



kubernetes+ cloud native

eastern canada meetup

Québec City - 4 Décembre 2024



Meetup Hosts



Sebastien Thomas (Prune)

Lead Software Eng.

Cloud Native Ambassador (CNA)



Mathieu Benoit

Customer Engineer

Cloud Native Ambassador (CNA)

Wunderkind

 **humanitec**

Agenda

- **Introduction**
- **CNCF News:** Retour sur la Kubecon de Salt Lake City
- **Prochain Meetups**
- **Présentations**
 - **1** ArgoCD Image Updater par Dominique Laberge
 - **2** La scalabilité avec les Custom Metrics par Nathan Kamdem
- **Social:** Discussions

Un grand MERCI !

Université du Québec

Follow Us & Stay Connected



linktr.ee/cloud.native.ca

Présentez lors de nos Meetups !

- **(Virtuel) Tech Talk**
 - CFP link: <https://www.papercall.io/virtual-cncf-eastern-canada>
 - Who: CNCF Ambassadors, CNCF Project Maintainers, community members, sponsors, etc.
 - Focus: cool projects, topics, tools: special guest speakers
 - Durée: 10 à 45 min + Q&A
- **In-Person Meetups**
 - CFP link Montreal: <https://www.papercall.io/cncf-montreal>
 - CFP link Ottawa: <https://www.papercall.io/cncf-ottawa>
 - CFP link Toronto: <https://www.papercall.io/cncf-toronto>
 - CFP link Quebec City: <https://www.papercall.io/cncf-quebec>

Become a Sponsor!



CNCF Events

KubeCons - <https://www.cncf.io/events/>



KubeCon NA 2024

KubeCon NA 2024 Numbers

9,195

Attendees

50.3%

First Timers

1,937

CPF Submissions

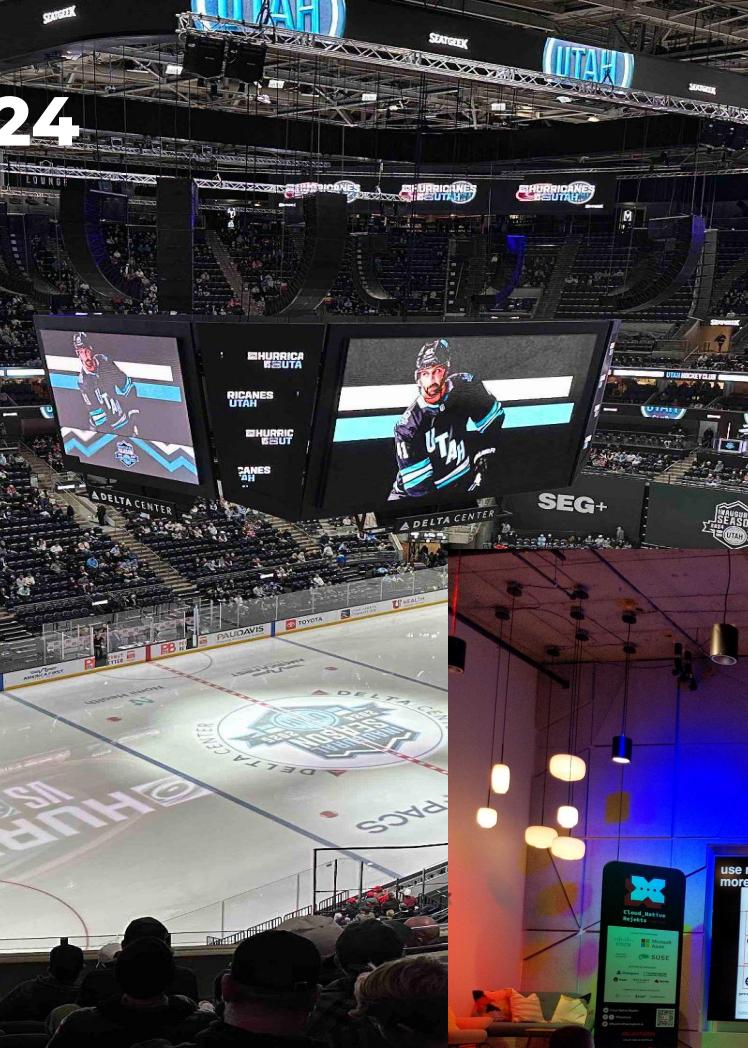
11%

CFP Acceptance Rate

10 Years of K8s



Kubecon NA 2024



Maxime

- Cloud Native Rejekts (2 days)
- AKS Pre-Day (1 day)
- KubeCon (3 days)

- WASM
- Platform Engineering
- Security



Nov 10-11 • Salt Lake City, Utah



Platform Engineering Loves Security: Shift Down to Your Platform, not Left to Your Developers!



Maxime Coquerel
Principal Cloud Security
Architect
Royal Bank of Canada

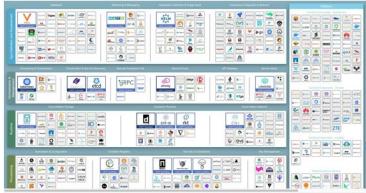


Mathieu Benoit
Customer Success Engineer
Humanitec

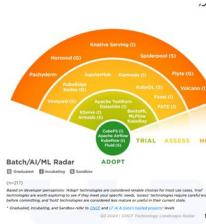
#REJEKTS2024
cloud-native.rejekts.io



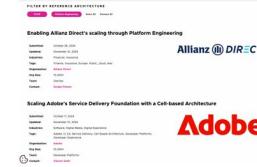
Teddy



Landscape



Tech Radar

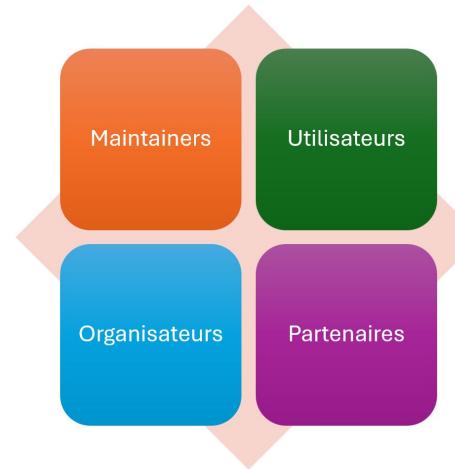


Reference architecture



Cloud native maturity model

- Supporte environ 300 projets open source
 - 29 projets gradués
 - 36 projets en incubation
 - 130 projets sandbox



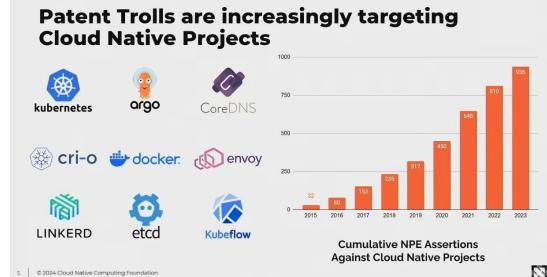
Olivier

- **Premier Kubecon!!!**
- **Platform Day**
 - CNCF Platform Associate / Engineer certification Certification coming soon
<https://training.linuxfoundation.org/platform-engineering-programs/>
- **AI**
 - OPEA [Open Platform for Enterprise AI] is an open platform project that lets you create open, multi-provider, robust, and composable GenAI solutions that harness the best innovation across the ecosystem <https://github.com/opea-project>
 - Envoy AI Gateway <https://github.com/envoyproxy/ai-gateway>
- **Security**
 - Authorization
 - AuthZEN, initiative pour être le standard OIDC pour l'autorisation <https://authzen-interop.net/>
 - Google Zanzibar implémentation (Relationship-Based Access Control (ReBAC))
 - <https://openfga.dev/>
 - <https://www.cerbos.dev/>
 - <https://www.topaz.sh/>
 - Vulnerability Exploitability eXchange (VEX) https://www.youtube.com/watch?v=-9_r-Cg4A6Y
- **OpenTelemetry**
 - [Exemplars](#)
 - [OpenTelemetry Transformation Language \(OTTL\)](#)
- **Microsoft Hyperlight** Rust library you can use to execute small, embedded functions using hypervisor-based protection
- **Keycloak terraform provider** maintenant maintenu par Keycloak
- **Istio Ambient Mesh GA**
- **Kueue**
- Communauté et plus



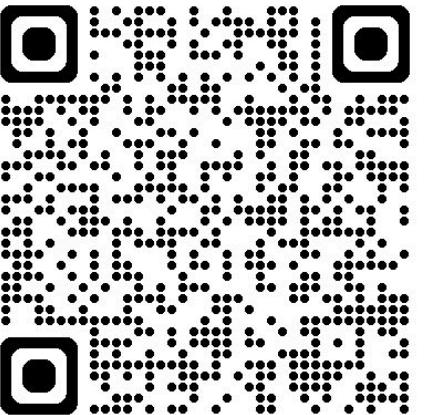
Sebastien

- **Patent Trolls:** le nouveau danger qui plane sur l'OpenSource
 - **AI:** scored top buzzword and number of projects :)
Optimizer et executer des workload batch sur K8s (Kueue), operer et scaler les LLMs
 - **eBPF:** still a high focus
 - **Platform Engineering:** Faciliter la vie des équipes qui opèrent l'infrastructure et accélérer les autres équipes.
 - **Going green and optimizing costs:** éco-conscience de l'empreinte energetique de l'IA et optimisation (Kepler, KubeGreen)



Mathieu

Platform Engineering at KubeCon NA
2024 in Salt Lake City



score

Backstage



sigstore



Local Community

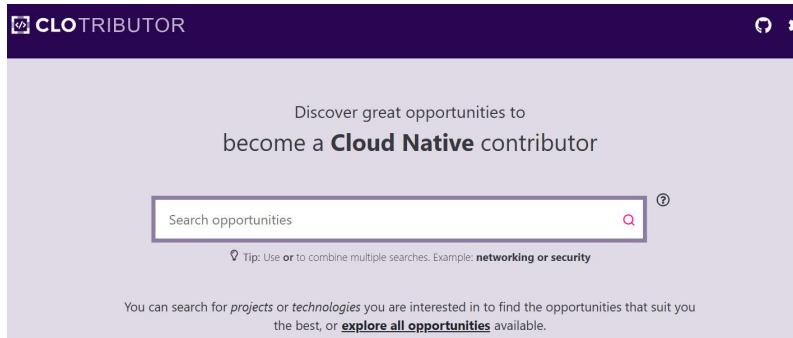
Some contents from our very own local community!

- Code

- [Release argo-cd-7.6.4 · argoproj/argo-helm | Dominique Laberge](#)
- [Pull requests · meshery/meshery | Mathieu Evrin](#)
- [Release v0.4.0 · kubecolor/kubecolor | Sebastien Thomas](#)
- [Release 0.1.10 · score-spec/score-k8s | Mathieu Benoit](#)

- Blogs

- [KubeCon NA 2024: Future of Cloud Native: WASM, Platform Engineering, Security | Maxime Coquerel](#)
- [Platform Engineering at KubeCon NA 2024 in Salt Lake City | Mathieu Benoit](#)



CNCF Projects Update

News

- **Jaeger v2 (Graduated):** OpenTelemetry in its core ([link](#))
- **KubeVirt v1.4 (Incubating):** brought network hotplug, common instance types, NUMA topology support, and GPU assignment to GA
- **Keycloak 26 (Incubating):** full support for organisations, TLS server certificates hot-reloading, persistent session storage, advanced high availability, and OpenTelemetry tracing
- **Prometheus 3.0 (Graduated):** new UI, Remote Write 2.0, native histograms, and better OpenTelemetry protocol support (now released)
- **Cloud Native Heroes Challenge:** a special bounty program welcoming everyone from the community to help save CNCF software from patent trolls by contributing so-called “prior art”

Changement

- **Dons à la CNCF:**
 - Podman, Buildah, & Skopeo
 - Podman Desktop
 - Bootc
- **Formations / Certifications**
 - Certified Backstage Associate (CBA)
 - OpenTelemetry Certified Associate (OTCA)
 - Kyverno Certified Associate (KCA)
 - Certified Cloud Native Platform Engineer (CNPE)



Présentations

Présentation 1



ArgoCD Image Updater

Dominique Laberge

Présentation 2



La scalabilité avec les Custom Metrics

Nathan Kamdem

Comment exploiter la puissance des Custom Metrics dans Kubernetes pour atteindre une scalabilité optimale de vos applications.

Comment surveiller et collecter des métriques avancées, pour parvenir à des mises à l'échelle intelligentes et personnalisées grâce à un exemple concret et des bonnes pratiques.

Swag !

Scan, Register, Win Sawg !



<https://forms.gle/SAEec1bSNc9aKyT8>

Social Networking

Merci !
Thank you!