and others.
- Tracing:** Includes logos for Jaeger, Zipkin, and others.
- Chaos Engineering:** Includes logos for Chaos Mesh, Litmus, and others.
- Continuous Optimization:** Includes logos for Kubevela, and others.
- Members:** A section listing various member organizations.
- CD Foundation Landscape:** A section listing various CD foundation projects.
- Special:** A section listing various special projects and partners.
- Partners:** A section listing various partner organizations.
- Training:** A section listing various training providers.
- Certified CNCFs:** A section listing various certified CNCFs.
- Cloud Native Landscape:** A section listing various cloud native landscape projects.

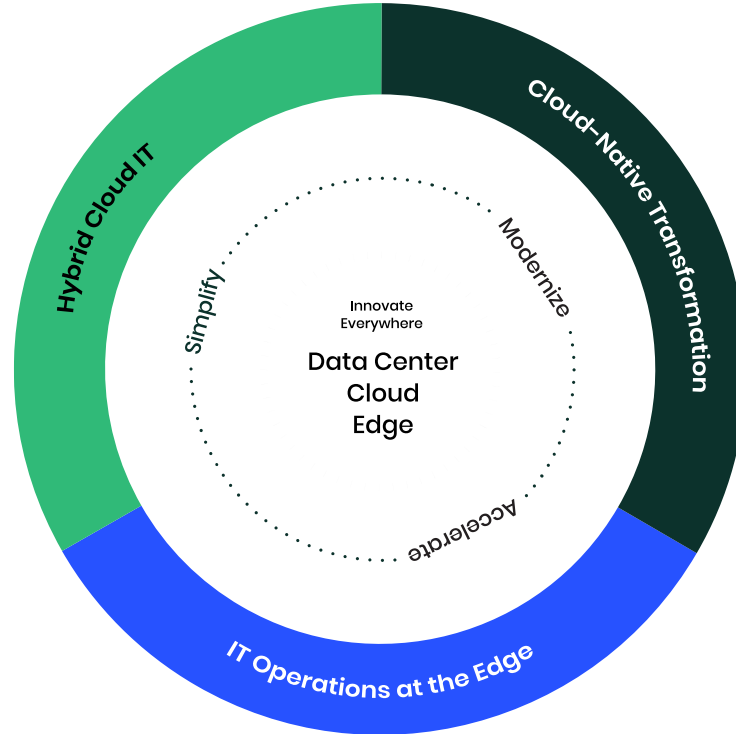
At the bottom right, there is a QR code and the text: "This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application with CNCF. Projects representing a particularly well-traveled path." Below this is the URL l.cncf.io.

Le positionnement de SUSE

Supporting Our Customers To Transform

Simplify and optimize existing environments

- Complexity of managing hybrid cloud infrastructure and apps
- Run workloads anywhere, containers, VMs, on-premises and across clouds
- Secure operation of all mission-critical workloads
- Need to eliminate downtime




Bring apps and infrastructure into modern cloud computing


- Container and Kubernetes complexity
- Modernizing legacy apps and accelerating time to market
- Reduce cost and risk


Accelerate business innovation


- Lack of a consistent platform from core, to cloud, to edge
- Concerns about security, privacy, compliance
- Breadth and complexity of edge use-cases


Powering Cloud Native Innovation

 **kubernetes**

Catalog RBAC  **RANCHER PRIME** **Storage Governance**
The platform for managing all Kubernetes distributions

 **NeuVector** **RKE** **K3S** **LONGHORN** **HARVESTER**
Security Datacenter Edge Block Storage HCI






 **Linux**

Compliance Security  **SUSE Linux Enterprise** **Availability Management**
The most adaptable Linux operating system

Other Linux

SLE Desktop / POS SLES for SAP Applications SLE Micro SUSE Manager
SLE Server SLES for HPC SLE Extensions

Hybrid Cloud Infrastructure

 **Dev**  **Datacenter**  **Cloud**  **Branch**  **Edge**

Support & Services

Thank you

