KubeCon
CloudNativeCon
North America 2023

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North America 2023

Releasing Kubernetes and Beyond: Flexible and Fast Delivery of Packages

@puerco

@gracenng

@sontek

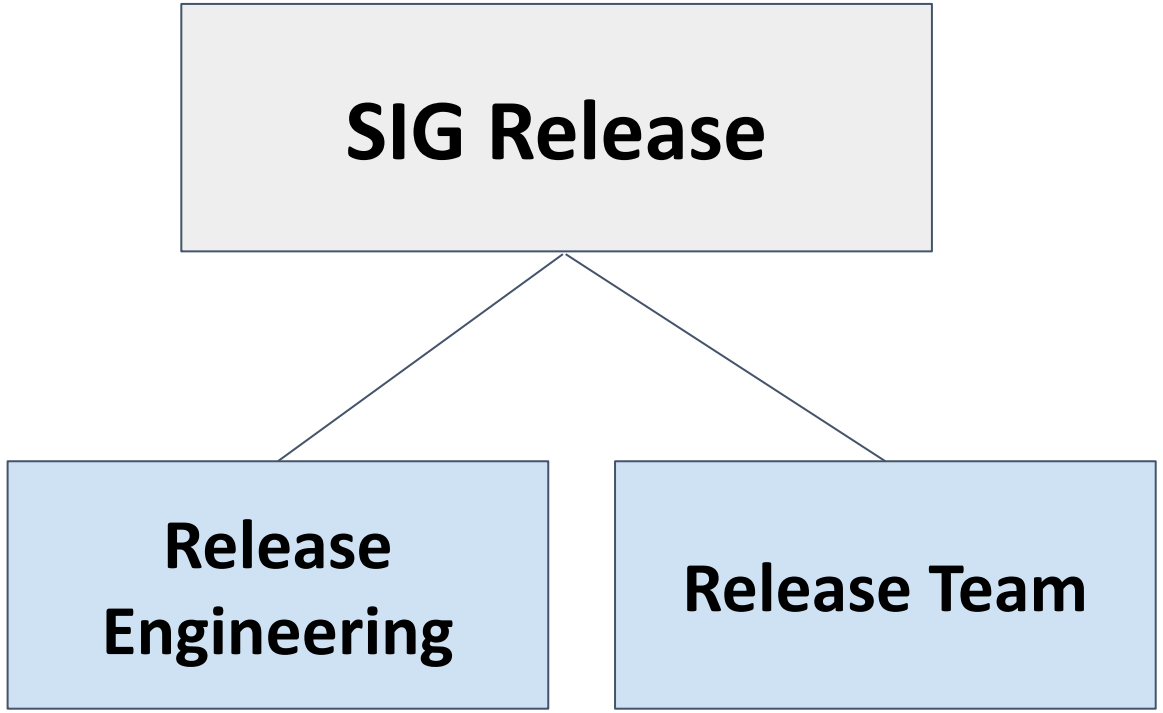
About SIG Release

What is SIG Release?

The Release Special Interest Group groups together contributors working to cut the Kubernetes release every release cycle.

Our mission:

> *"Establish a consumable, introspectable, and secure supply chain for Kubernetes. As a supply chain we understand the defining, building and publishing of Kubernetes related artifacts."*



https://github.com/kubernetes/sig-release

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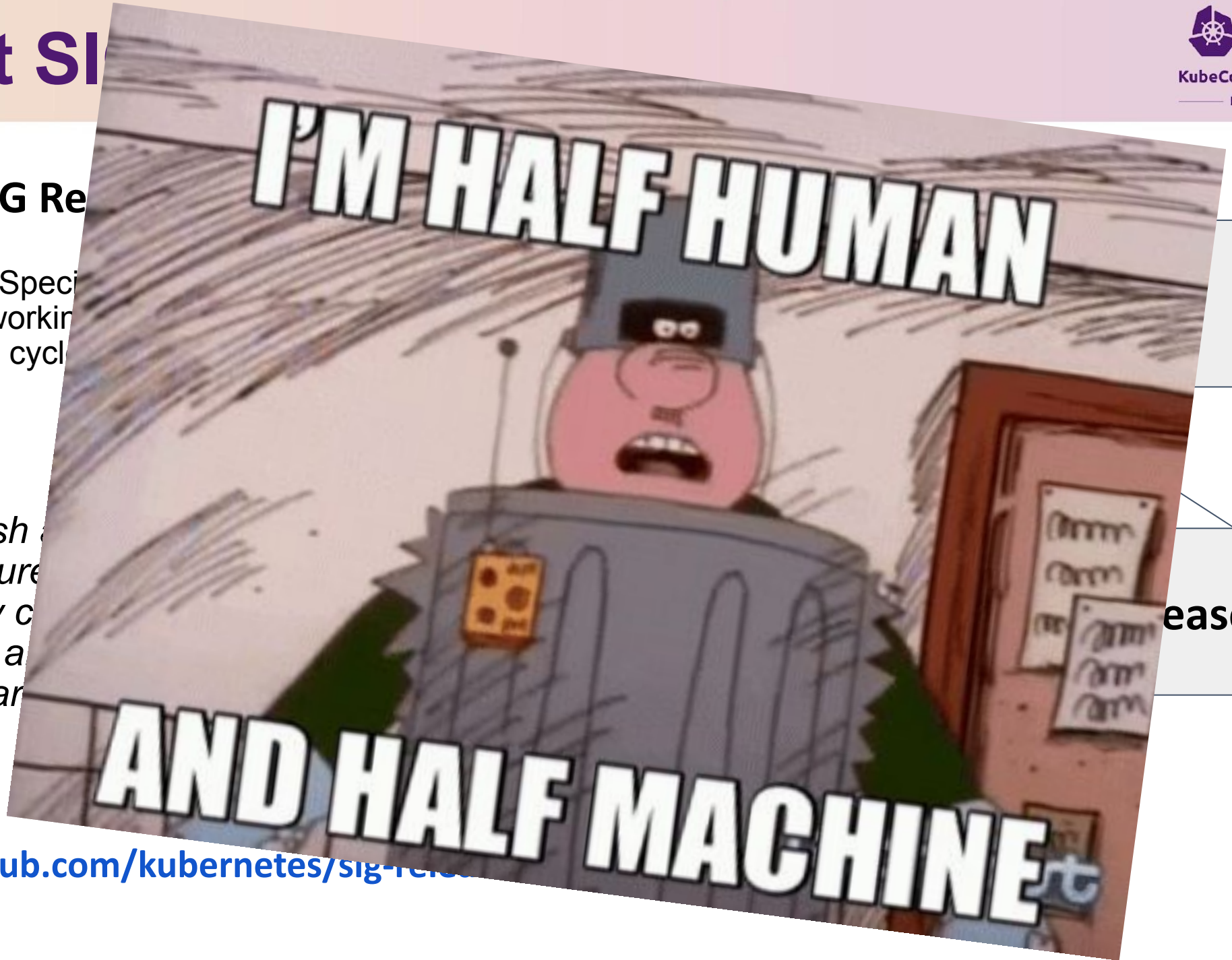


Release Engineering

What is Release Engineering?

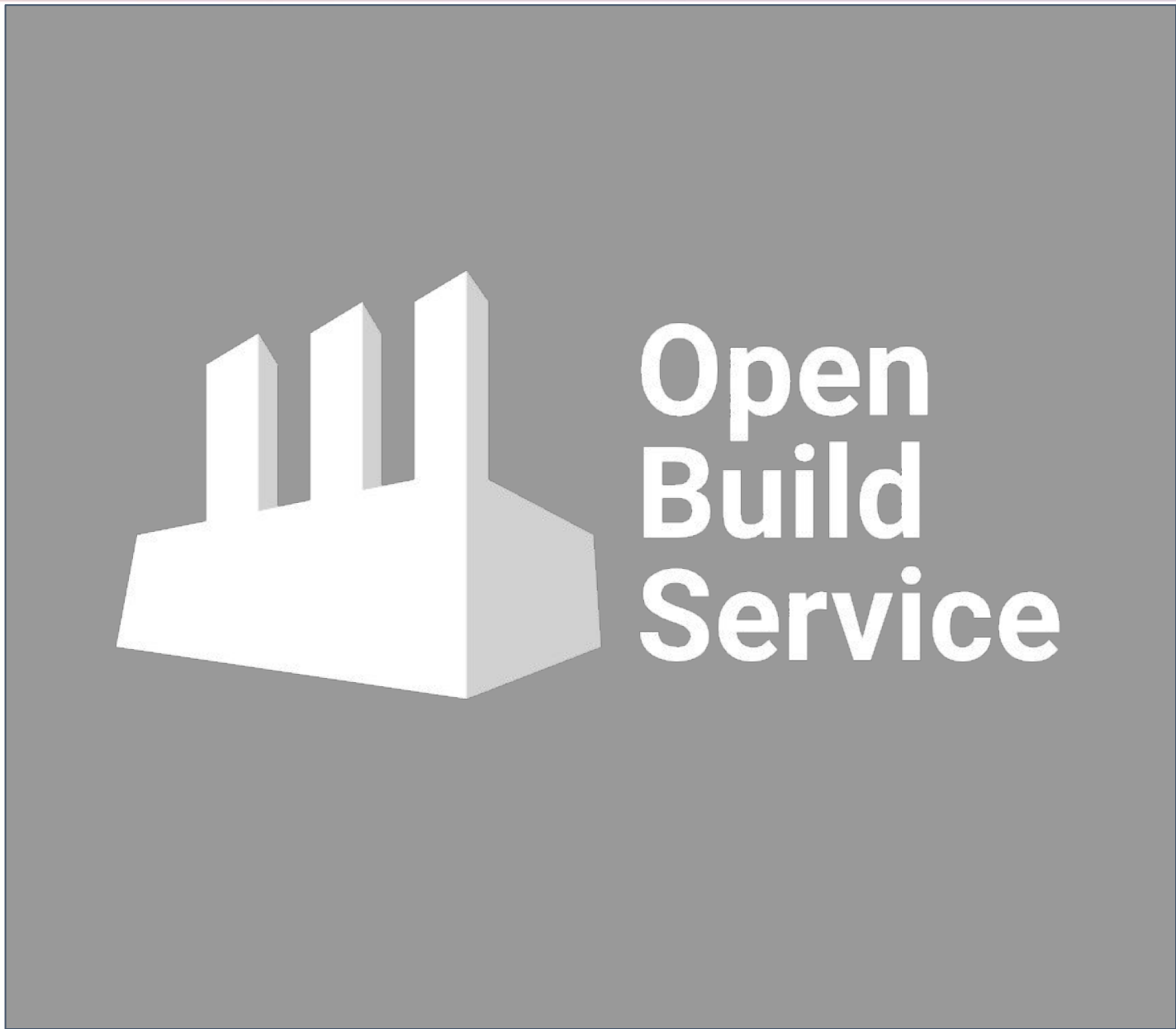
The RelEng subproject of SIG Release that handles the tooling and processes to release Kubernetes every month.

- Runs the Release Management Team
- Software and processes that build Kubernetes
- Software and processes that publish the release artifacts
- RelEng handles supply chain security features

Release Engineering

New: OBS Builds!

Operating system packages (.rpm and .deb) are now fully built in community controlled environments.



Release Engineering

New: OBS Builds!

Release Engineering

Then: The Release Process in 3 Vignettes

Release Engineering

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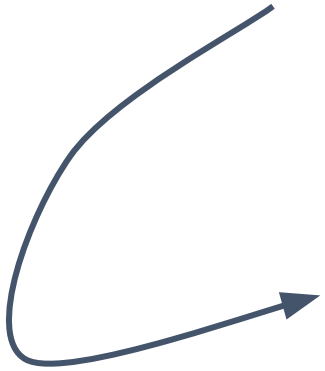
The stage step builds all release artifacts::

- Container Images
- Binaries
- Sources
- Tarballs

Except: OS Packages

Release Engineering

Then: The Release Process in 3 Vignettes



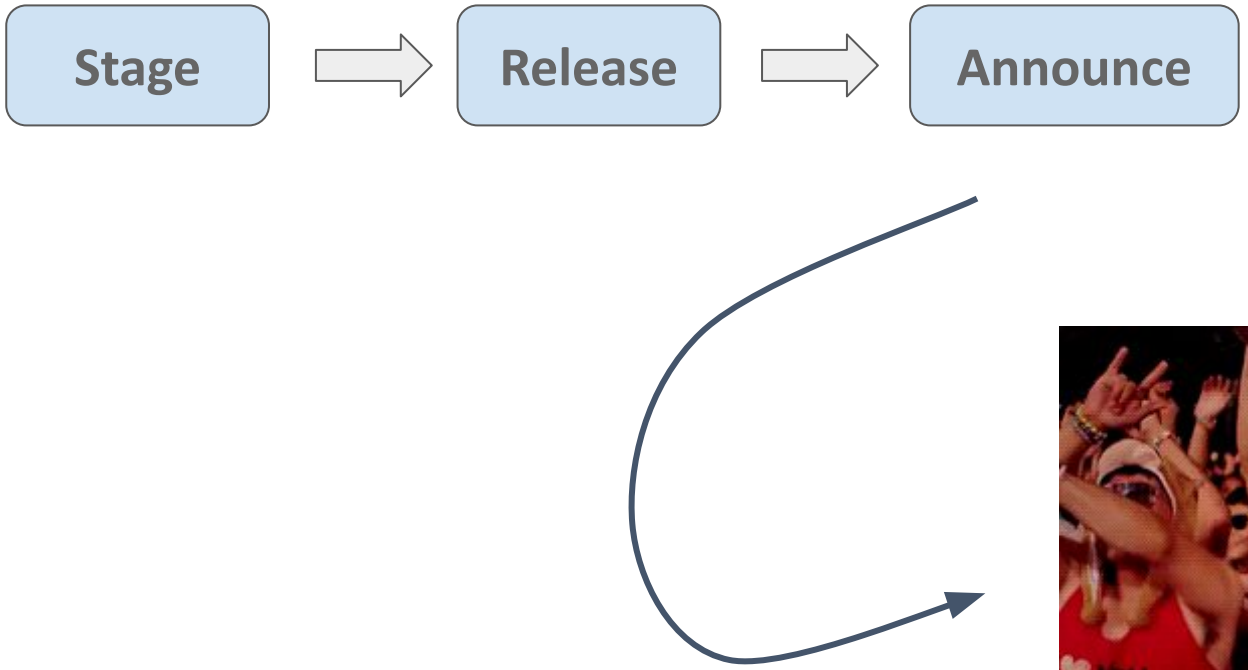
Publish artifacts to final locations

- Images to registry*
- Binaries to bucket
- Git objects to github

Except: OS Packages

Release Engineering

Then: The Release Process in 3 Vignettes



Release Engineering

Then: The Google Build Admin Detour

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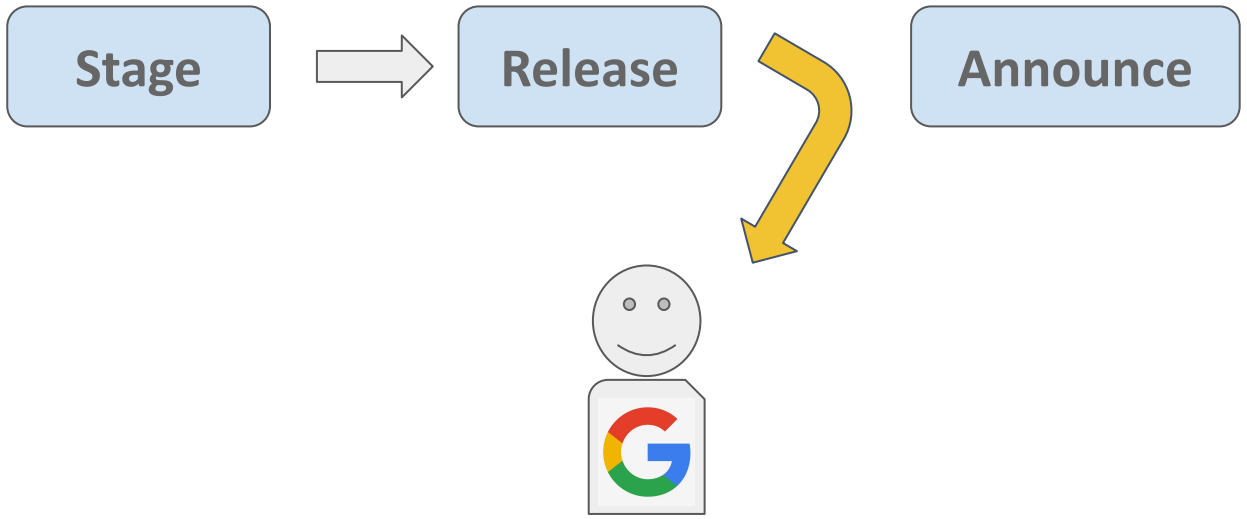

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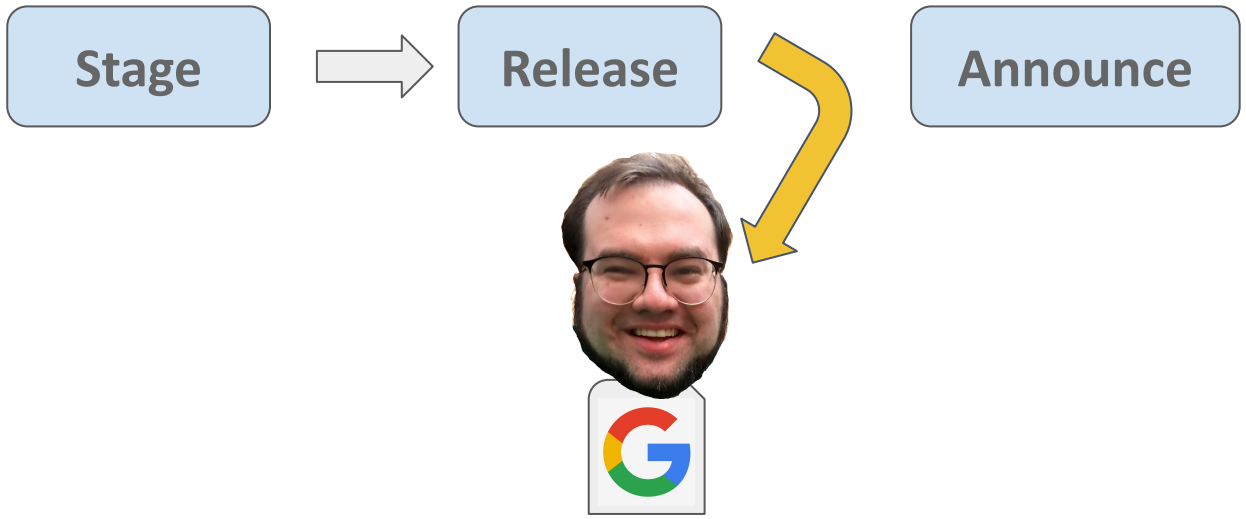

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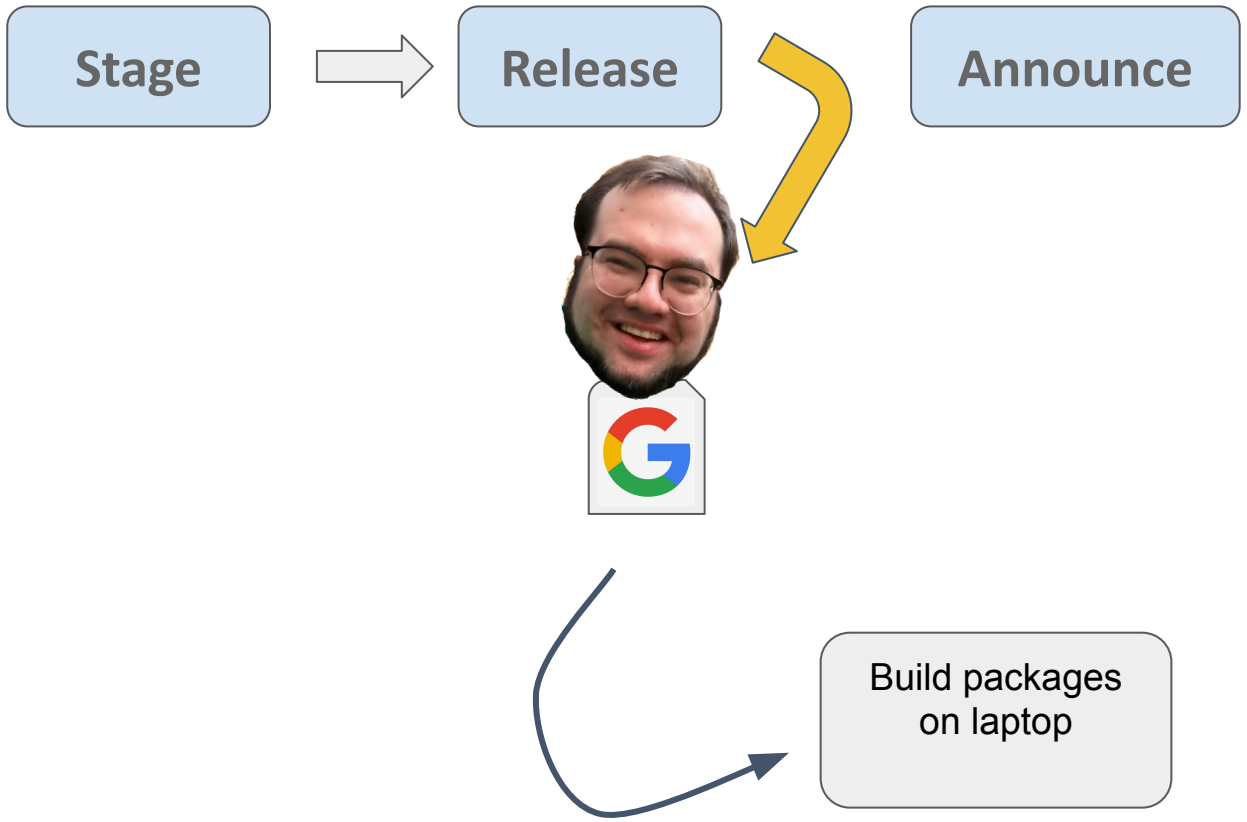

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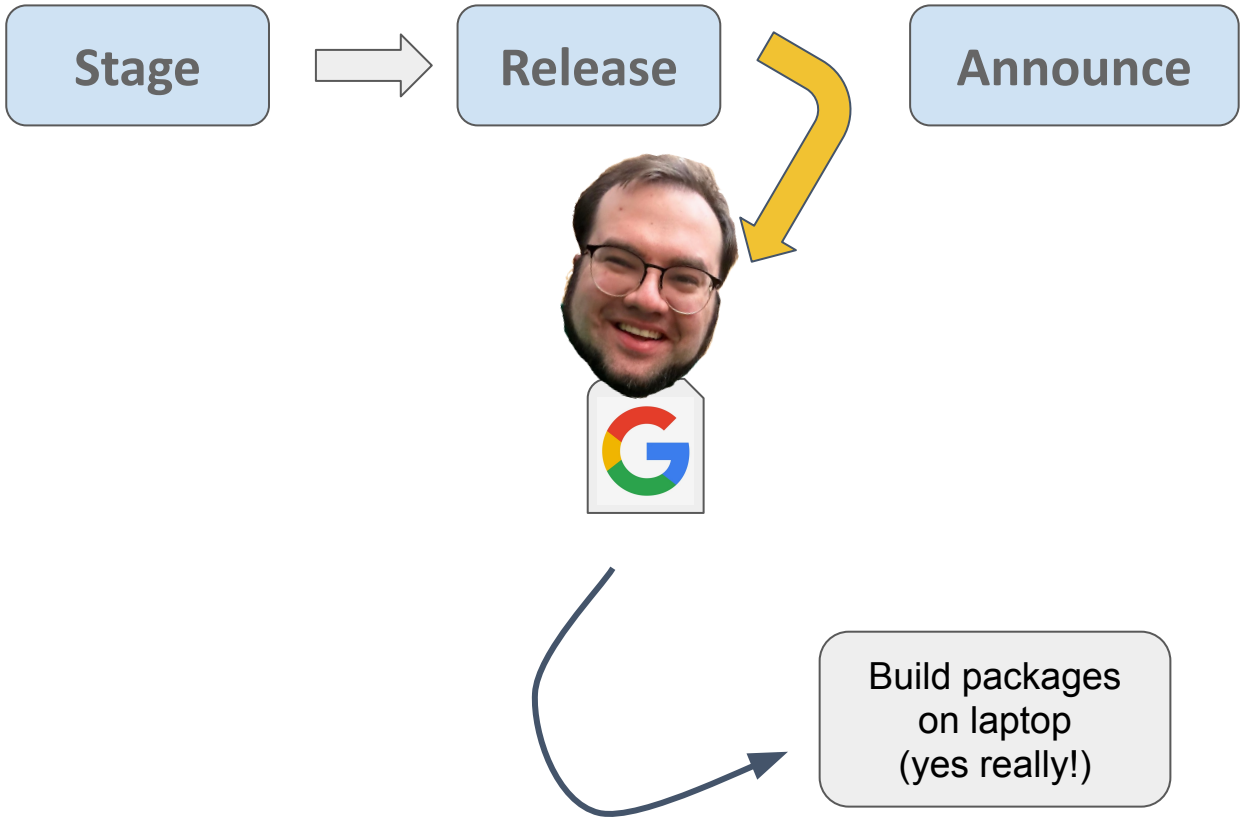

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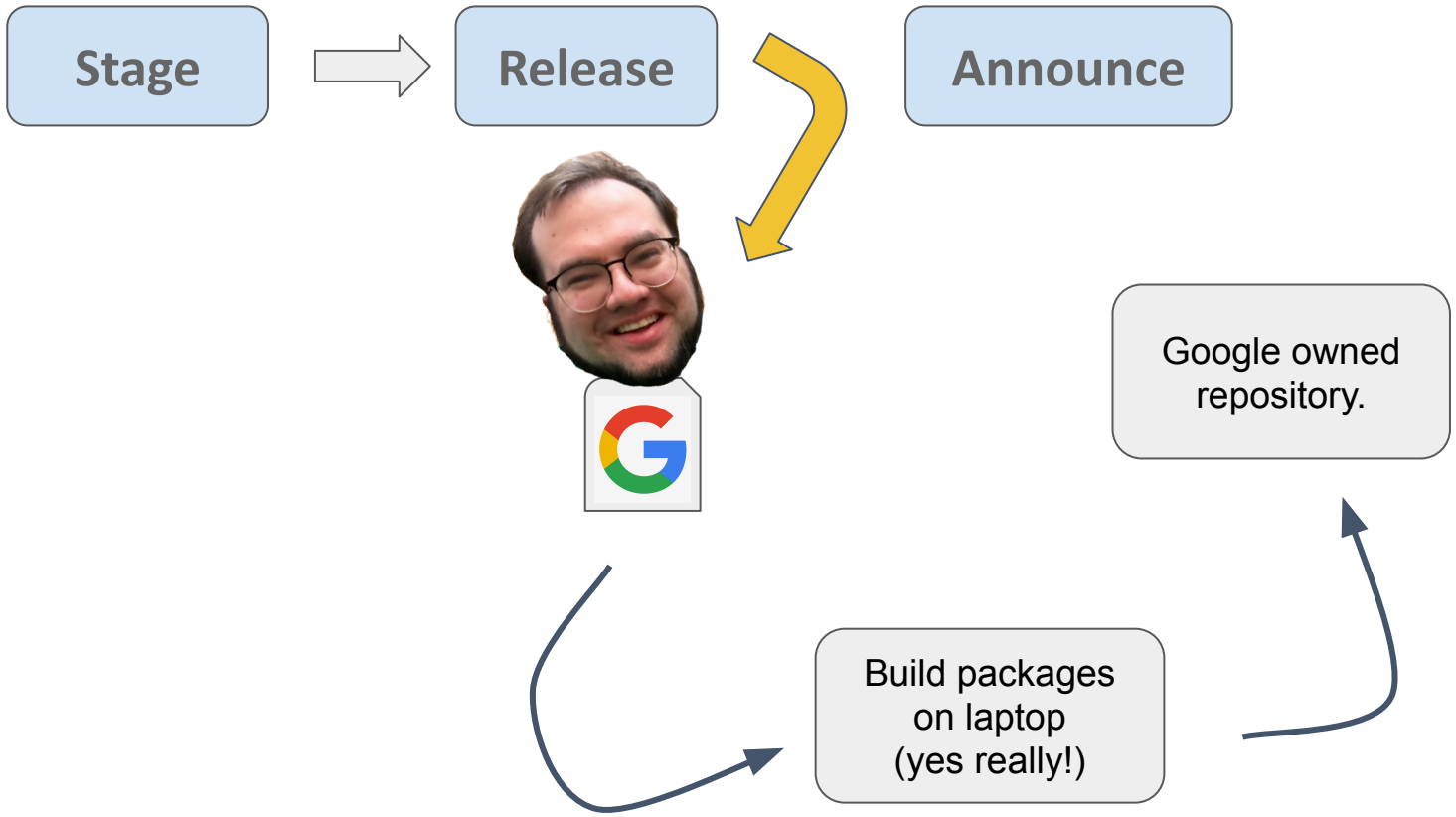

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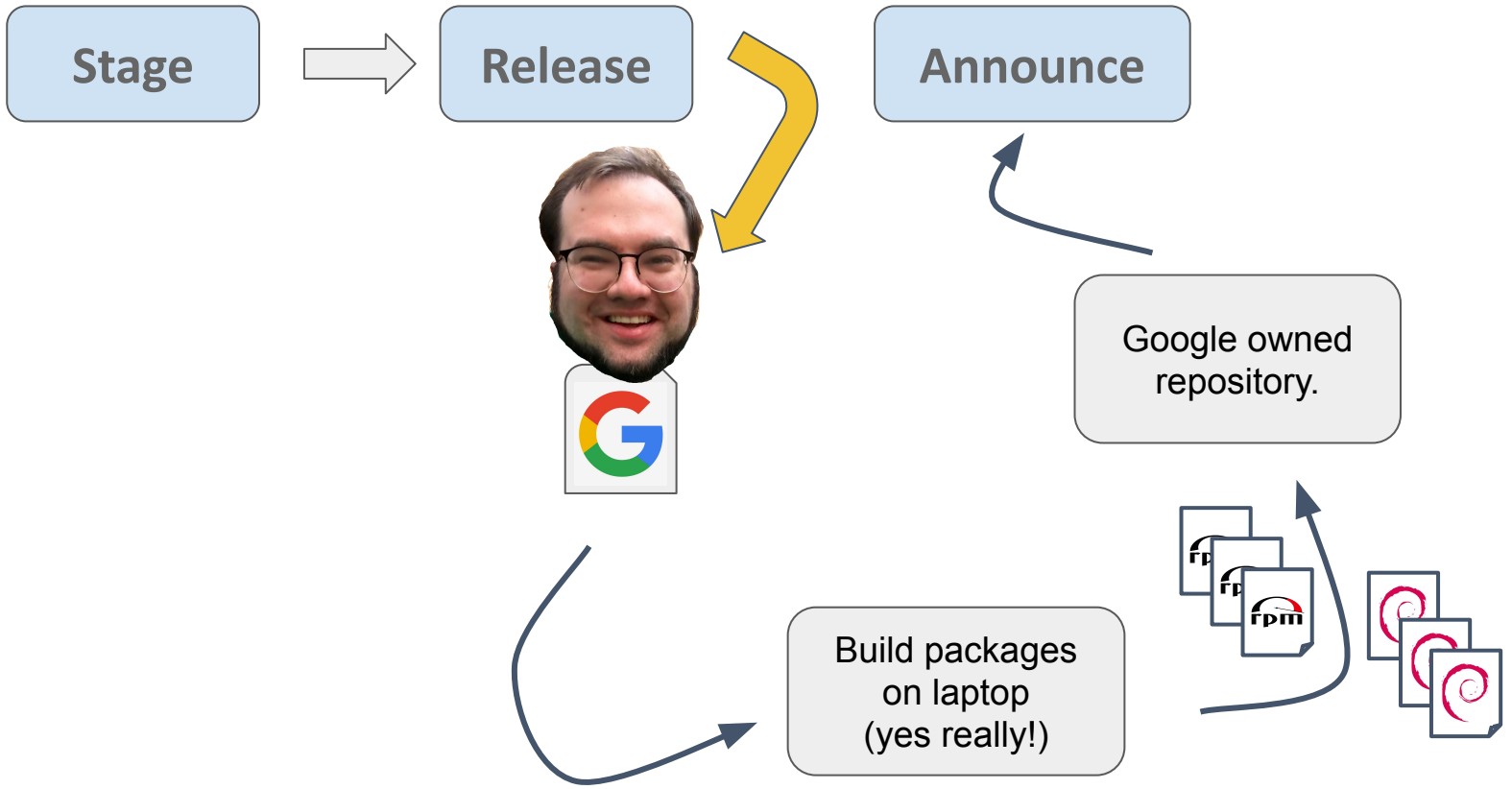

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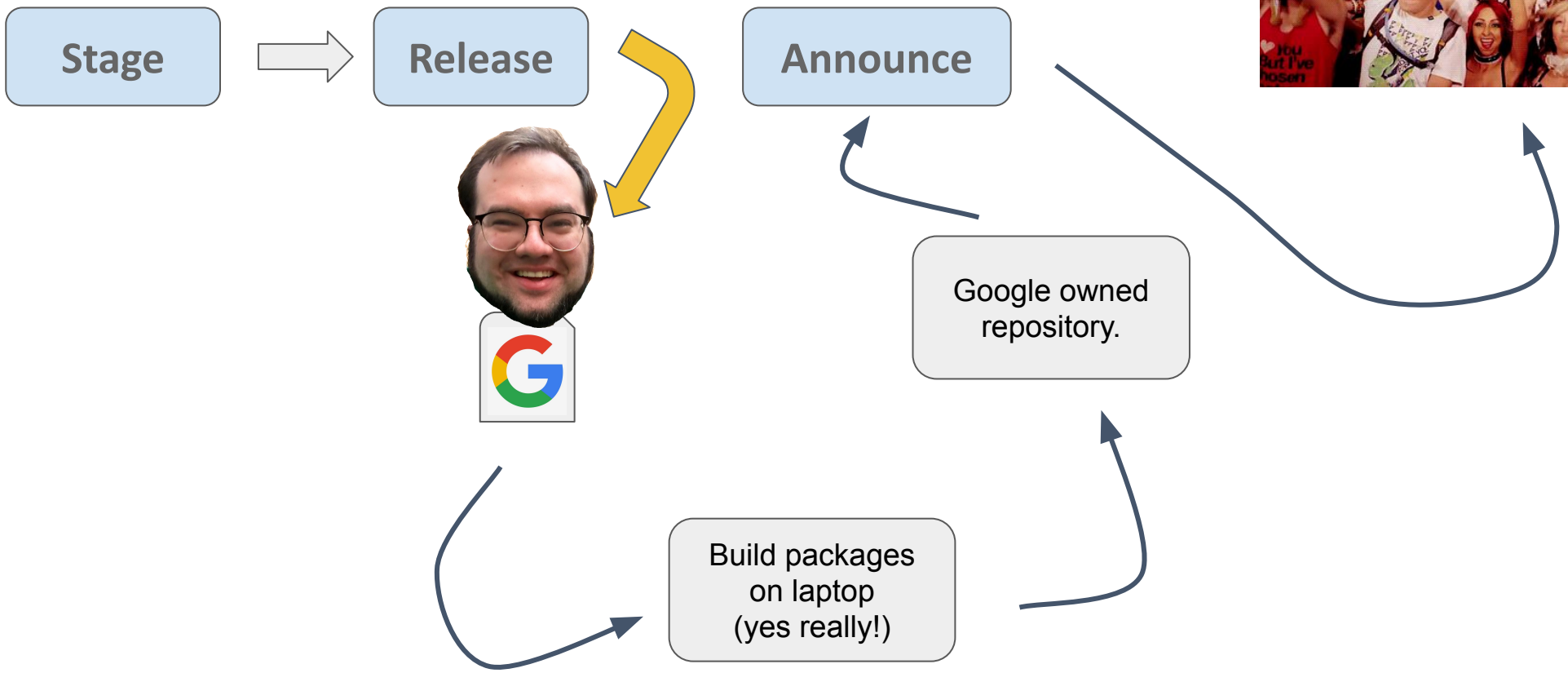

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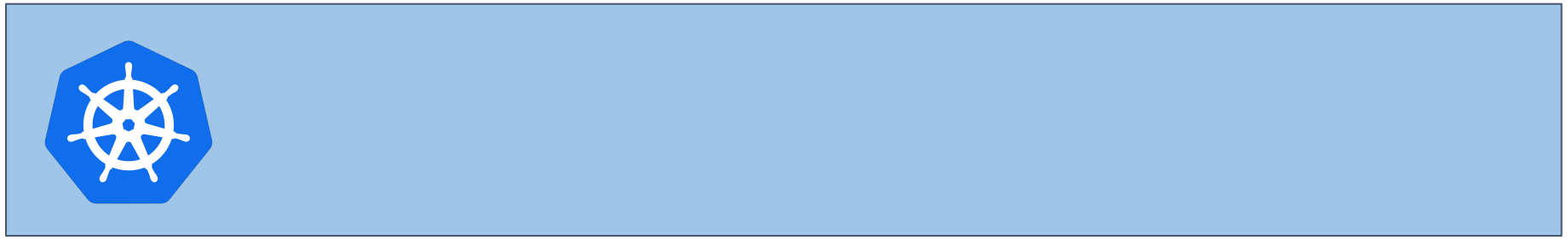
Now: Package Builds in Community Controlled OBS Infra



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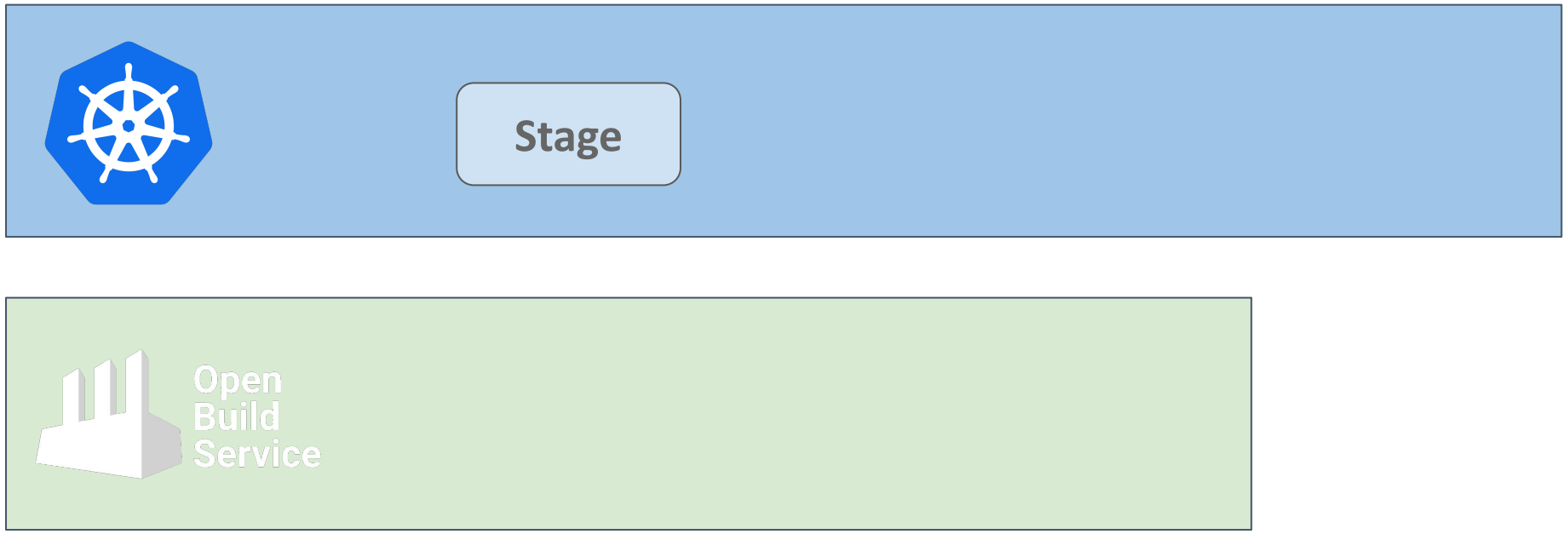

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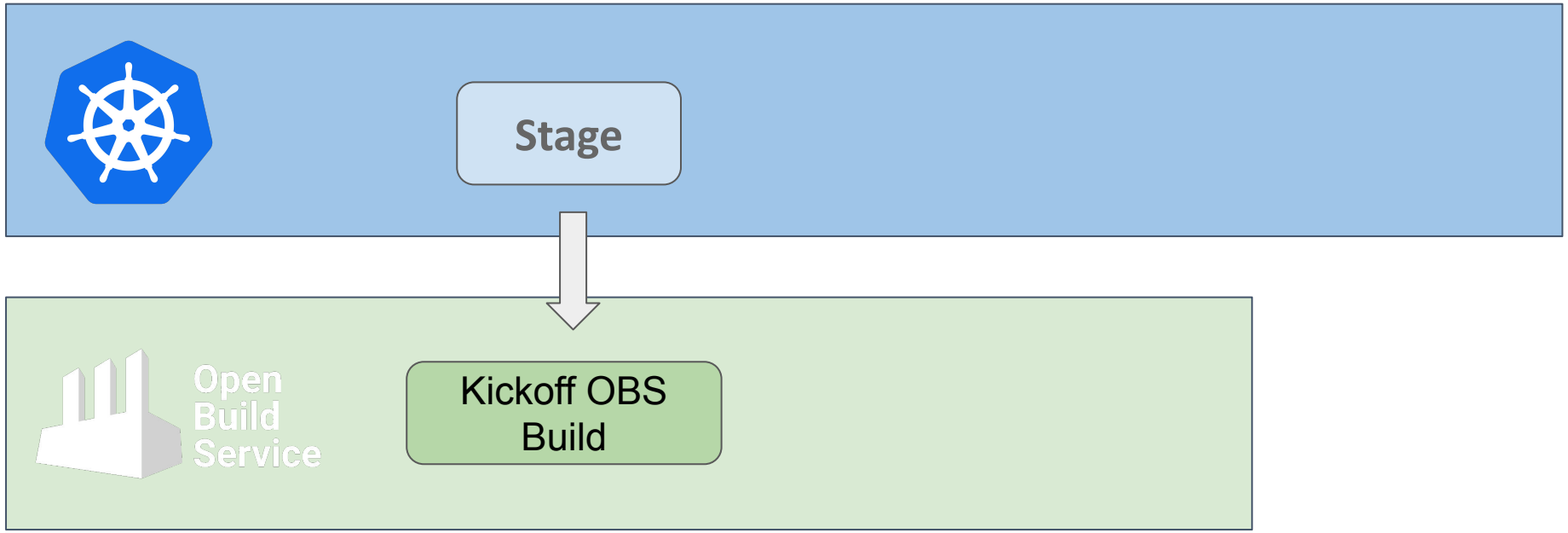

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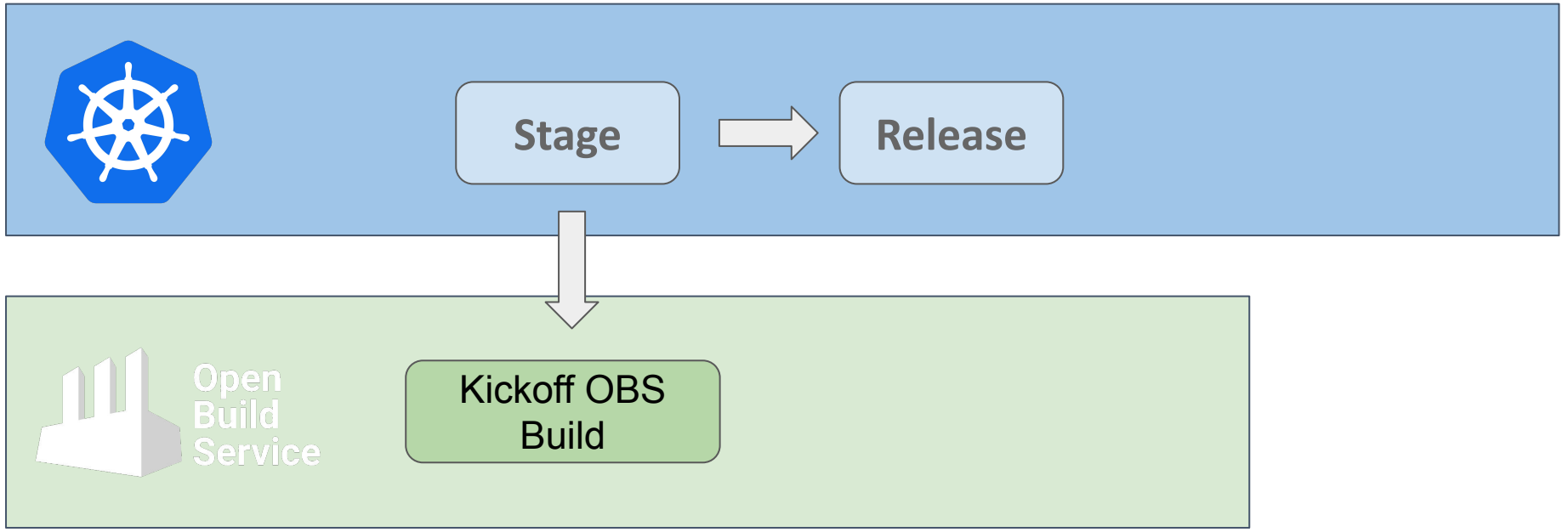

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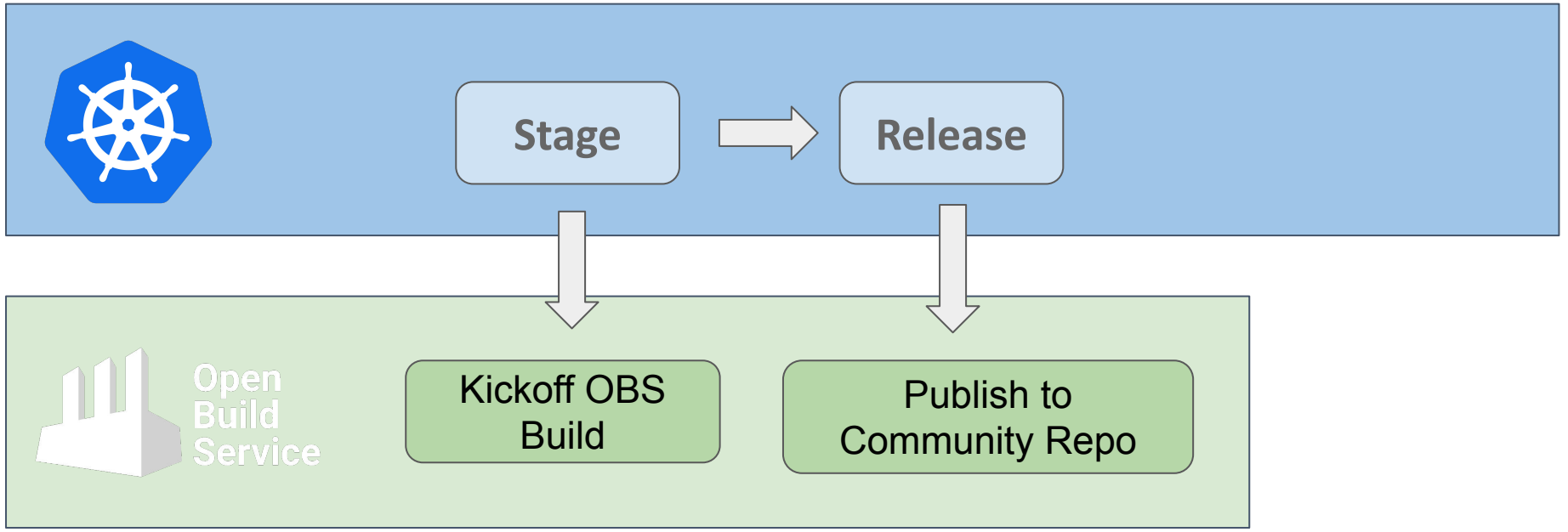

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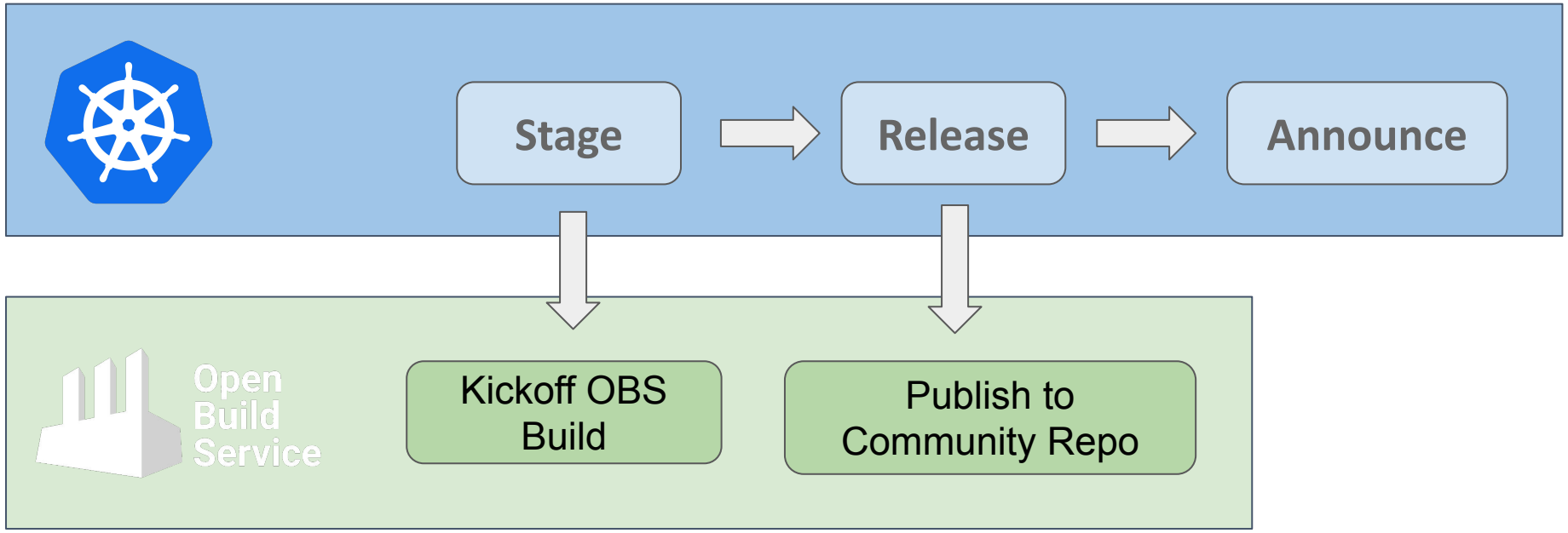

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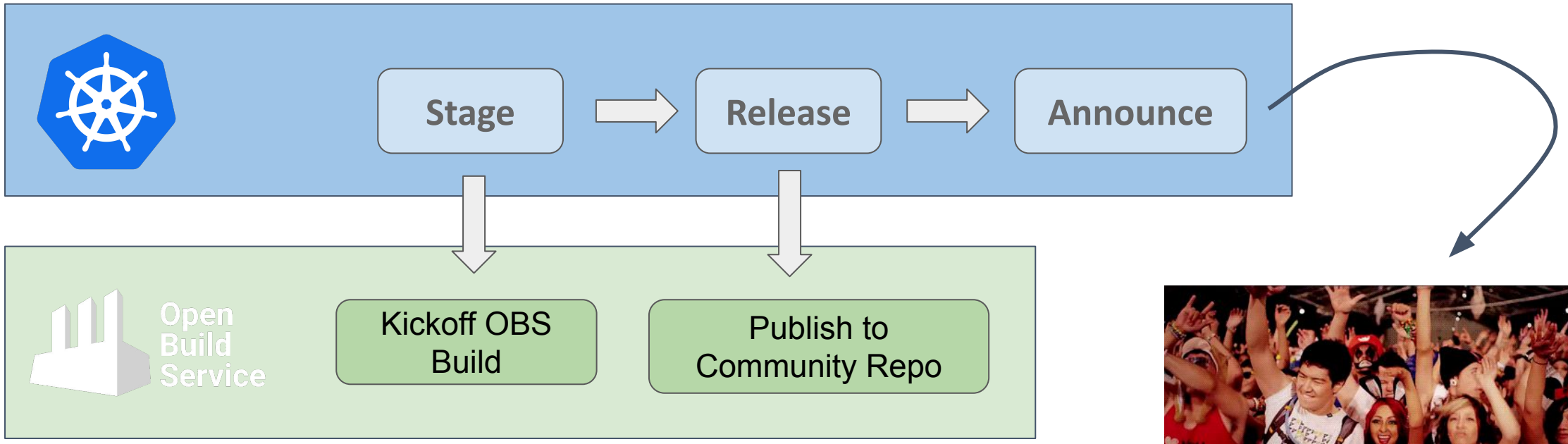

Release Engineering

New: OBS Builds!

Benefits

1. No dependency on googlers' free time and Google infrastructure
2. Automated process
3. Signing key is now owned by the community
4. Better life quality for Release Managers 🎉

Challenges

1. Key rotation
2. Communications
3. Time sensitive implementation

Release Engineering

New: OBS Builds!

Thanks!

Benefits

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Release Engineering

Other Highlights from The Past Six months

Development

1. LFX Mentorship participation
2. Stabilization of release tooling, release tool artifacts
3. kubepkg and rapture are gone
4. Make k8s artifacts more easily consumable by serving checksum files.
5. Help ohter kubernetes projects move to OBS builds
6. Working on fully release automation of projects like cri-tools (binary publishing and package creation)
7. bom can now index rpm and distroless images, plus license reporting

Maintenance Work!

Lots of work maintaining the tooling and codebase:

- Keeping golang up to date
- Update of base images to Debian bookworm
- managing updates

.. and of course cutting the Kubernetes releases.

Release Team - Where we're at

- v1.28 released in August
  - 3 version skew between control plane and node instead of 2
  - API awareness of sidecar containers (alpha)
  - See more

- v1.29 comes out on December 5th
  - Mid-cycle blog post-Kubecon

Release Team - What's new

- Subteams: Enhancements, **CI Signal, Bug Triage**, Docs, Comms, Release Notes

- Github project board in-use for multiple releases
- v1.30 merging CI Signal and Bug Triage into Release Signal team
- Working on a process guideline regarding removing inactive release team member

Release Team - What's new

- SIG Docs and RT Docs/Comms team collaboration:
  - Guidance checklist for Release Docs Leads and Shadows when reporting on weekly status
- Working on automating docs branch sync

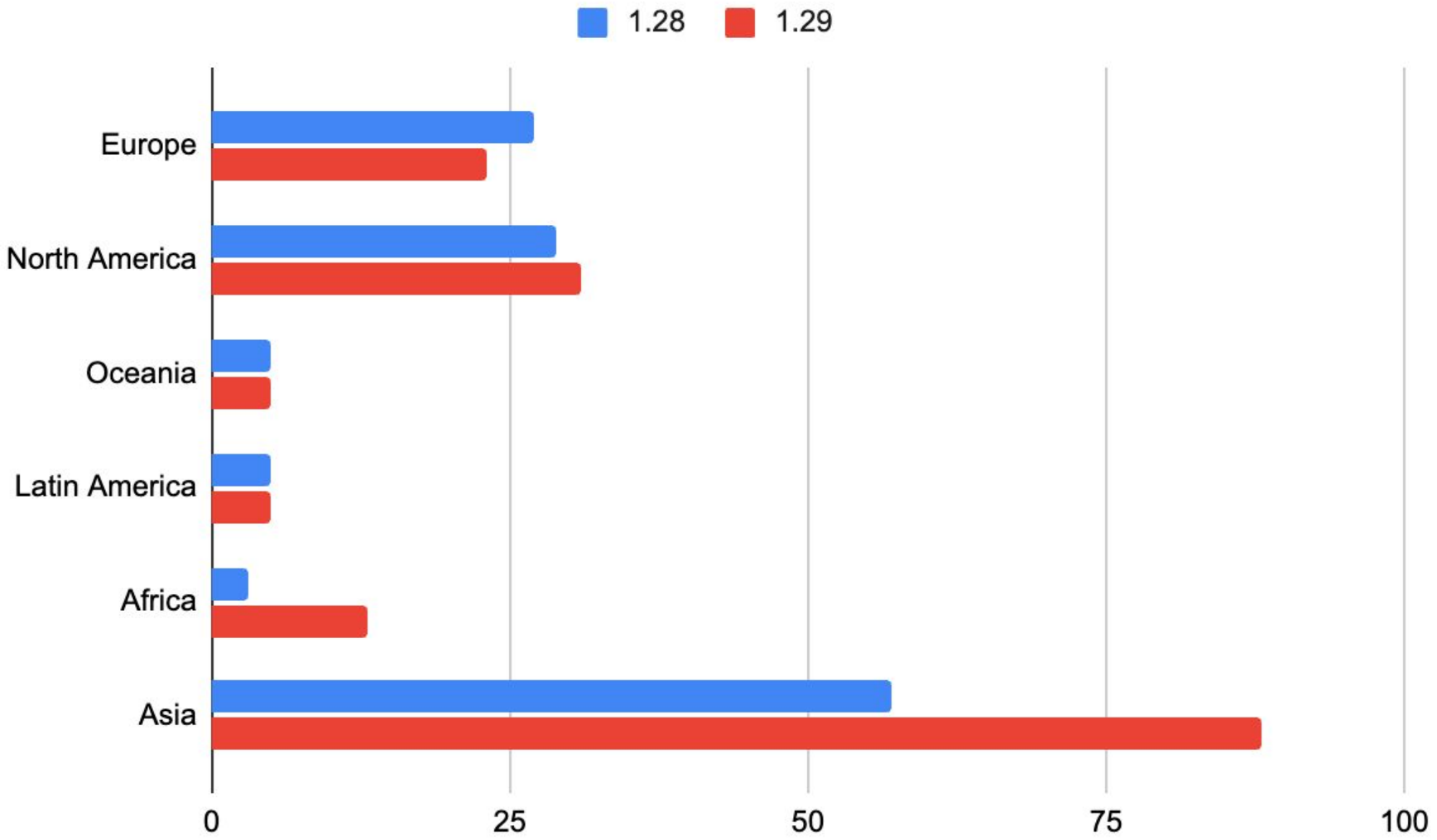
Release Team - Become a Shadow!

- Volunteer driven. We can’t expect people to be part of every release.
- Time commitment different per team (minimum a few hours per week)
- Looking for passion for contributing to open-source
- Don’t contact SIG leaders directly!

Release Team - Not selected?

- We are very lucky as a project
- Acceptance rate for v1.28:
  - New applicants: 16.6%
  - Return shadows: 55%
- If you're not selected:
  - Review our release docs and blogs (mid-cycle, features, announcement)
    - Check them out here
  - Contribute to other SIGs/ TAG/ CNCF projects
  - Apply again!

Applicant Statistics

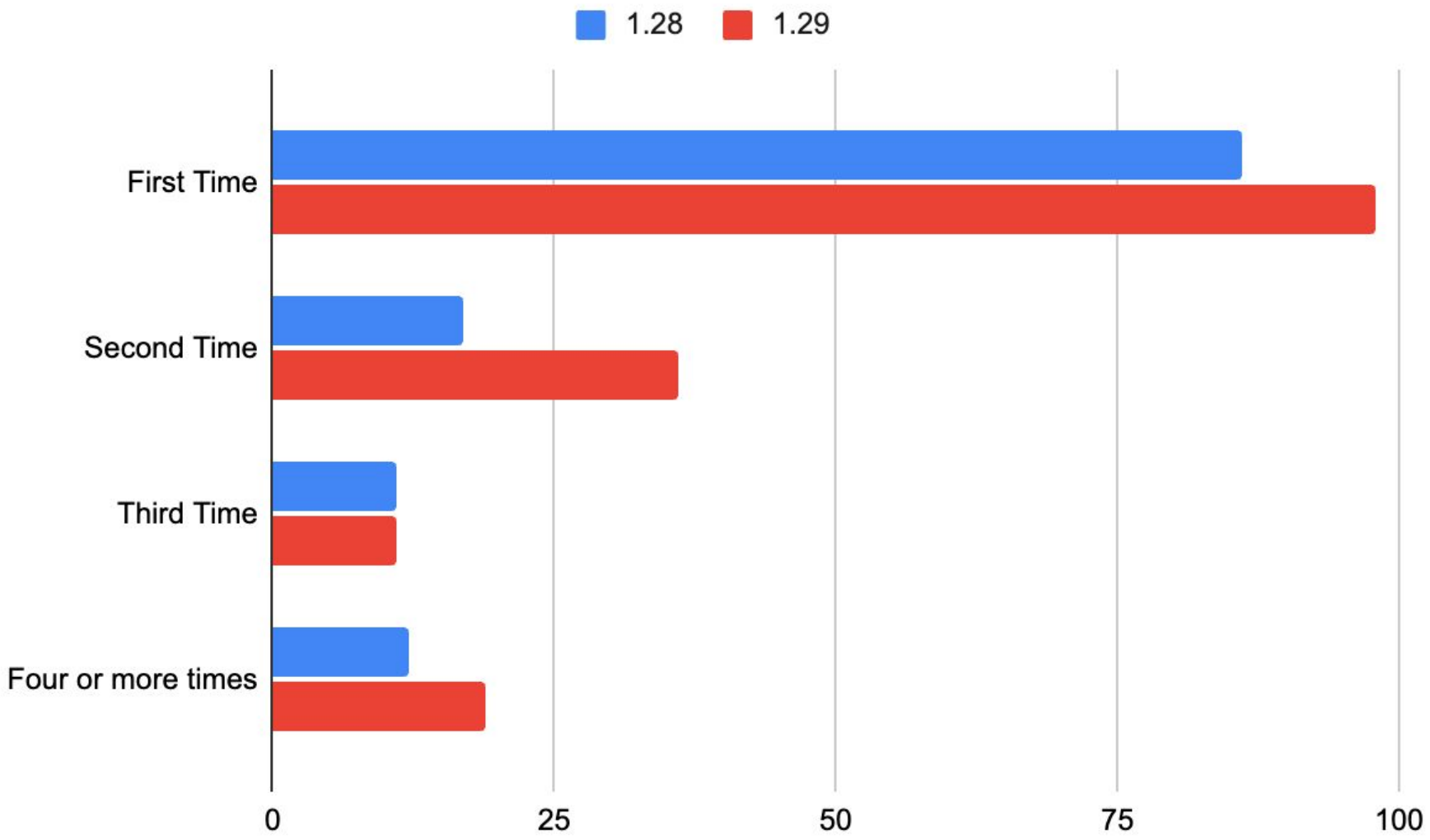


Total

v1.28: 126

v1.29: 165

Applicant Statistics



Join us!

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SIG Release Needs You!

- Join our weekly call on Tuesdays!
  https://github.com/kubernetes/sig-release
  #sig-release on kubernetes slack

- Main SIG Release repository
  https://github.com/kubernetes/sig-release
- Kubernetes bom:
  https://sigs.k8s.io/bom
- Kubernetes tejolote:
  https://sigs.k8s.io/tejolote
  https://github.com/puerco/tejolote
- Release Actions:
  https://github.com/puerco/release-actions

Questions? Ping Us!

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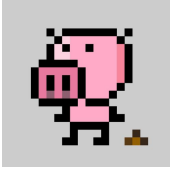

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