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Europe 2023



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Europe 2023

Wildfires, Firefighters and Sustainability Learnings from Mitigating Kubernetes Fires in the Community

Nabarun Pal & Madhav Jivrajani, VMware



Code of Conduct

Remember the **Golden Rule**: Treat others as you would want to be treated - with kindness and respect

Scan the QR code to access and review the **CNCF Code of Conduct**:



Virtual Audience Closed Captioning

Closed captioning for the virtual audience is available during each session through [Wordly](#).  The [Wordly](#) functionality can be found under the “Translations” tab on the session page.

[Wordly](#) will default to English. If another language is needed, simply click the dropdown at the bottom of the “Translations” tab and choose from one of 26+ languages available so you don’t miss a beat from our presenters.

*Note: Closed captioning is ONLY available during the scheduled live sessions and will not be available for the recordings on-demand within the virtual conference platform.

Who Are We?



Madhav Jivrajani
@MadhavJivrajani

Kubernetes SIG ContribEx Technical Lead



Nabarun Pal
@theonlynabarun

Kubernetes Steering Committee / SIG ContribEx Chair

Before We Start...



@MadhavJivrajani & @theonlynabarun

registry.k8s.io is GA!



⚠️ ❄️ k8s.gcr.io is frozen ❄️ ⚠️

More info on
<https://k8s.io/image-registry-redirect>

Also see: [k8s.gcr.io Redirect to registry.k8s.io - What You Need to Know](#)

Agenda

- Timeline of a Kubernetes Release
- Introduction and Setting the context
- Why were the releases delayed?
- What went right?
- What could be done better?
- Takeaways

Prelude: Timeline of a Kubernetes Release

Cadence: Every ~4 months

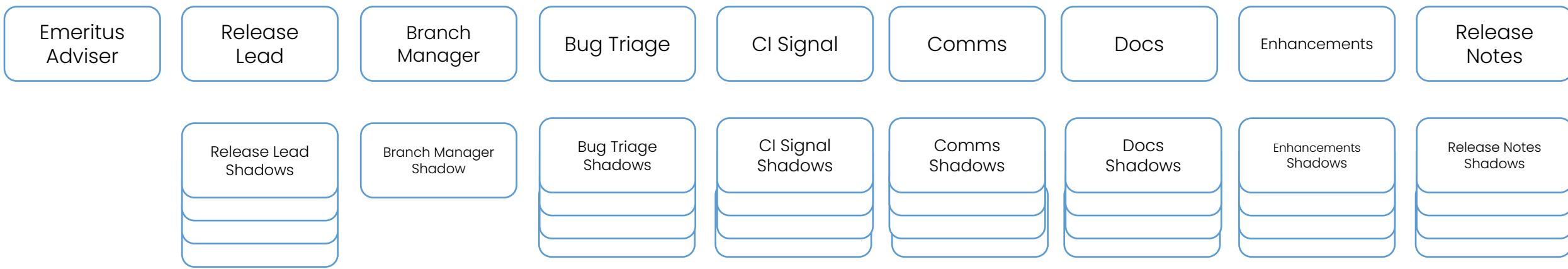


Prelude: Timeline of a Kubernetes Release

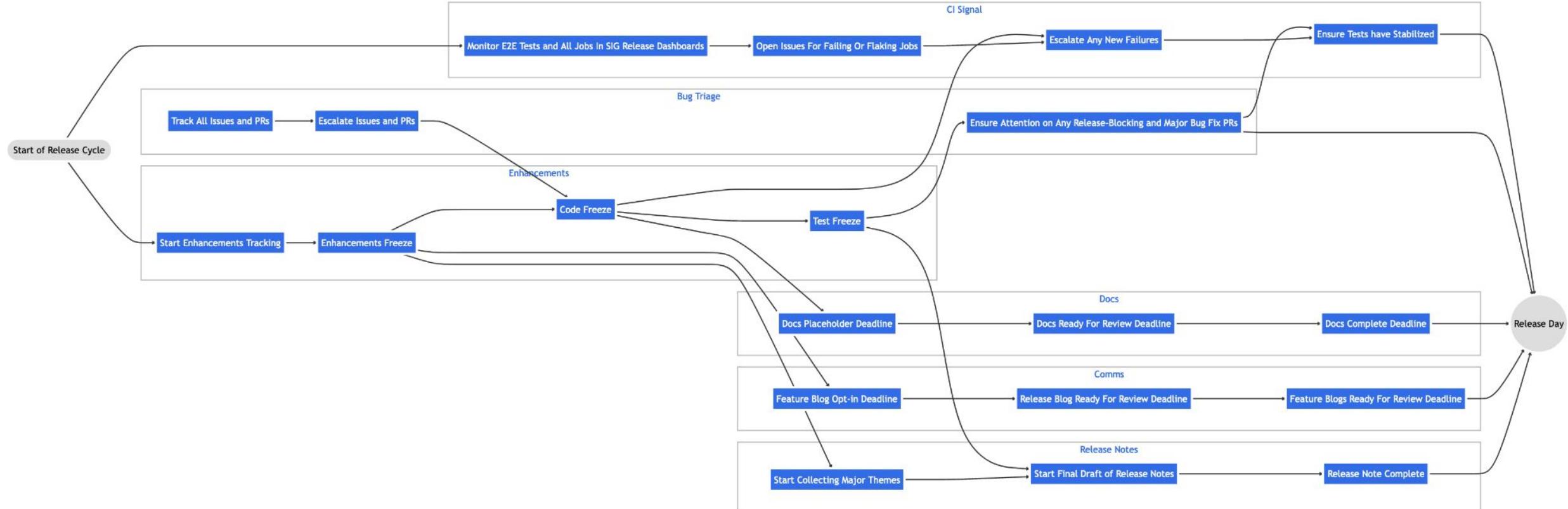
Elaborate song and dance of People and Processes



Prelude: Timeline of a Kubernetes Release



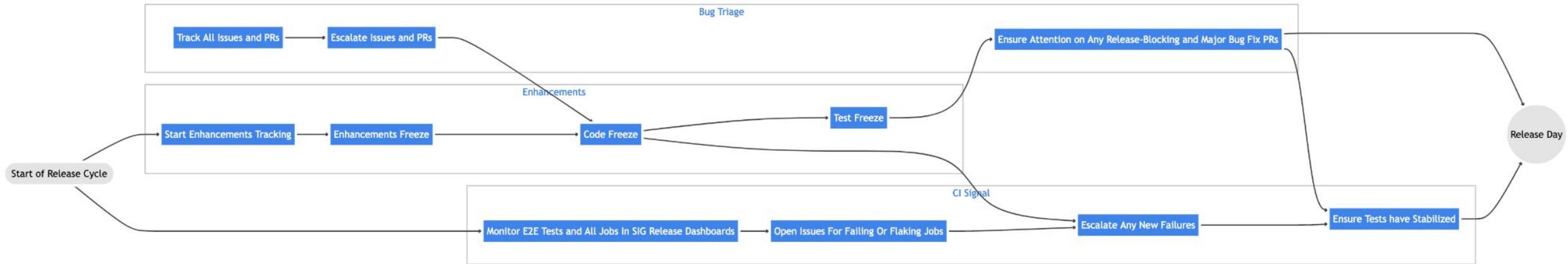
Prelude: Timeline of a Kubernetes Release



Prelude: Timeline of a Kubernetes Release



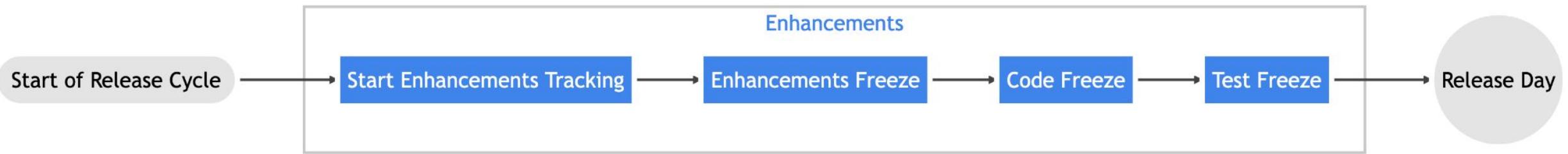
Prelude: Timeline of a Kubernetes Release



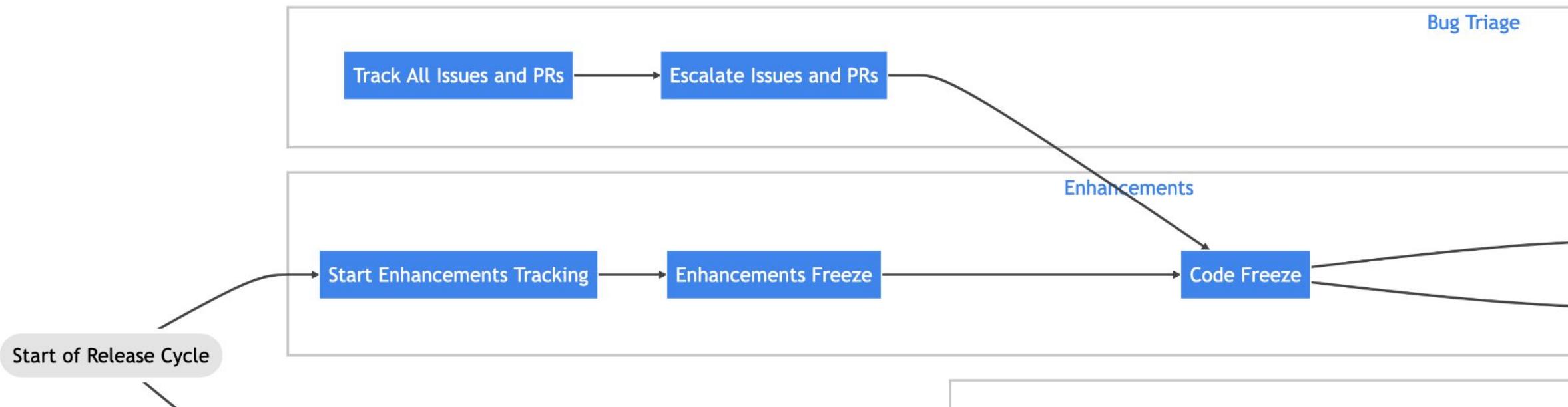
Prelude: Timeline of a Kubernetes Release



Prelude: Timeline of a Kubernetes Release



Prelude: Timeline of a Kubernetes Release



Prelude: Timeline of a Kubernetes Release

Bug Triage

Test Freeze

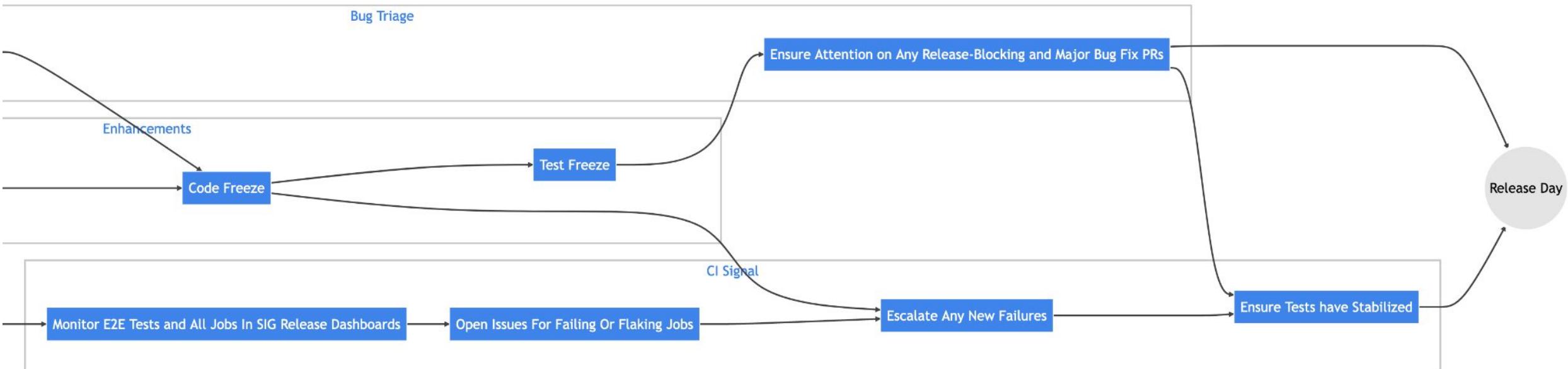
Ensure Attention on Any Release-Blocking and Major Bug Fix PRs

Release Day



@MadhavJivrajani & @theonlynabarun

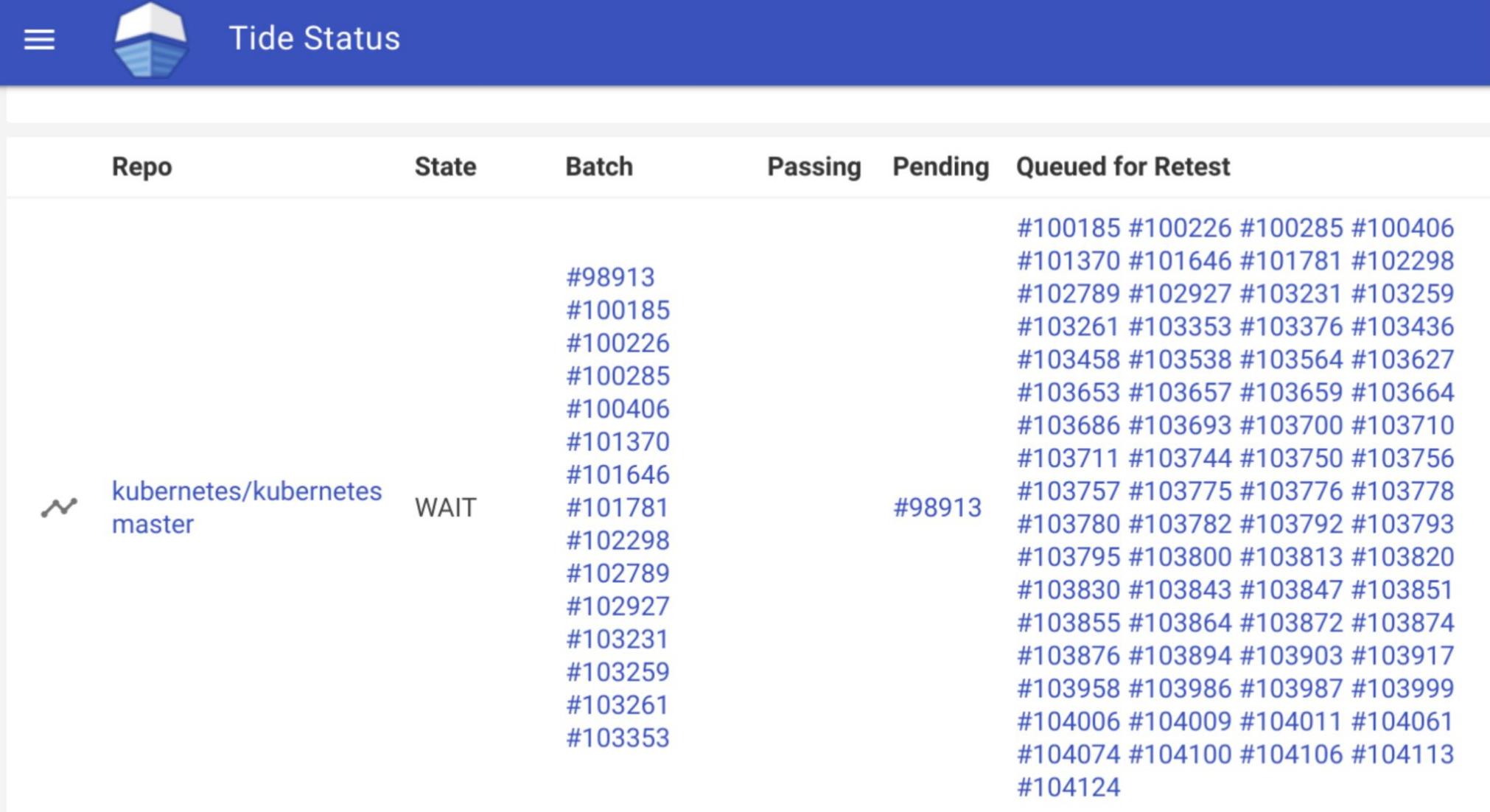
Prelude: Timeline of a Kubernetes Release



Prelude: Timeline of a Kubernetes Release



Prelude: Timeline of a Kubernetes Release



The Tide Status interface displays a table of GitHub pull requests (PRs) for the `kubernetes/kubernetes` repository, specifically for the `master` branch. The table has the following columns: Repo, State, Batch, Passing, Pending, and Queued for Retest.

Repo	State	Batch	Passing	Pending	Queued for Retest
<code>kubernetes/kubernetes</code> <code>master</code>	WAIT	#98913 #100185 #100226 #100285 #100406 #101370 #101646 #101781 #102298 #102789 #102927 #103231 #103259 #103261 #103353		#98913	#100185 #100226 #100285 #100406 #101370 #101646 #101781 #102298 #102789 #102927 #103231 #103259 #103261 #103353 #103376 #103436 #103458 #103538 #103564 #103627 #103653 #103657 #103659 #103664 #103686 #103693 #103700 #103710 #103711 #103744 #103750 #103756 #103757 #103775 #103776 #103778 #103780 #103782 #103792 #103793 #103795 #103800 #103813 #103820 #103830 #103843 #103847 #103851 #103855 #103864 #103872 #103874 #103876 #103894 #103903 #103917 #103958 #103986 #103987 #103999 #104006 #104009 #104011 #104061 #104074 #104100 #104106 #104113 #104124



Wildfires, Firefighters and Sustainability

Learnings from Mitigating Kubernetes Fires in the Community



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Wildfires, Firefighters and Sustainability

Learnings from Mitigating Kubernetes Fires in the Community



@MadhavJivrajani & @theonlynabarun

Wildfires, Firefighters and Sustainability

Learnings from Mitigating Kubernetes Fires in the Community



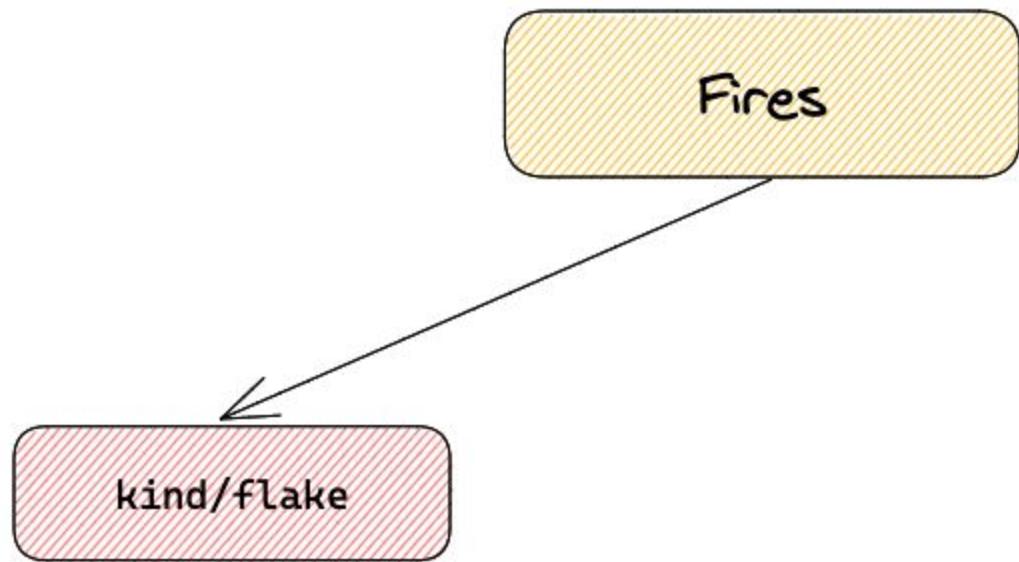
@MadhavJivrajani & @theonlynabarun

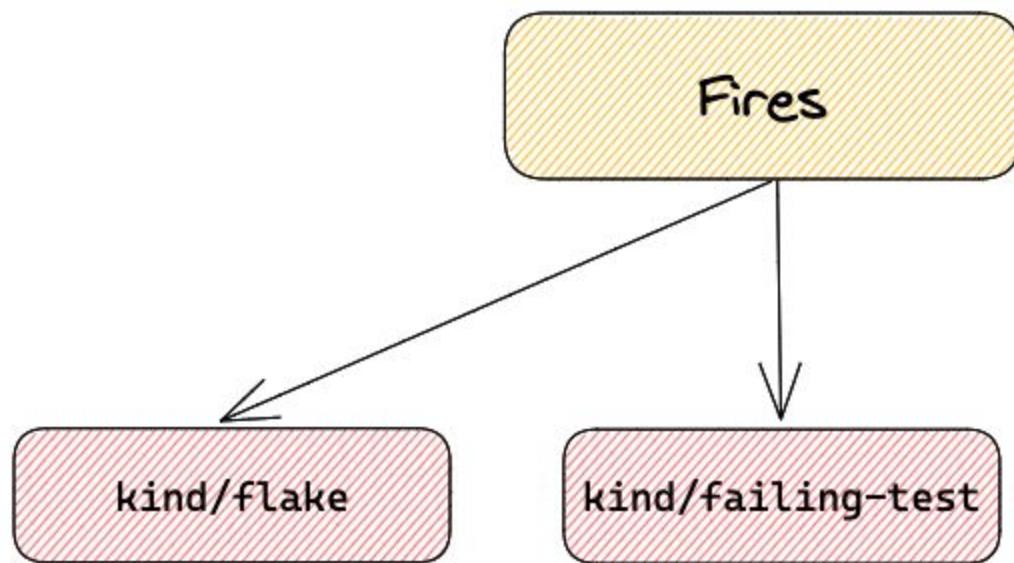


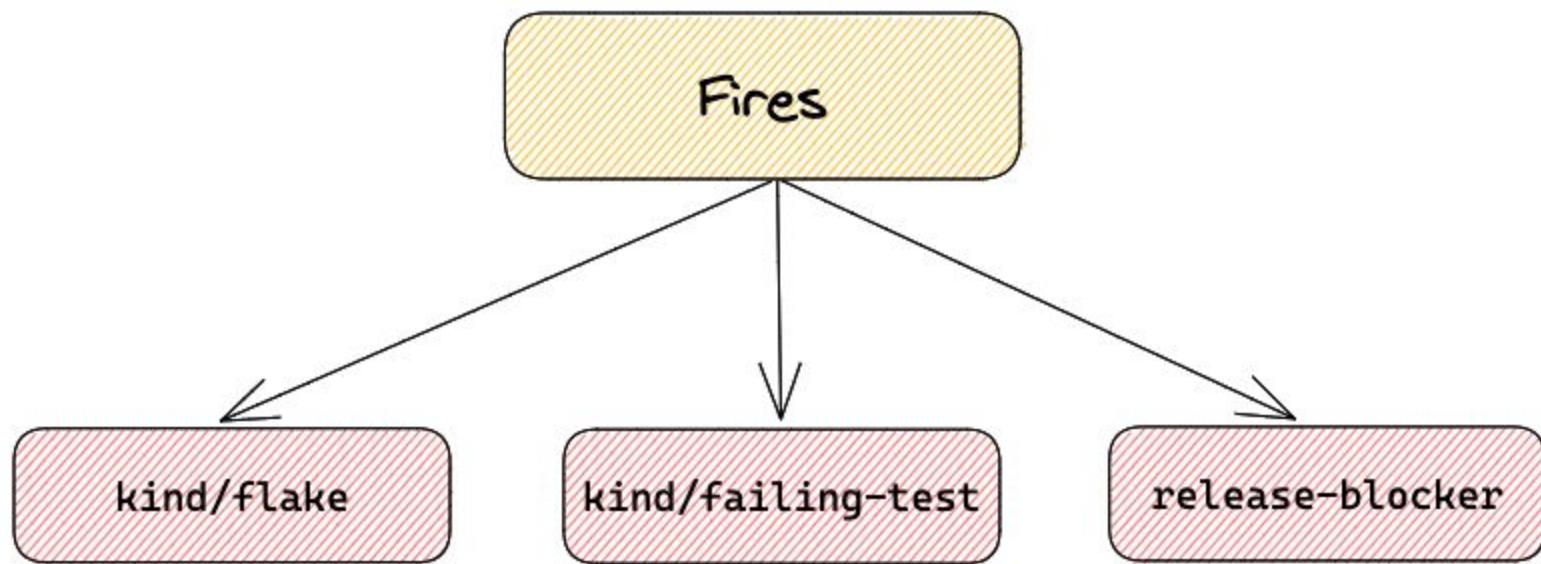
Fires

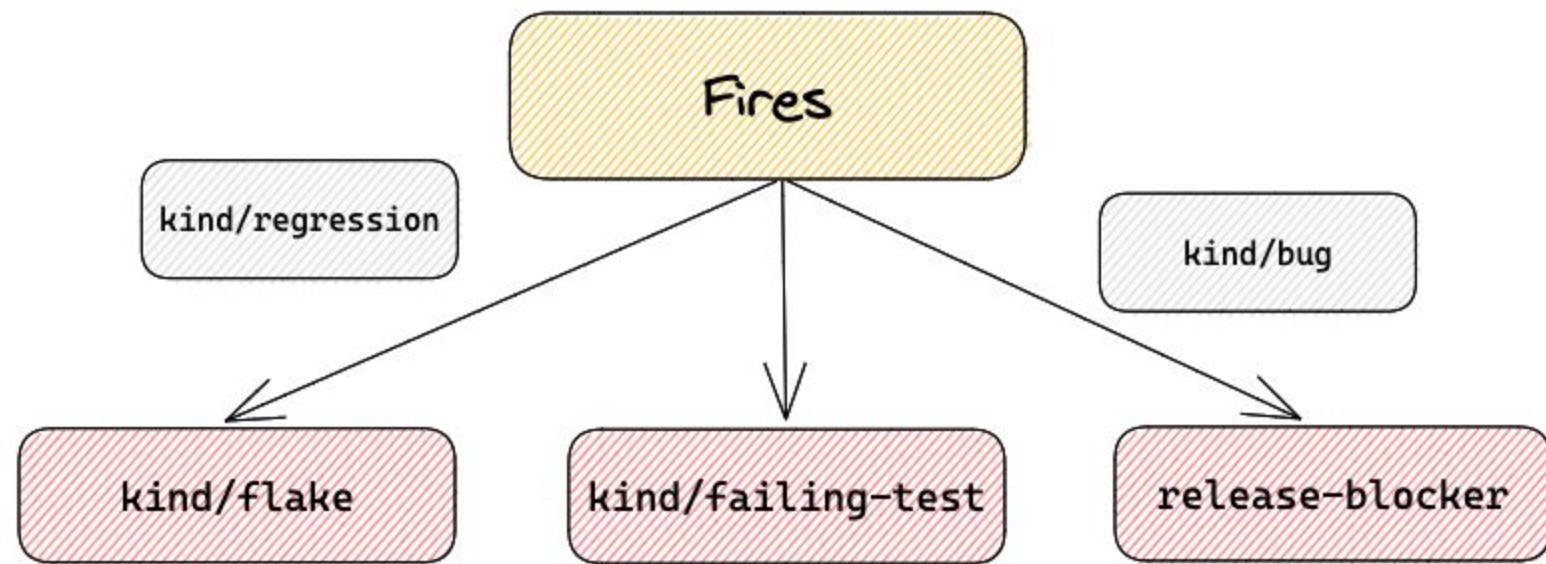


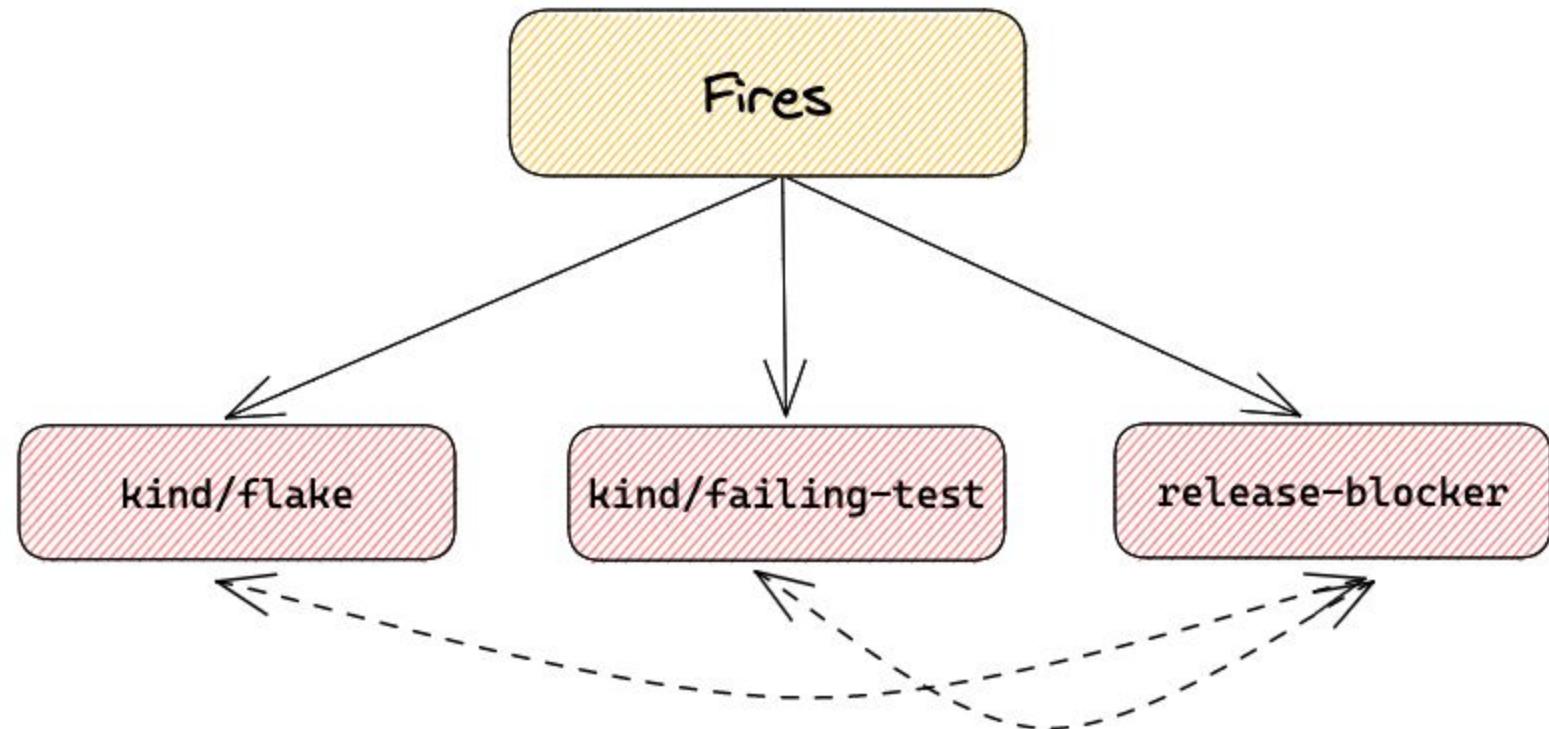
@MadhavJivrajani & @theonlynabarun











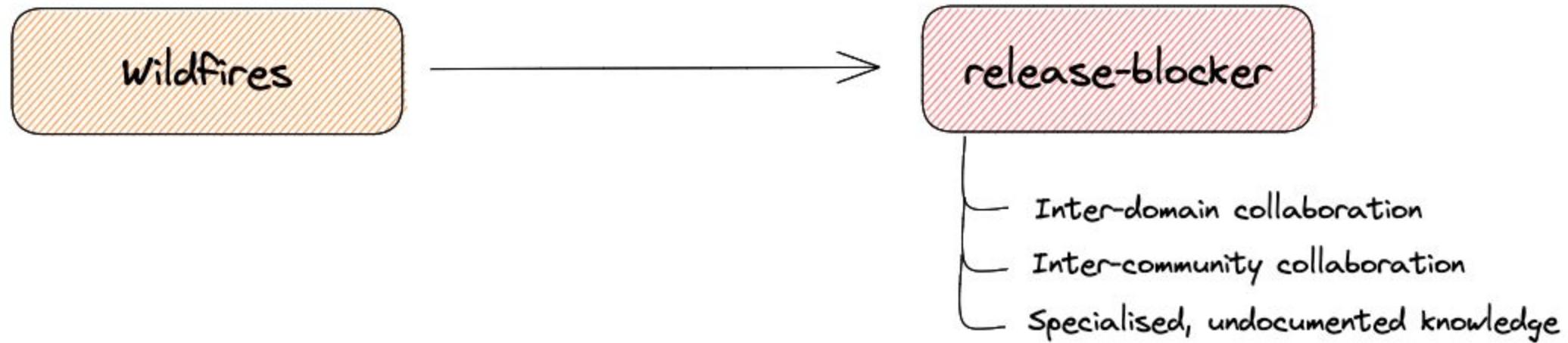
Wildfires, Firefighters and Sustainability

Learnings from Mitigating Kubernetes Fires in the Community



@MadhavJivrajani & @theonlynabarun





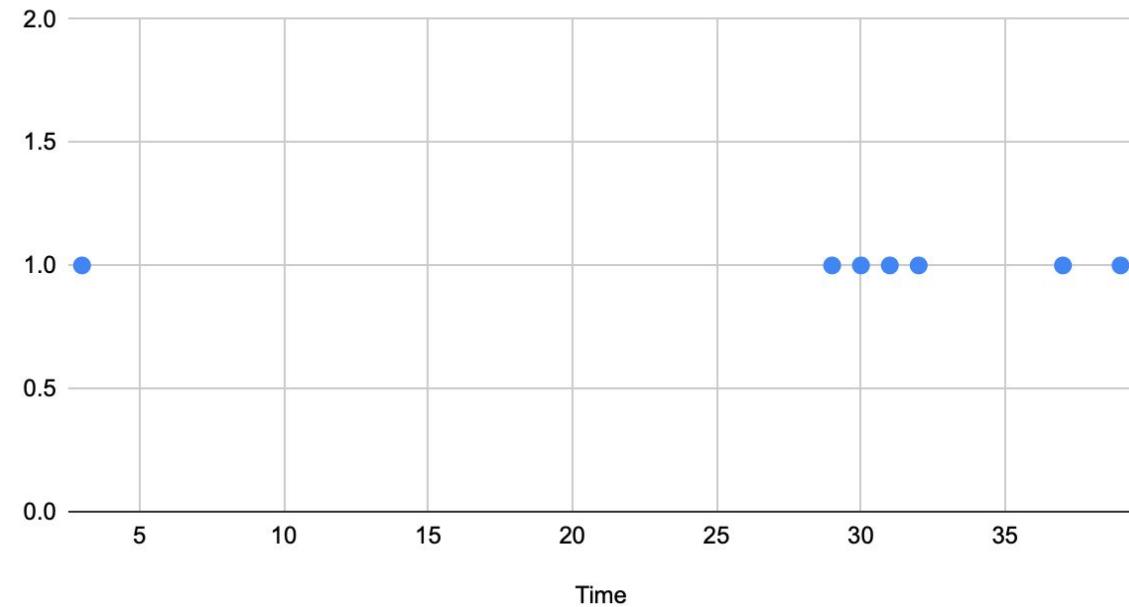
Usually, release-blockers tend to happen towards the end of a release, but not necessarily:



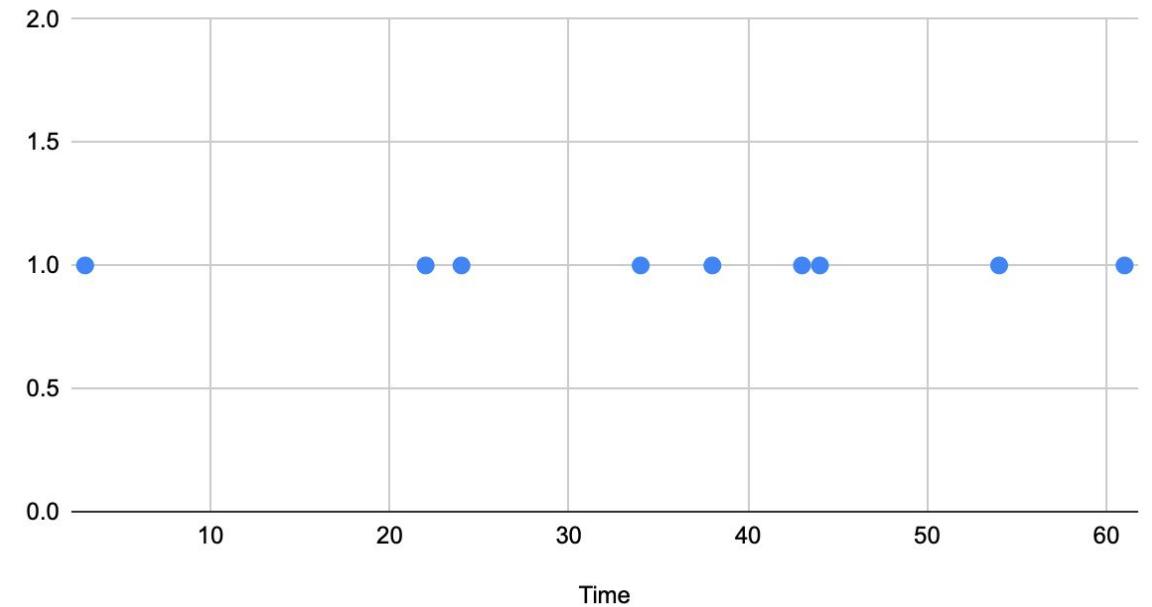
@MadhavJivrajani & @theonlynabarun

Usually, release-blockers tend to happen towards the end of a release, but not necessarily:

release-blocker Distribution 1.24



release-blocker Distribution 1.27



Wildfires, Firefighters and Sustainability

Learnings from Mitigating Kubernetes Fires in the Community



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Firefighters



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Firefighters

Get things back on track somehow



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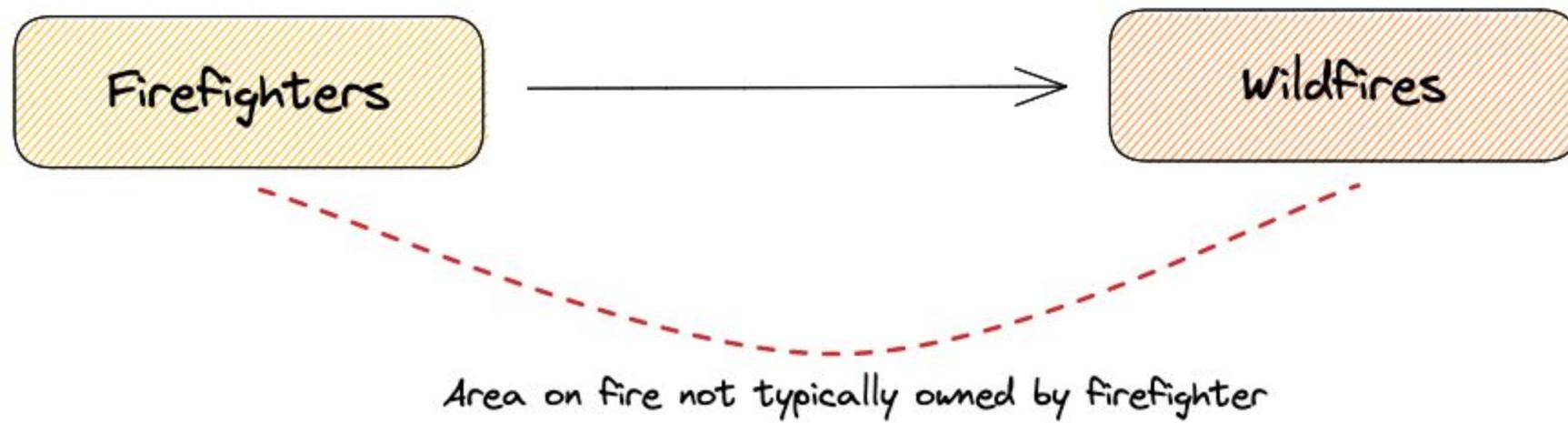
Firefighters

- Get things back on track somehow
- Have specialised, cross-cutting knowledge

Firefighters

- Get things back on track somehow
- Have specialised, cross-cutting knowledge
- Typically (not always) do not own the on-fire component



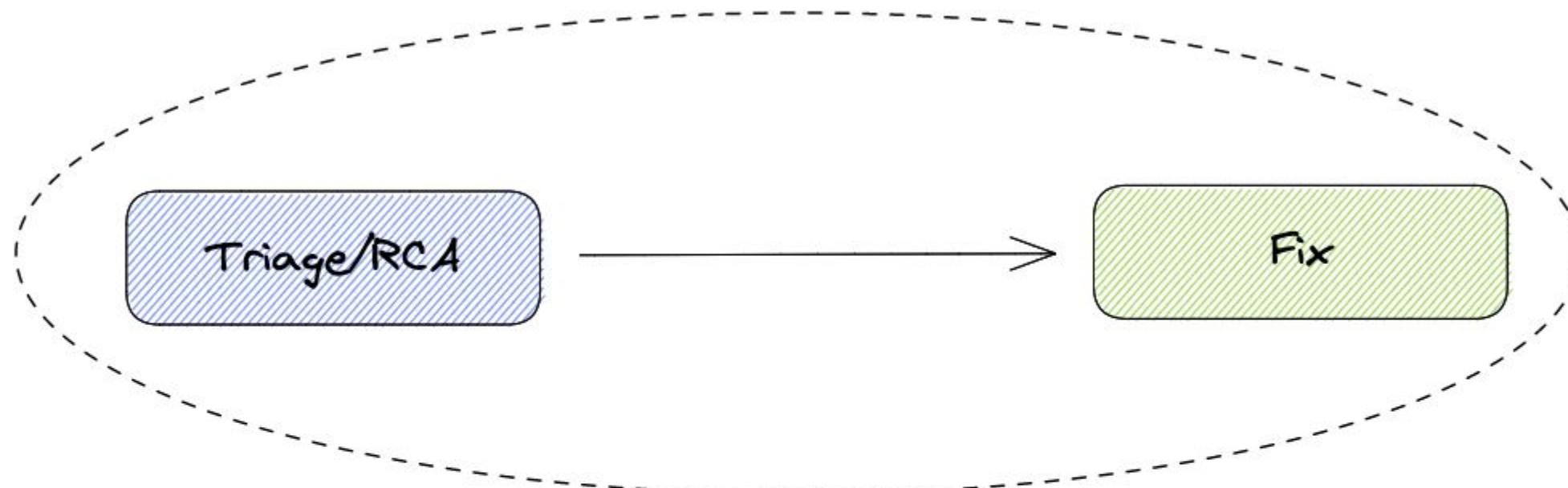


Typical Flow of Fighting A Wildfire

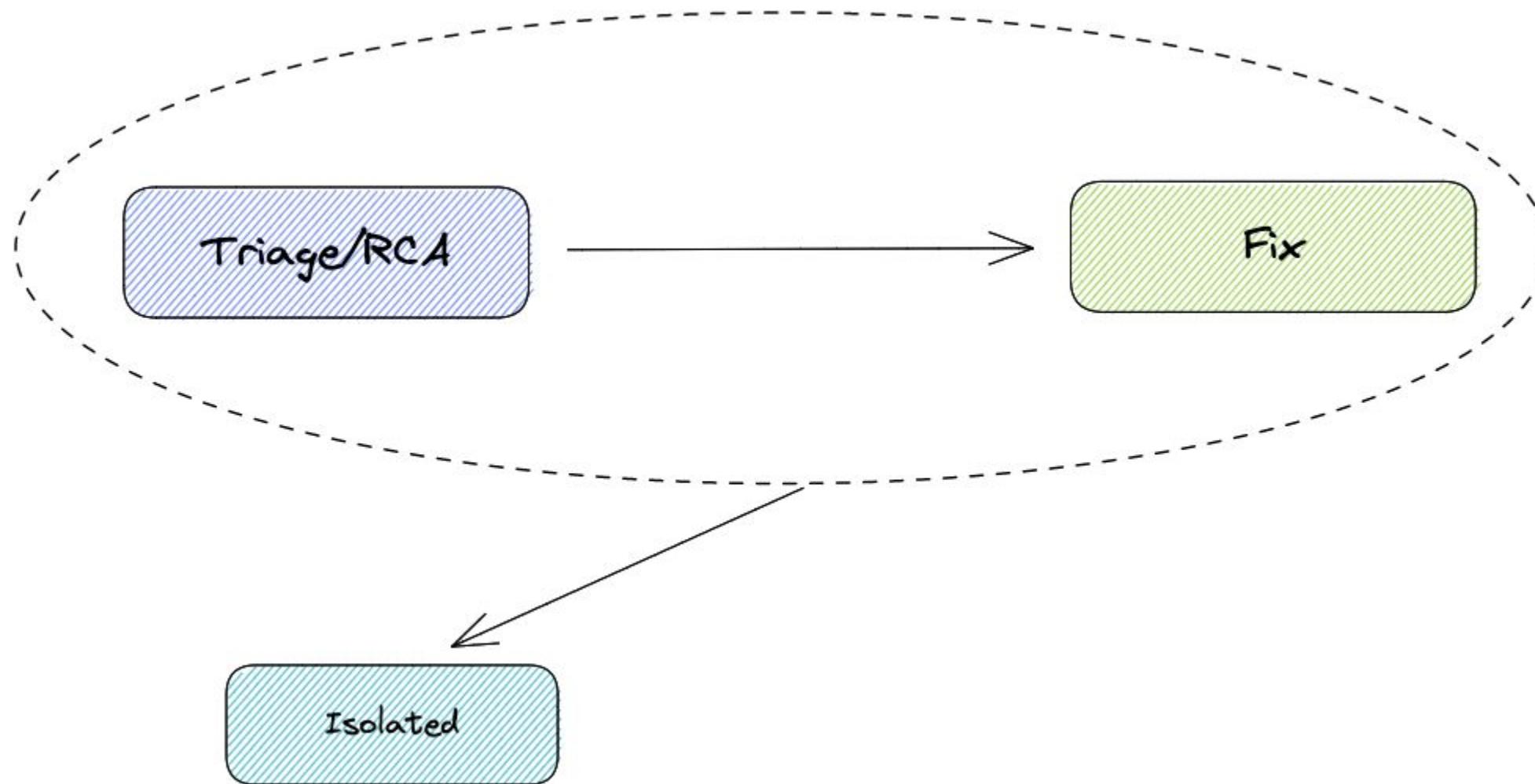
Typical Flow of Fighting A Wildfire



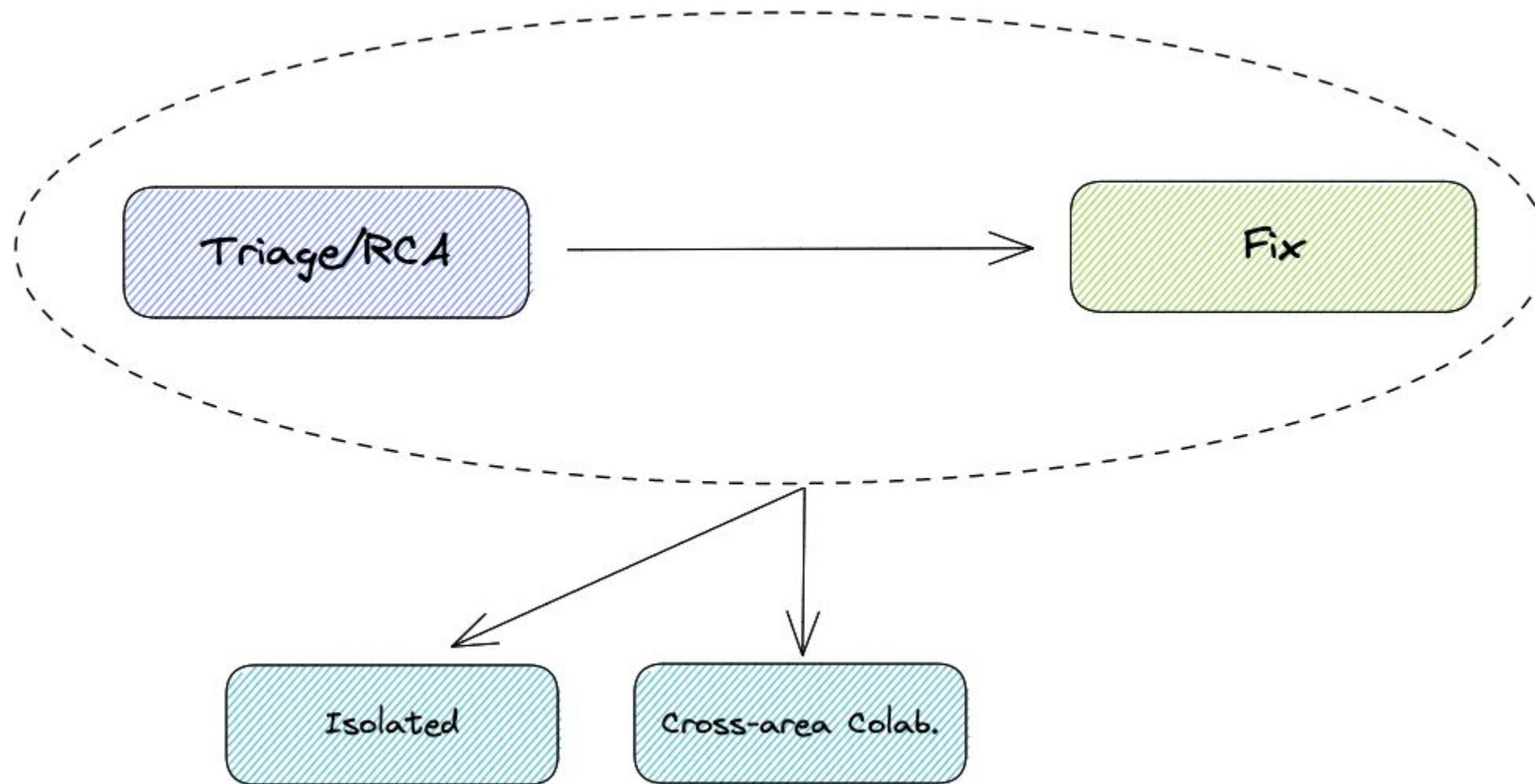
Typical Flow of Fighting A Wildfire



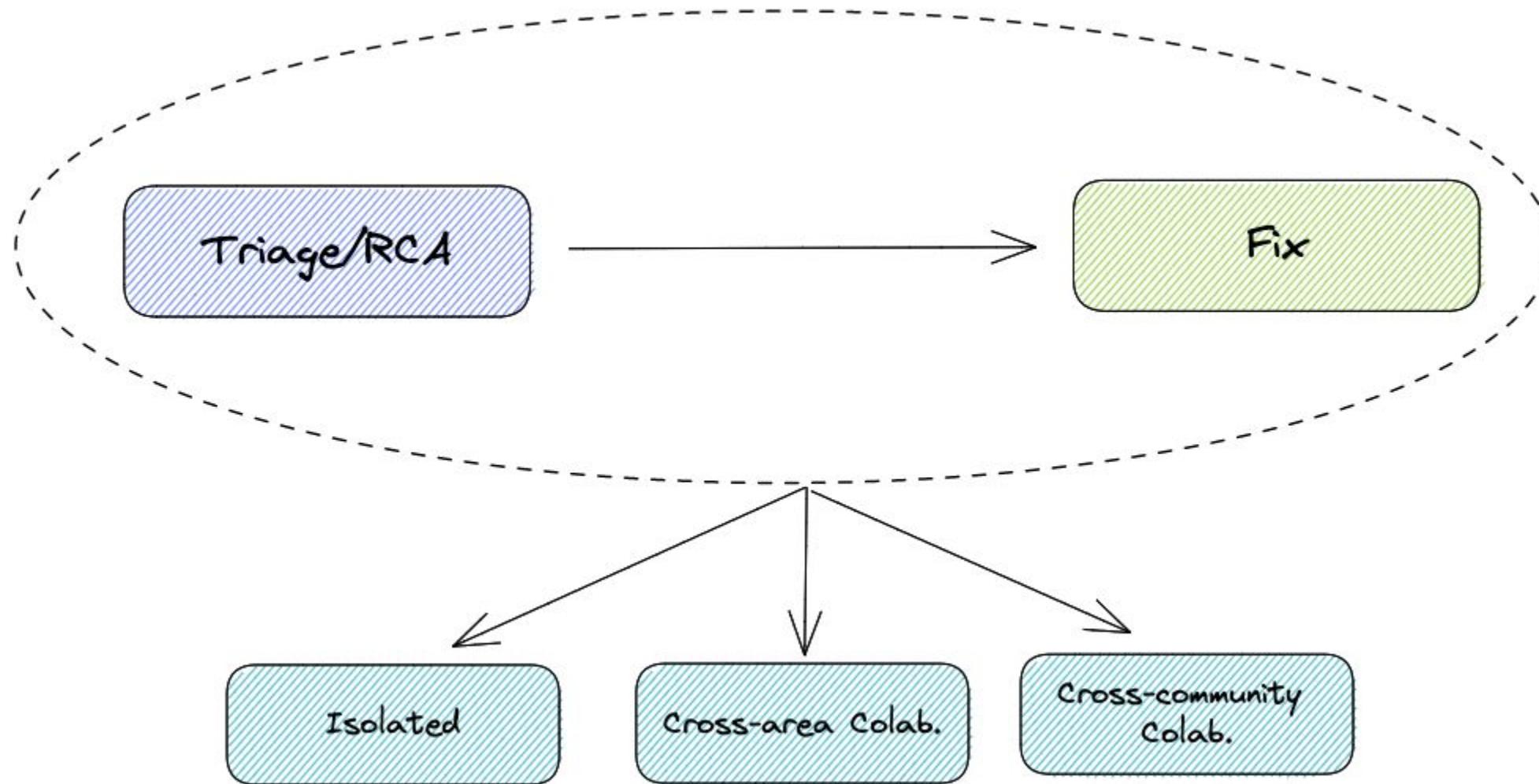
Typical Flow of Fighting A Wildfire



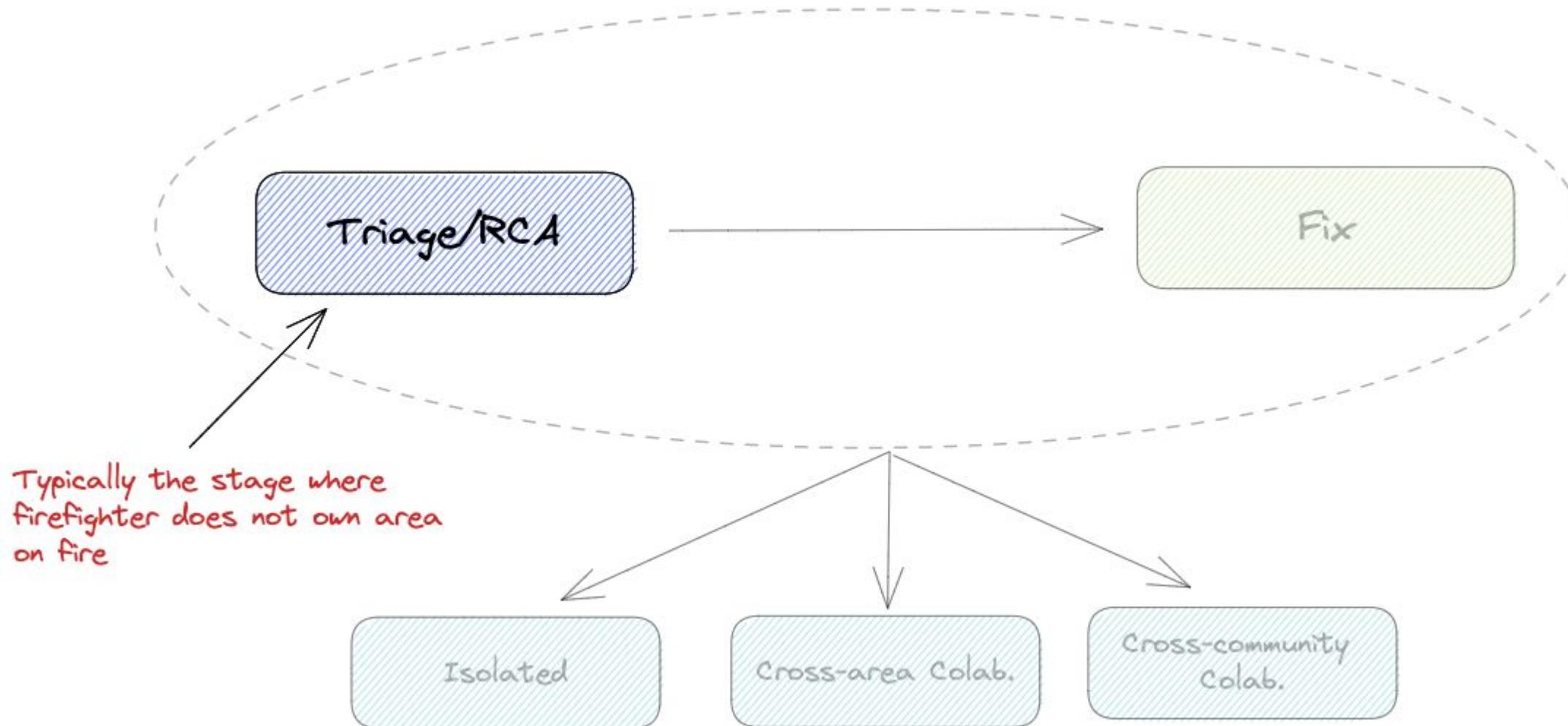
Typical Flow of Fighting A Wildfire



Typical Flow of Fighting A Wildfire

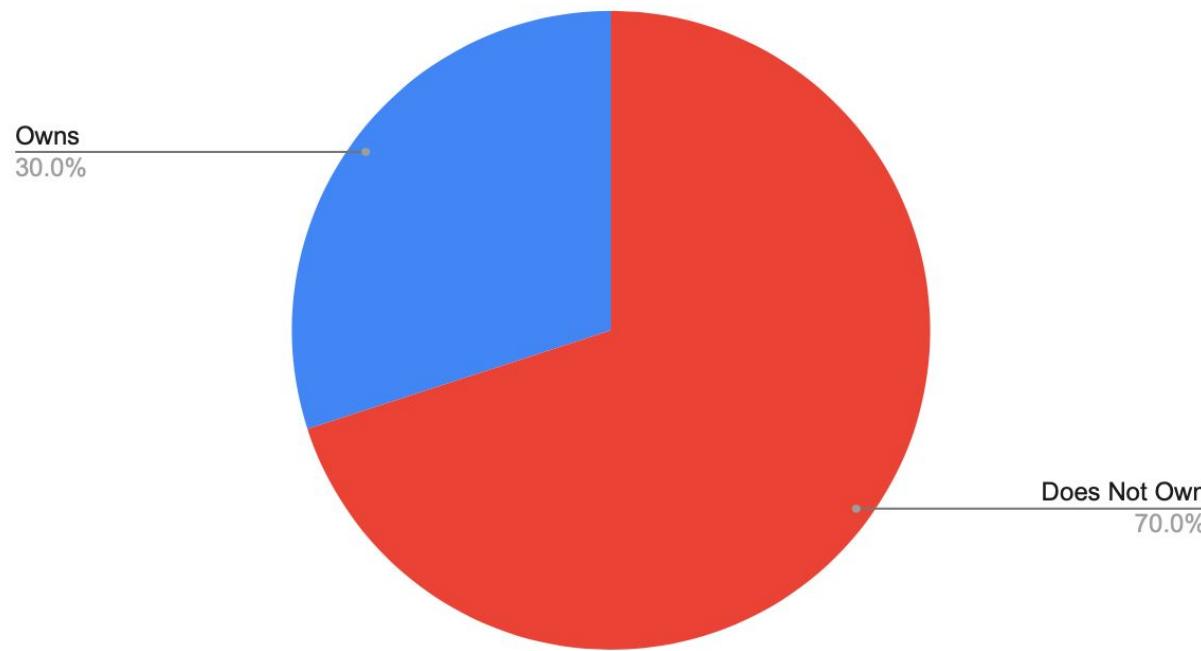


Typical Flow of Fighting A Wildfire

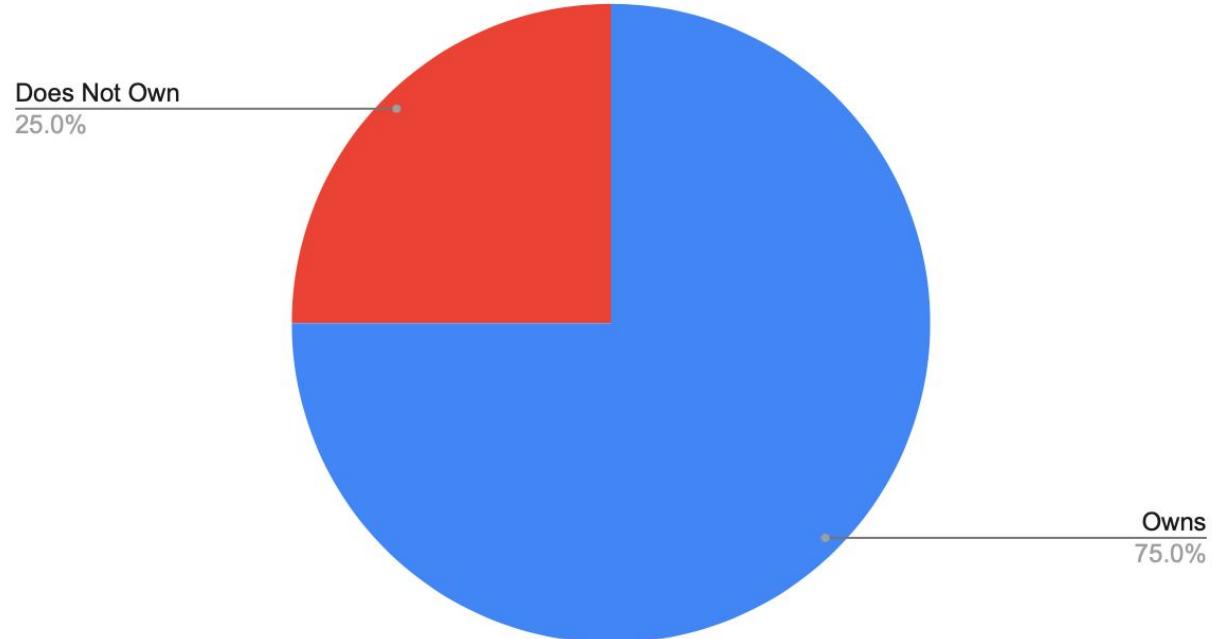


Typical Flow of Fighting A Wildfire

% of Fires Where Triager Owns Area On Fire (1.24 - 1.27)



% of Fires Where Fixer Owns Area On Fire (1.24 - 1.27)



Data for release-blockers for releases 1.24 - 1.27

Wildfires, Firefighters and Sustainability

Learnings from Mitigating Kubernetes Fires in the Community



@MadhavJivrajani & @theonlynabarun

Sustainability

Sustainability

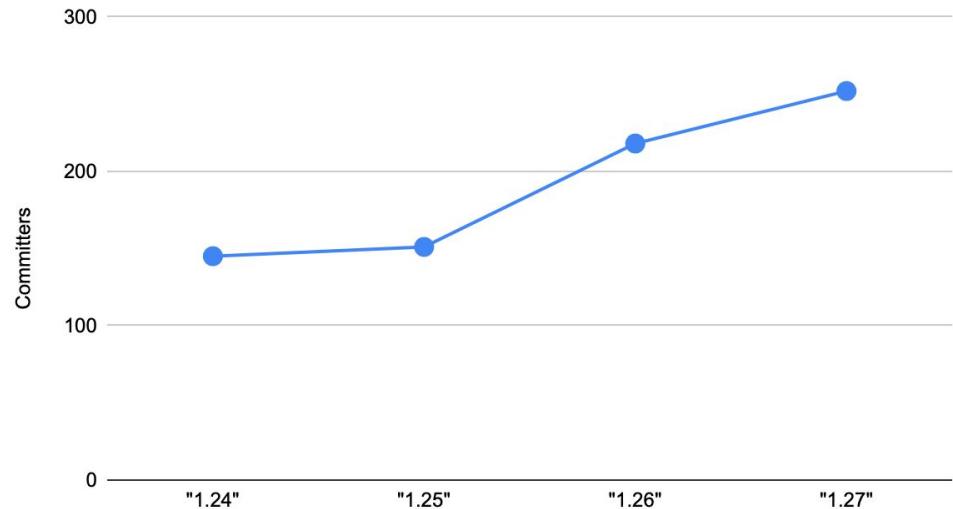
According to Elinor Ostrom, in her Nobel Prize winning work “Governing the Commons”:

“[A system is sustainable] as long as the average rate of withdrawal does not exceed the average rate of replenishment”



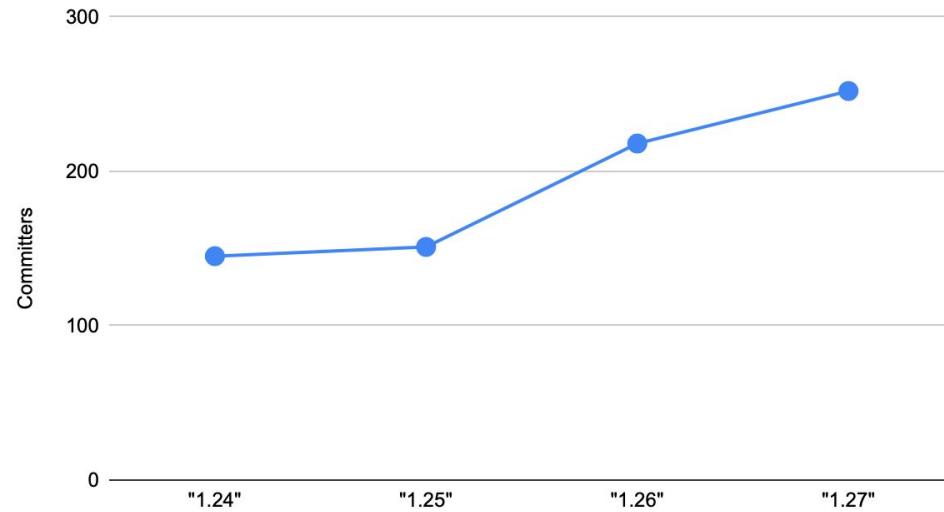
Sustainability

Committers per release

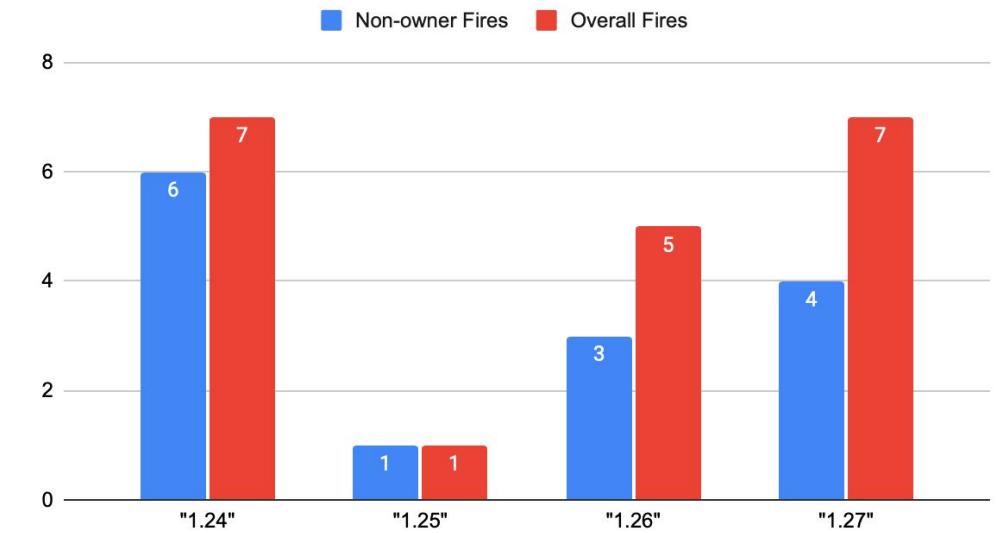


Sustainability

Committers per release

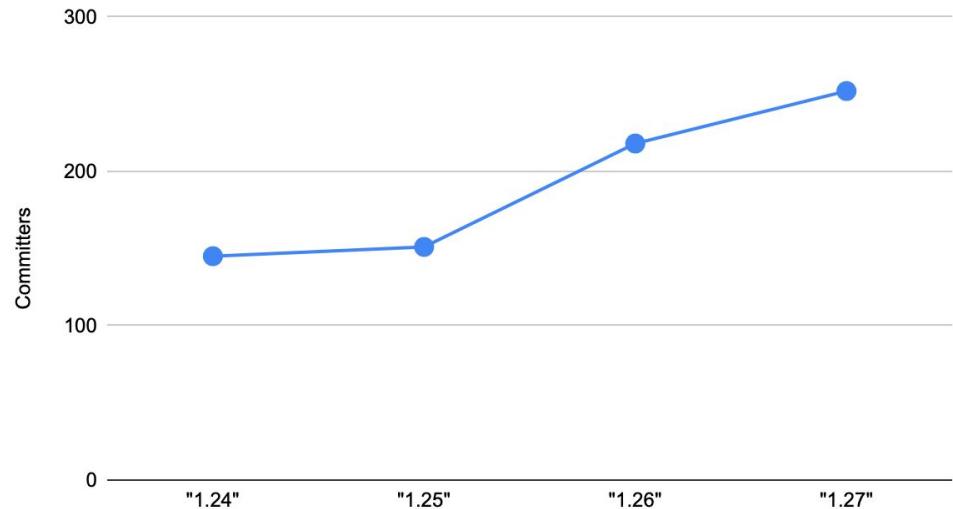


Non-owner Fires and Overall Fires



Sustainability

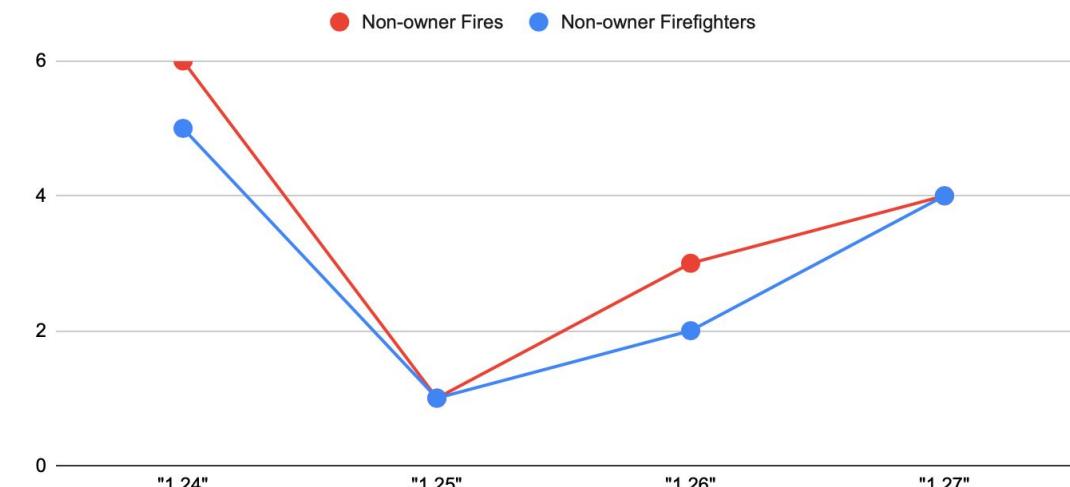
Committers per release



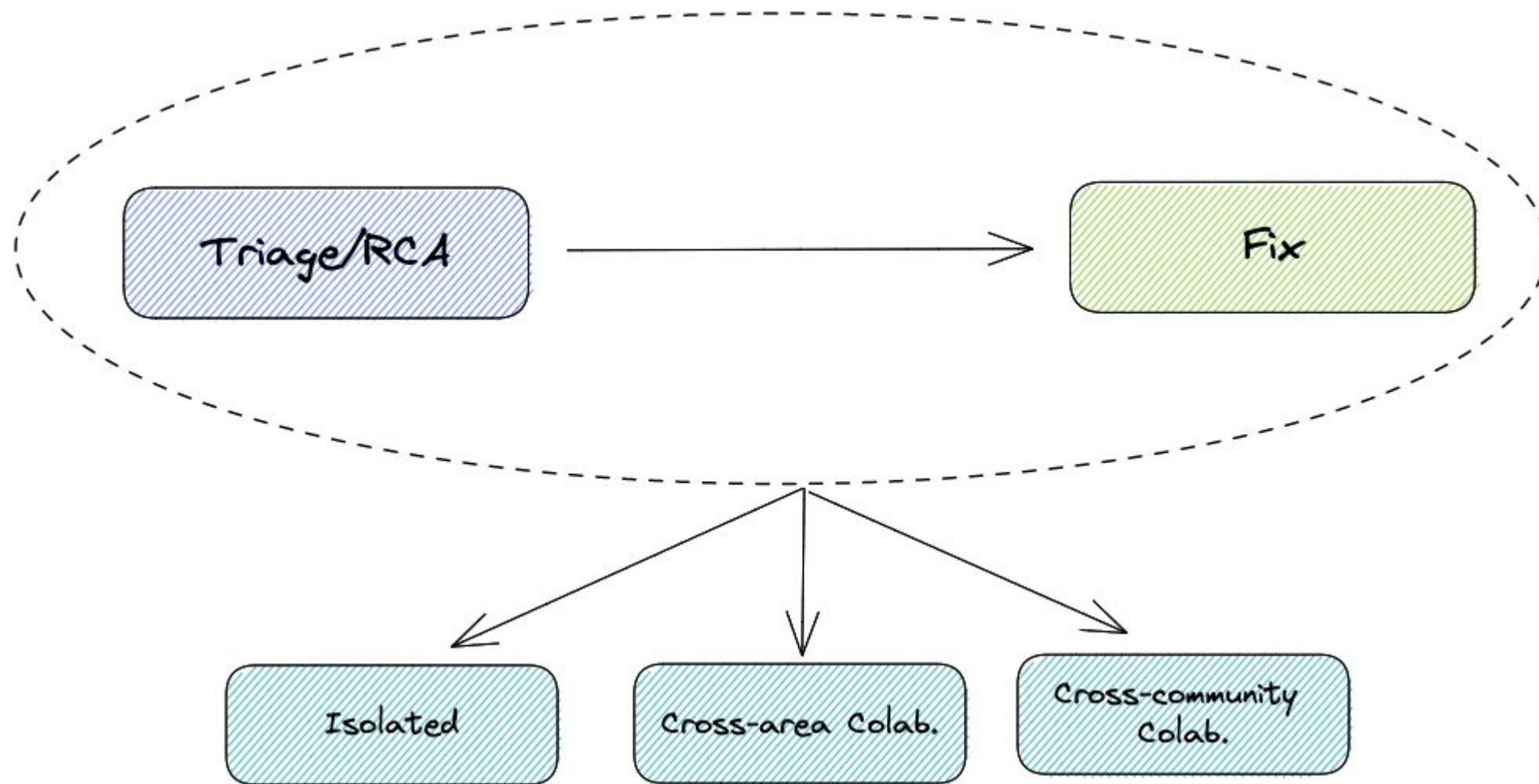
Non-owner Fires and Overall Fires



Fires and Firefighters Per Release



Recapping...





Fire Stories: Regressions and Heroics!!!

Automated cherry pick of #117301: Revert "CR conversion: protect from converter input #117305

Edit < Code ▾

Merged k8s-ci-robot merged 2 commits into [kubernetes:release-1.27](#) from [ncdc:automated-cherry-pick-of-#117301-upstream-release-1.27](#) last week

Conversation (3) Commits (2) Checks (0) Files changed (11) +413 -553

ncdc commented last week • edited by liggett

Cherry pick of #117301 on release-1.27.

#117301: Revert "CR conversion: protect from converter input

For details on the cherry pick process, see the [cherry pick requests](#) page.

Fixes a regression in 1.27.0 that resulted in "missing metadata in converted object" errors when modifying obj...

Smiley face icon

Reviewers: deads2k, jpbtz

Assignees: liggett

Labels: approved, area/apiserver, cherry-pick-approved, cncf-cla: yes, kind/bug, kind/regression, lgtm

Fire Stories: Regressions and Heroics!!!



Fire Stories: Regressions and Heroics!!!



liggitt 6 days ago

could maybe cut a 1.27.1 as a performance piece at kubecon next week



puerco 6 days ago

looks like we'll need to do it 😊



liggitt 6 days ago

<announcer voice> AAAAAAND IN THE CENTER RING, WATCH AS
RELEASE MANAGERS STEP INTO THE CAGE WITH MOCK BUILDS....
</announcer voice>



4



5



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Fire Stories: Regressions and Heroics!!!



liggitt 6 days ago

| is the workaround to specify a conversion strategy?

no reasonable workaround (and writing a conversion webhook is something we **discourage** people from doing, since it's multiple orders of magnitude more difficult/complex) (edited)



1



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Fire Stories: Regressions and Heroics!!!



dims 6 days ago

ok ... so the plan looks like [@xmudrii](#) -> [@jimangel](#) -> [@BenKazemi](#)

What we now have is :

<https://github.com/kubernetes/kubernetes/compare/v1.27.0...release-1.27>

We still need to land

<https://github.com/kubernetes/kubernetes/pull/117194> and its cherry-pick

<https://github.com/kubernetes/kubernetes/pull/117308>

117308 - needs cherry pick approval and CHANGELOG approval [@jimangel](#)

Fire Stories: Regressions and Heroics!!!



xmudrii 5 days ago

Kubernetes v1.27.1 is live:

<https://groups.google.com/a/kubernetes.io/g/dev/c/7HwzTm68crk/m/6Km927B8AAJ>



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Fire Stories: Regressions and Heroics!!!

Turn Around Time = **~1 day**



Fire Stories: Regressions and Heroics!!!

Observations:

- Detection possible due to consumption of latest version of Kubernetes



Fire Stories: Regressions and Heroics!!!

Observations:

- Detection possible due to consumption of latest version of Kubernetes
- Community Release Engineers and Triagers available around the globe



Fire Stories: Regressions and Heroics!!!

Observations:

- Detection possible due to consumption of latest version of Kubernetes
- Community Release Engineers and people with knowledge of machinery available around the globe

Thank you Andy, dims, liggitt, Kubernetes Release Managers and Google Build Admins!



Fire Stories: go1.18 Breaks CSR Validation

Like most fires, we start with our CI looking like this:



@MadhavJivrajani & @theonlynabarun

Fire Stories: go1.18 Breaks CSR Validation



Like most fires, we start with our CI looking like this:

Fire Stories: go1.18 Breaks CSR Validation

Quick summary of what happened:

- In go1.18 crypto/x509 started to reject certificates signed with SHA-1 hash function.
- Problem was it also rejected CSRs while it should only have rejected certificates.
- Due to this, CI remains red till we get a fix in the next minor Go version



Fire Stories: go1.18 Breaks CSR Validation

Triage

nikhita commented on Mar 23, 2022

Member ...

<https://tip.golang.org/doc/go1.18#sha1>

The failures for <https://testgrid.k8s.io/sig-release-master-blocking#integration-master> look like they are related to this.

Example below:

```
x509: cannot verify signature: insecure algorithm SHA1-RSA (temporarily override with GODEBUG=x509sha1=1)
```

Smiley face icon

This screenshot shows a GitHub comment from user nikhita. The comment discusses a Go 1.18 update that breaks CSR validation due to an insecure algorithm. It links to a tip document and mentions testgrid failures. An example of the error message is provided in a code block, and a smiley face icon is at the bottom.



Fire Stories: go1.18 Breaks CSR Validation

Triage



nikhita commented on Mar 23, 2022

Member

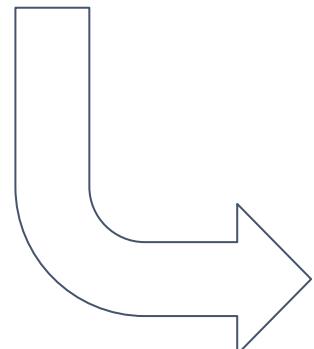
...

<https://tip.golang.org/doc/go1.18#sha1>

The failures for <https://testgrid.k8s.io/sig-release-master-blocking#integration-master> look like they are related to this.

Example below:

x509: cannot verify signature: insecure algorithm SHA1-RSA (temporarily override with GODEBUG=x509sha1=1)



hack/jenkins: set GODEBUG=x509sha1=1

Temporary fix for Go 1.18 changes made in
<https://tip.golang.org/doc/go1.18#sha1>

Signed-off-by: Madhav Jivrajani <madhav.jiv@gmail.com>

master (#108901)

v1.28.0-alpha.0 ... v1.24.0-beta.0

MadhavJivrajani authored and dims committed on Mar 23, 2022 Verified

```
diff --git a/hack/jenkins/test-dockerized.sh b/hack/jenkins/test-dockerized.sh
--- a/hack/jenkins/test-dockerized.sh
+++ b/hack/jenkins/test-dockerized.sh
@@ -51,5 +51,10 @@ make generated_files
51 51 go install ./cmd/...
52 52 ./hack/install-etcd.sh
53 53
54 + # TODO(MadhavJivrajani): Temporary fix due to Go 1.18 changes.
55 + # Please see https://tip.golang.org/doc/go1.18#sha1
56 + GODEBUG=x509sha1=1
57 + export GODEBUG
58 +
54 59 make test-cmd
55 60 make test-integration
```



@MadhavJivrajani & @theonlynabarun

Fire Stories: go1.18 Breaks CSR Validation

Triage



nikhita commented on Mar 23, 2022

Member

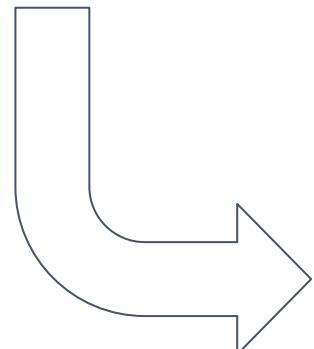
...

<https://tip.golang.org/doc/go1.18#sha1>

The failures for <https://testgrid.k8s.io/sig-release-master-blocking#integration-master> look like they are related to this.

Example below:

x509: cannot verify signature: insecure algorithm SHA1-RSA (temporarily override with GODEBUG=x509sha1=1)



Quick fix to unblock CI

hack/jenkins: set GODEBUG=x509sha1=1

Temporary fix for Go 1.18 changes made in
<https://tip.golang.org/doc/go1.18#sha1>

Signed-off-by: Madhav Jivrajani <madhav.jiv@gmail.com>

master (#108901)

v1.28.0-alpha.0 ... v1.24.0-beta.0

MadhavJivrajani authored and dims committed on Mar 23, 2022 Verified

```
  ↻ 5 ████ hack/jenkins/test-dockerized.sh □
    ↑      @@ -51,5 +51,10 @@ make generated_files
  51  51  go install ./cmd/...
  52  52  ./hack/install-etcd.sh
  53  53
  54  + # TODO(MadhavJivrajani): Temporary fix due to Go 1.18 changes.
  55  + # Please see https://tip.golang.org/doc/go1.18#sha1
  56  + GODEBUG=x509sha1=1
  57  + export GODEBUG
  58  +
  54  59  make test-cmd
  55  60  make test-integration
```



@MadhavJivrajani & @theonlynabarun

Fire Stories: go1.18 Breaks CSR Validation

Fix: When the actual fix isn't in our control, "fixing" includes charting the best course forward with what we can control.



Fire Stories: go1.18 Breaks CSR Validation

Fix: Watch and List



dims commented on Apr 4, 2022 · edited

Member

...

So for folks following along:

- <https://go-review.googlesource.com/c/go/+/394294> needs to land first in golang master
- Then a backport CL has to be opened (by a bot?) for 1.18 branch which will get linked to [crypto/x509: reject SHA-1 signatures in Verify \[1.18 backport\]](#) golang/go#51852
- then a release has to be made by golang (looks like 1.18.1 which is expected in 3-4 days may not have the fix above)
- then we test the fix by dropping the temporary changes we made (<https://cs.k8s.io/?q=x509sha1%3D1&i=nope&files=&excludeFiles=&repos=>)
- then we cut v1.24.0 final

sounds right @liggitt ?



3



@MadhavJivrajani & @theonlynabarun

Fire Stories: go1.18 Breaks CSR Validation

“Subfires”



madhav 1 year ago

Looks like the Go 1.18.1 release is pushed back to 12th April:

[https://groups.google.com/g/golang-announce/c/vtbMjE04kPk/m/TY7AlrwSCgAJ?
utm_medium=email&utm_source=footer](https://groups.google.com/g/golang-announce/c/vtbMjE04kPk/m/TY7AlrwSCgAJ?utm_medium=email&utm_source=footer)

cc @palnabarun @james.laverack (edited)



dims 1 year ago

yep. just brought that to release folks attention on their call



dims 1 year ago

looks like this will make our release date slip for sure



@MadhavJivrajani & @theonlynabarun

Fire Stories: go1.18 Breaks CSR Validation

From fighting this, we largely see the need for:

- Folks with cross functional knowledge of the tooling and machinery of the project.
- Folks with knowledge about policies of other open source communities and projects that we depend on (Go in this case).



What went right?



Dissecting issues into actionable chunks

 dims commented on Apr 4, 2022 • edited

Member ...

So for folks following along:

- <https://go-review.googlesource.com/c/go/+/394294> needs to land first in golang master
- Then a backport CL has to be opened (by a bot?) for 1.18 branch which will get linked to [crypto/x509: reject SHA-1 signatures in Verify \[1.18 backport\]](#) golang/go#51852
- then a release has to be made by golang (looks like 1.18.1 which is expected in 3-4 days may not have the fix above)
- then we test the fix by dropping the temporary changes we made (<https://cs.k8s.io/?q=x509sha1%3D1&i=nope&files=&excludeFiles=&repos=>)
- then we cut v1.24.0 final

sounds right @liggitt ?

  3



Correct Set of Tools

Search for a dashboard/tab: <input type="text"/> Go 					
cert-manager	conformance	containerd	gardener	google	googleoss
googleoss-kpt-config-sync	googleoss-kpt-config-sync-release	googleoss-kubeflow	ibm	istio	istio_release-1.16
istio_release-1.17	jetstack	kcp	kops	kubernetes-clients	kubevirt
kyma	presubmits	provider-aws	provider-azure	provider-gcp	provider-openstack
redhat	sig-api-machinery	sig-apps	sig-arch	sig-auth	sig-autoscaling
sig-cli	sig-cloud-provider	sig-cluster-lifecycle	sig-contribex	sig-docs	sig-instrumentation
sig-k8s-infra	sig-multicluster	sig-network	sig-node	sig-release	sig-scalability
sig-scheduling	sig-security	sig-storage	sig-testing	sig-windows	tektoncd-pipeline
vmware	wg-multi-tenancy				



Correct Set of Tools

 [sig-release](#) [sig-release-master-blocking](#) [sig-release-master-informing](#) [sig-release-1.27-blocking](#) [sig-release-1.27-informing](#) [sig-release-1.26-blocking](#) [sig-release-1.26-informing](#) [sig-release-1.25-blocking](#)
[sig-release-1.25-informing](#) [sig-release-1.24-blocking](#) [sig-release-1.24-informing](#) [sig-release-1.23-blocking](#) [sig-release-1.23-informing](#) [sig-release-releng-blocking](#) [sig-release-releng-informing](#)
[sig-release-releng-presubmits](#) [sig-release-image-pushes](#) [sig-release-publishing-bot](#) [sig-release-release-notes-presubmits](#) [sig-release-job-config-errors](#) [sig-release-release-team-periodics](#)



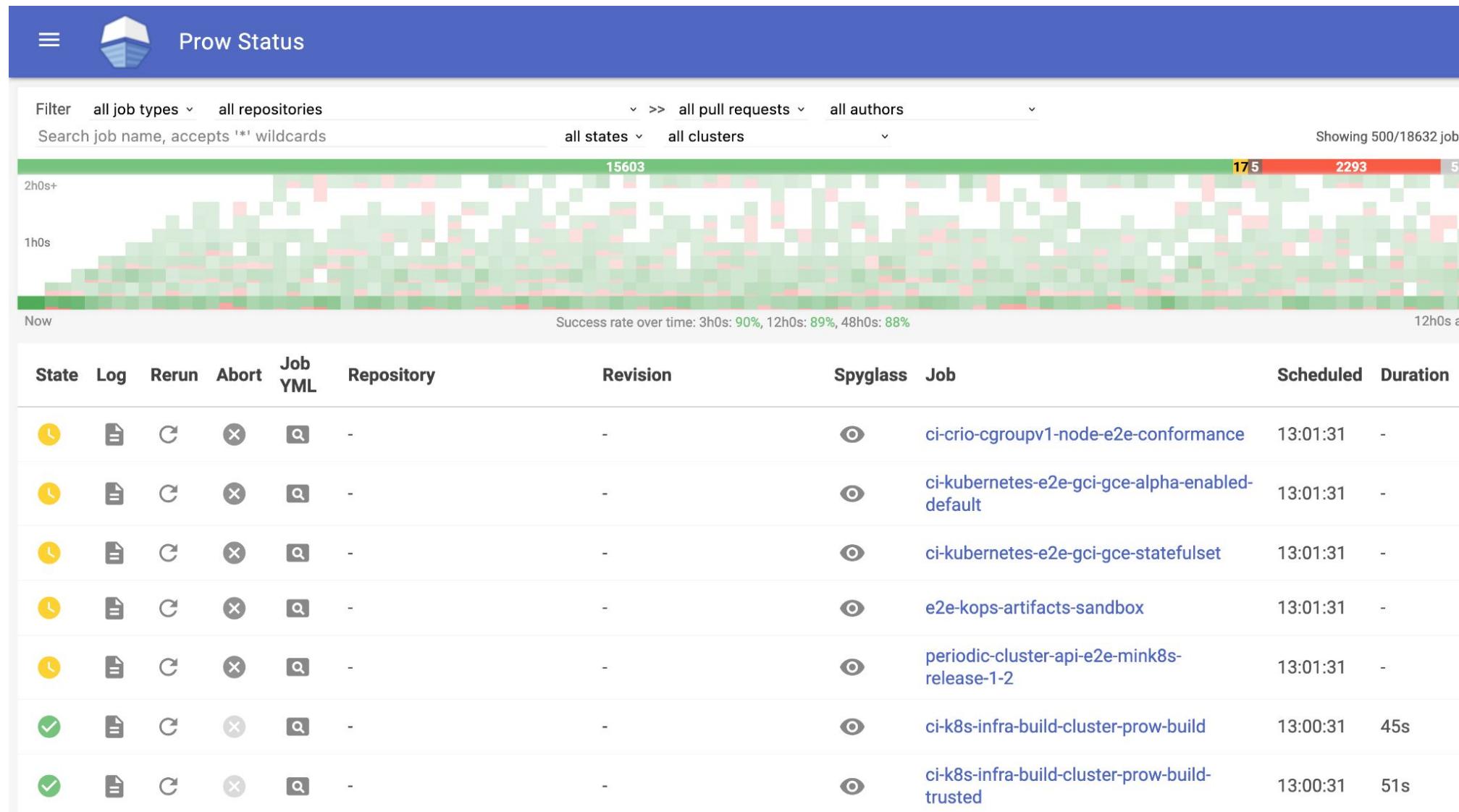
Summary [build-master](#) [build-master-fast](#) [conformance-ga-only](#) [gce-device-plugin-gpu-master](#) [skew-cluster-latest-kubectl-stable1-gce](#) [gce-cos-master-default](#) [gce-cos-master-alpha-features](#) [gci-gce-ingress](#)
[gce-cos-master-reboot](#) [gce-cos-master-scalability-100](#) [gce-ubuntu-master-containerd](#) [Conformance - GCE - master - kubetest2](#) [integration-master](#) [kind-master-parallel](#) [kind-ipv6-master-parallel](#) [ci-node-e2e](#)
[ci-kubernetes-unit](#) [verify-master](#)

[Show All Alerts](#) [Hide All Alerts](#) [Sort by Status](#)

	build-master: PASSING Tab stats: 9 of 9 (100.0%) recent columns passed (18 of 18 or 100.0% cells)	Last update: 04-19 12:26 CEST Tests last ran: 04-19 12:26 CEST Last green run: ff4eff24a
	build-master-fast: PASSING Tab stats: 9 of 9 (100.0%) recent columns passed (18 of 18 or 100.0% cells)	Last update: 04-19 12:42 CEST Tests last ran: 04-19 12:41 CEST Last green run: ff4eff24a
	conformance-ga-only: PASSING Tab stats: 10 of 10 (100.0%) recent columns passed (3860 of 3860 or 100.0% cells)	Last update: 04-19 12:05 CEST Tests last ran: 04-19 03:38 CEST Last green run: 1f0e71858
	gce-device-plugin-gpu-master: PASSING Tab stats: 10 of 10 (100.0%) recent columns passed (300 of 300 or 100.0% cells)	Last update: 04-19 11:57 CEST Tests last ran: 04-19 11:30 CEST Last green run: ff4eff24a
	skew-cluster-latest-kubectl-stable1-gce: PASSING Tab stats: 10 of 10 (100.0%) recent columns passed (820 of 820 or 100.0% cells)	Last update: 04-19 12:21 CEST Tests last ran: 04-19 07:41 CEST Last green run: 1f0e71858
	gce-cos-master-default: FLAKY Tab stats: 7 of 9 (77.8%) recent columns passed (20257 of 20277 or 99.9% cells)	Last update: 04-19 12:16 CEST Tests last ran: 04-19 12:16 CEST Last green run: ff4eff24a
	gce-cos-master-alpha-features: PASSING Tab stats: 9 of 9 (100.0%) recent columns passed (828 of 828 or 100.0% cells)	Last update: 04-19 11:55 CEST Tests last ran: 04-19 11:55 CEST Last green run: ff4eff24a
	gci-gce-ingress: PASSING Tab stats: 10 of 10 (100.0%) recent columns passed (610 of 610 or 100.0% cells)	Last update: 04-19 12:33 CEST Tests last ran: 04-19 09:09 CEST Last green run: 9db01b6eb
	gce-cos-master-reboot: PASSING Tab stats: 9 of 9 (100.0%) recent columns passed (306 of 306 or 100.0% cells)	Last update: 04-19 12:36 CEST Tests last ran: 04-19 12:36 CEST Last green run: ff4eff24a
	gce-cos-master-scalability-100: PASSING Tab stats: 9 of 9 (100.0%) recent columns passed (936 of 936 or 100.0% cells)	Last update: 04-19 12:21 CEST Tests last ran: 04-19 12:21 CEST Last green run: ff4eff24a
	gce-ubuntu-master-containerd: FLAKY Tab stats: 9 of 9 (100.0%) recent columns passed (20277 of 20277 or 100.0% cells)	Last update: 04-19 12:40 CEST Tests last ran: 04-19 12:39 CEST Last green run: ff4eff24a



Correct Set of Tools



Correct Set of Tools

The screenshot shows a CI pipeline interface with the following sections:

- Job History:** Shows the job was started today at 12:16 PM and passed after 38m9s.
- Prow Job YAML:** Link to the job's configuration.
- Artifacts:** Link to download artifacts.
- Testgrid:** Link to the Testgrid interface.

JUnit:

- 904/7234 Tests Passed!
- 6330/7234 Tests Skipped.

Build Log:

Analyze Show all hidden lines Raw build-log.txt

```
539 I0419 10:30:45.749]      Begin Captured GinkgoWriter Output >>
540 I0419 10:30:45.750]      ...
541 I0419 10:30:45.750]      Apr 19 10:24:42.548: INFO: >>> kubeConfig: /workspace/.kube/config
542 I0419 10:30:45.750]      Apr 19 10:24:43.013: INFO: Waiting up to 1m0s for all nodes to be ready
543 I0419 10:30:45.750]      Apr 19 10:25:46.313: INFO: Failed to parse when NPD started. Got exit code: 0 and stdout: Wed 2023-04-19 10:21:22 UTC
544 I0419 10:30:45.750]      , error: parsing time "Wed 2023-04-19 10:21:22 UTC\x0a": extra text: "\x0a". Will skip check for kubelet start event.
545 I0419 10:30:45.750]      Apr 19 10:25:50.271: INFO: Failed to parse when NPD started. Got exit code: 0 and stdout: Wed 2023-04-19 10:21:21 UTC
546 I0419 10:30:45.750]      , error: parsing time "Wed 2023-04-19 10:21:21 UTC\x0a": extra text: "\x0a". Will skip check for kubelet start event.
547 I0419 10:30:45.750]      Apr 19 10:25:54.296: INFO: Failed to parse when NPD started. Got exit code: 0 and stdout: Wed 2023-04-19 10:21:23 UTC
548 I0419 10:30:45.750]      , error: parsing time "Wed 2023-04-19 10:21:23 UTC\x0a": extra text: "\x0a". Will skip check for kubelet start event.
549 I0419 10:30:45.751]      Apr 19 10:25:58.097: INFO: Failed to parse when NPD started. Got exit code: 0 and stdout: Wed 2023-04-19 10:21:23 UTC
550 I0419 10:30:45.751]      , error: parsing time "Wed 2023-04-19 10:21:23 UTC\x0a": extra text: "\x0a". Will skip check for kubelet start event.
551 T0419 10:30:45.751]      << End Captured GinkgoWriter Output
```

Correct Set of Tools

Kubernetes Aggregated Failures from

Show clusters for SIG: api-machinery apps architecture auth autoscaling cli cloud-provider cluster-lifecycle contributor-experience docs
instrumentation multicloud network node release scalability scheduling service-catalog storage testing ui usability windows

Include results from: CI PR

Sort by total count count in last day error message

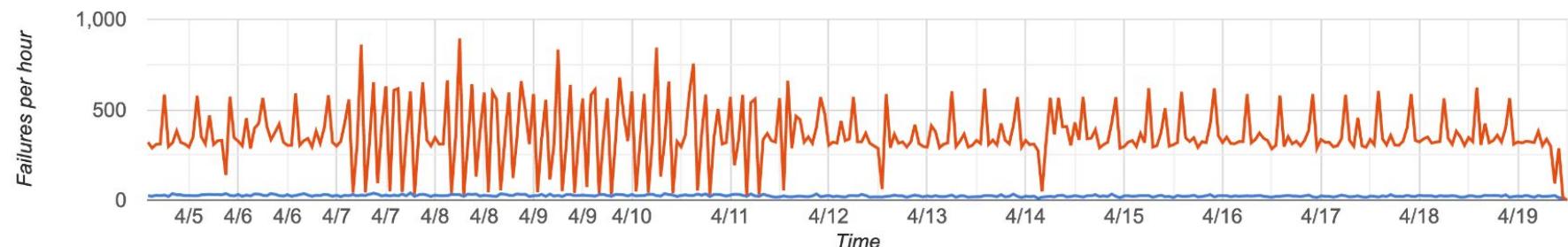
Include Filter (these are regexes):

Failure text
 Job
 Test

Exclude Filter (these are regexes):

Failure text
 Job
 Test

1470 clusters of 125314 failures (7663 in last day) out of 122239 builds from 5/4/2023, 2:00:01 am to 19/4/2023, 12:06:18 pm.

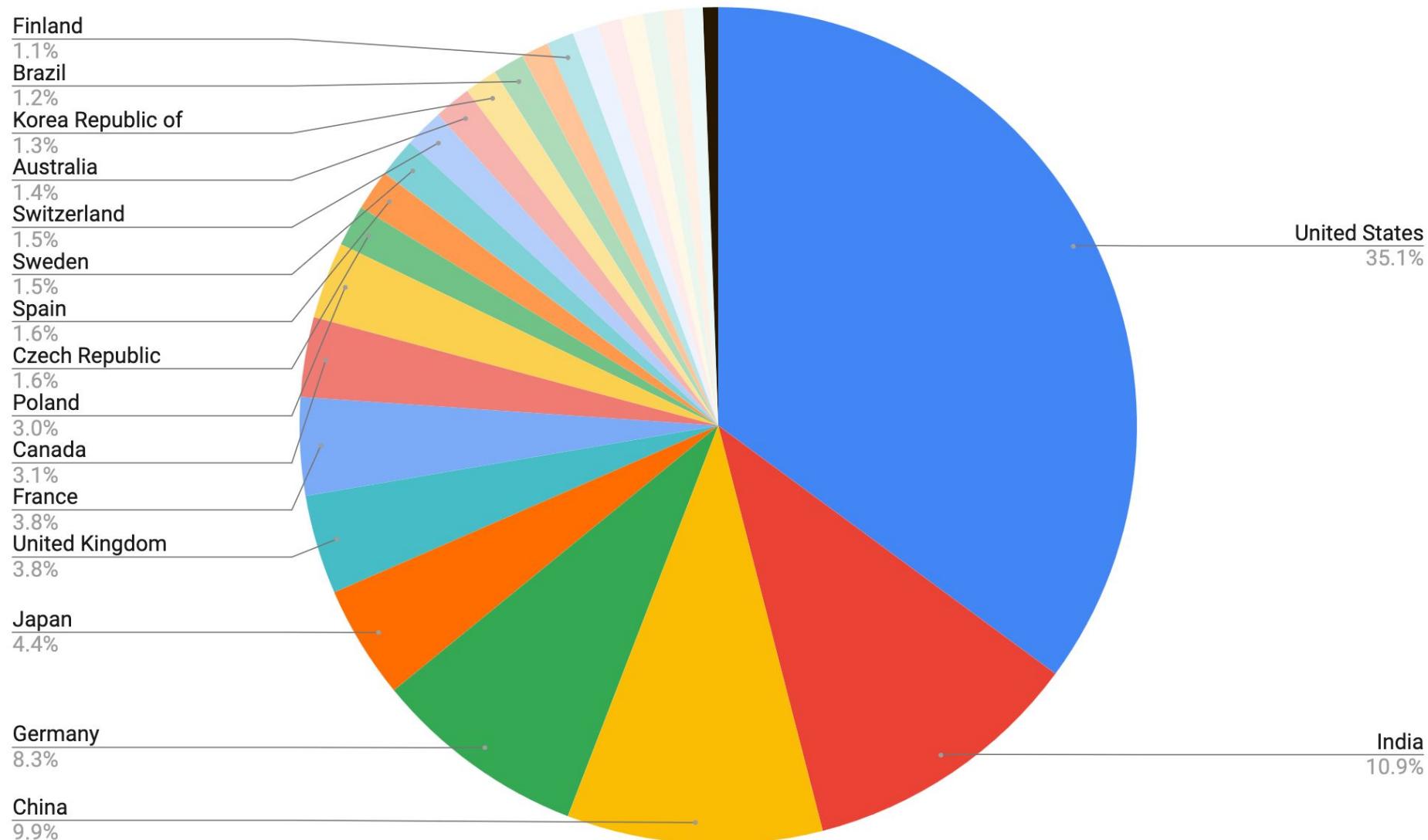


6924 test failures (380 today) look like [link](#) [search github](#) [file bug](#) storage

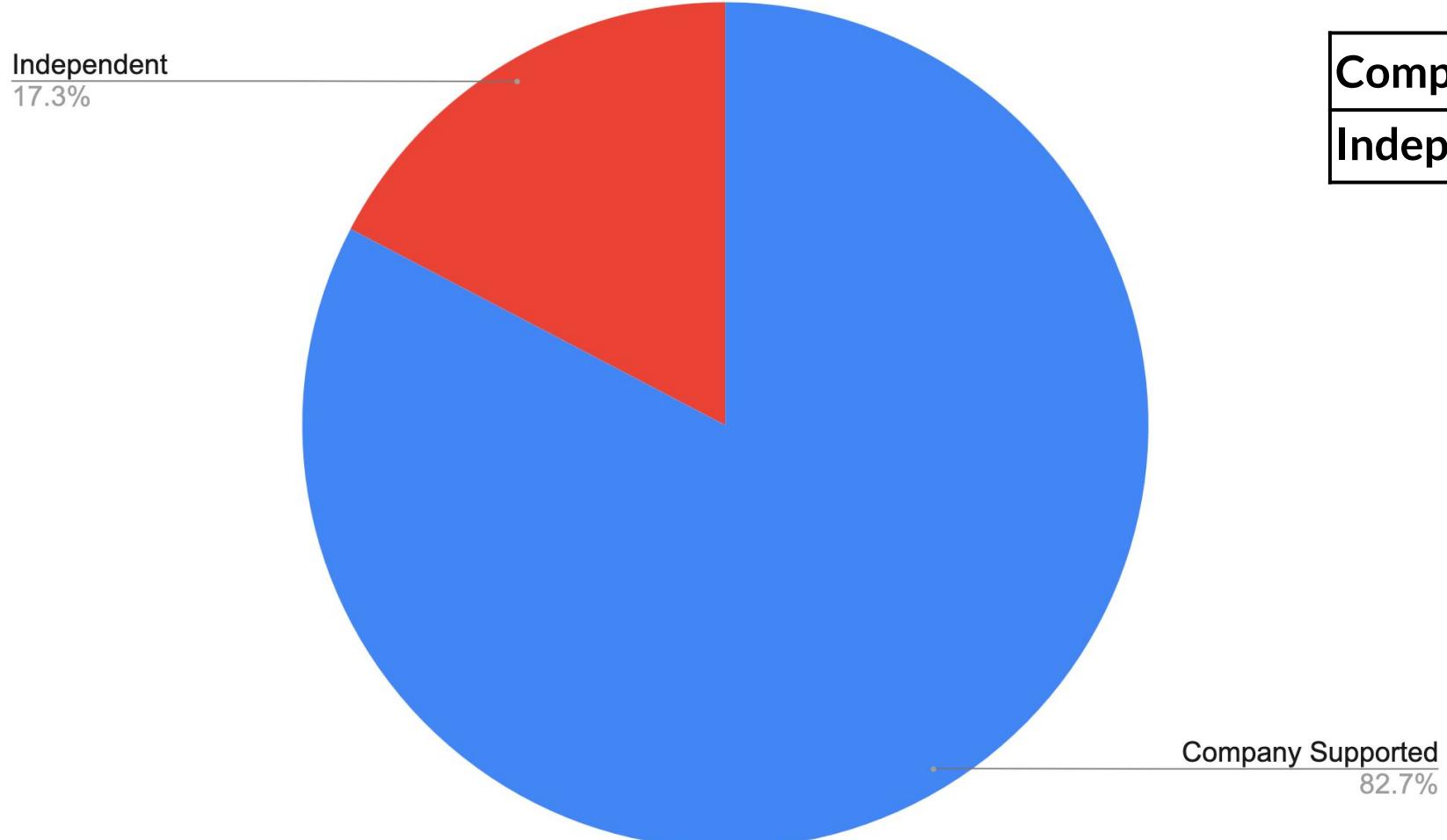
```
[FAILED] failed to get logs from pod-subpath-test-preprovisionedpv-wphp for test-container-subpath-preprovisionedpv-wphp: Get "https://api.e2e-e11fd55de4-4753d.test-cncf-aws.k8s.io/api/v1/namespaces/provisioning-4188/pods/pod-subpath-test-preprovisionedpv-wphp/log?container=test-container-subpath-preprovisionedpv-wphp&previous=false": stream error: stream ID 1515; INTERNAL_ERROR; received from peer
In [It] at: test/e2e/framework/pod/output/output.go:247 @ 04/05/23 01:14:43.999
```



Global Distribution of Contributors



Employer Support For OSS Work



Company Supported	3169
Independent	669

What Can Be Improved?

We've seen what went right, let's take a look at how we can potentially improve.



Strategically Growing OWNERS

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- Looking back at our fire stories, we can get things back on track quicker if we have a geo distributed set of firefighters:

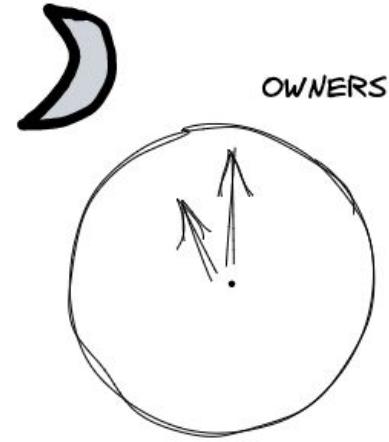
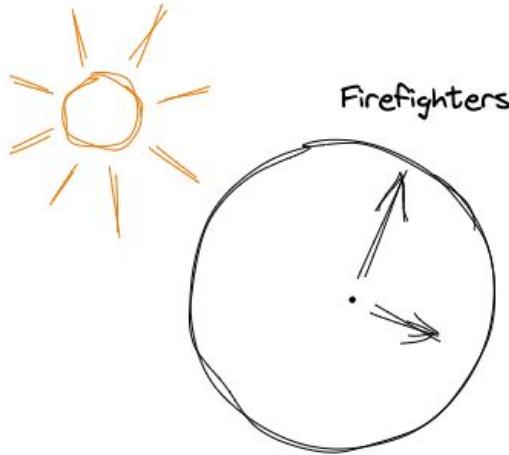


Strategically Growing OWNERS

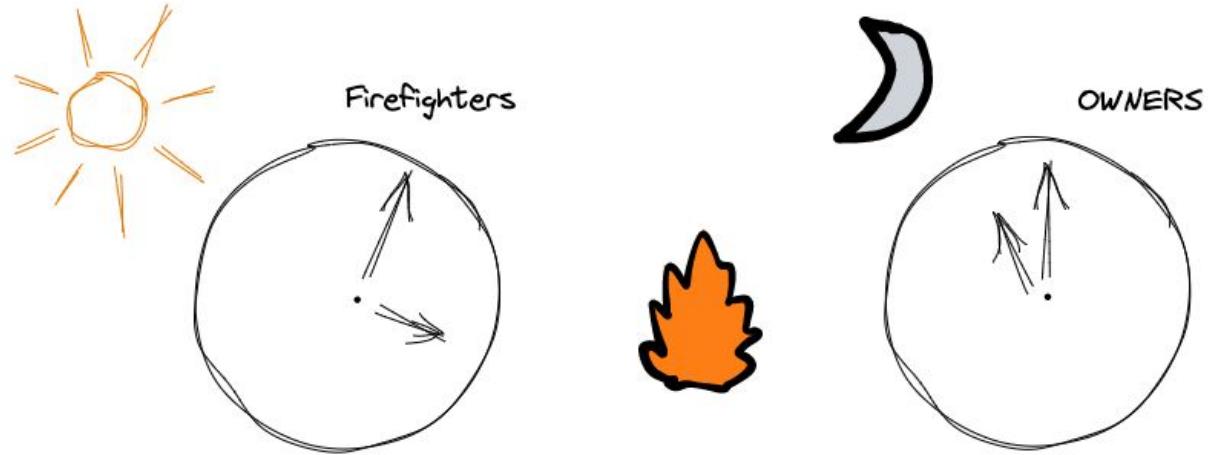
- Growing OWNERS in the project is critical. Period.
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 - But is that enough?



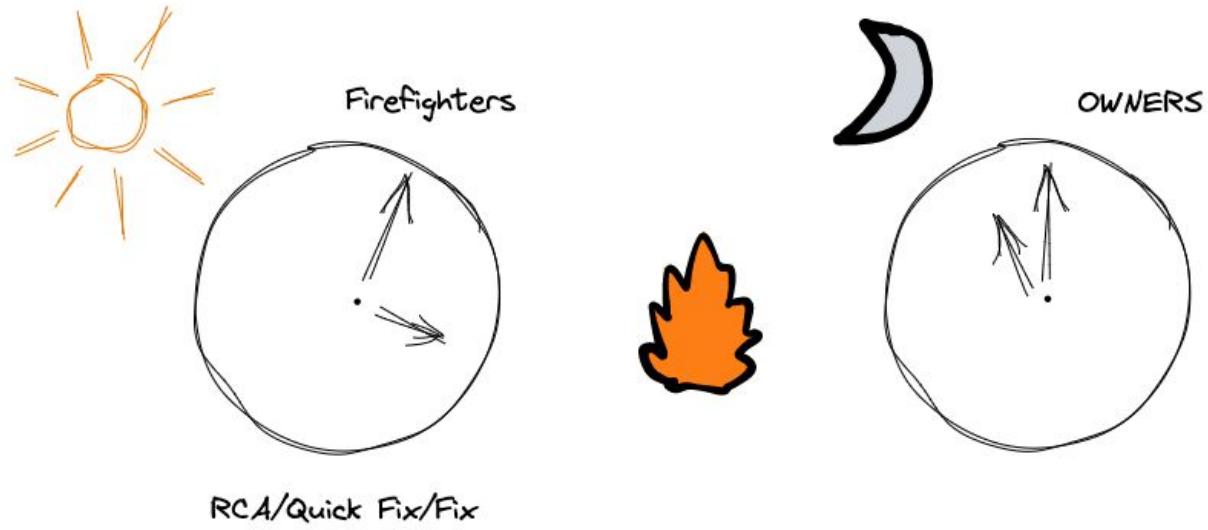
Strategically Growing OWNERS



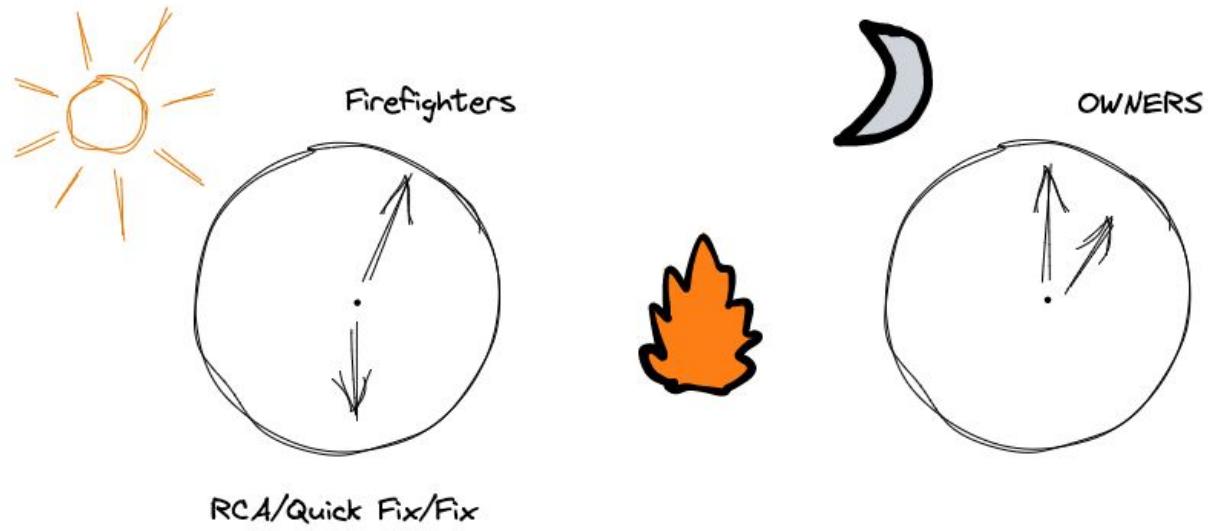
Strategically Growing OWNERS



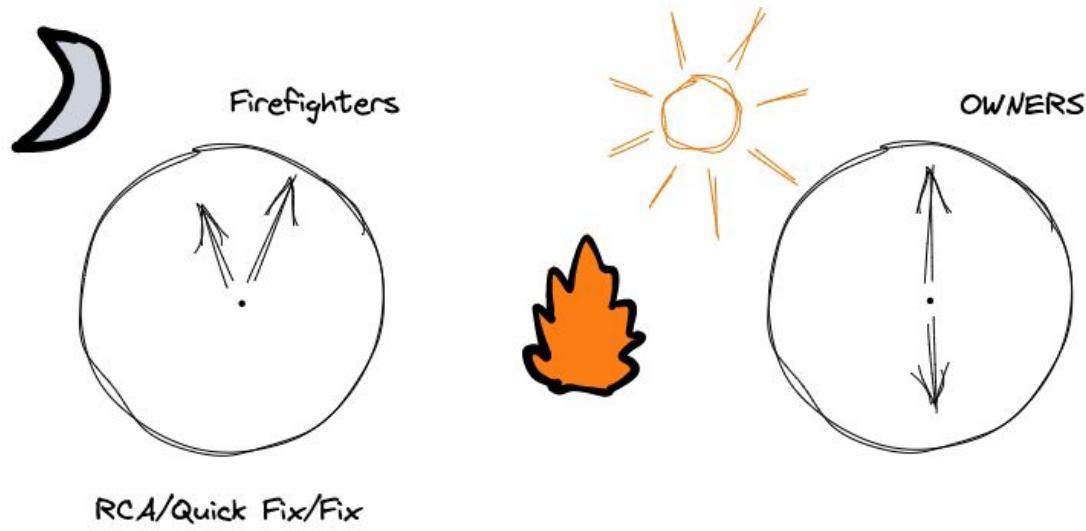
Strategically Growing OWNERS



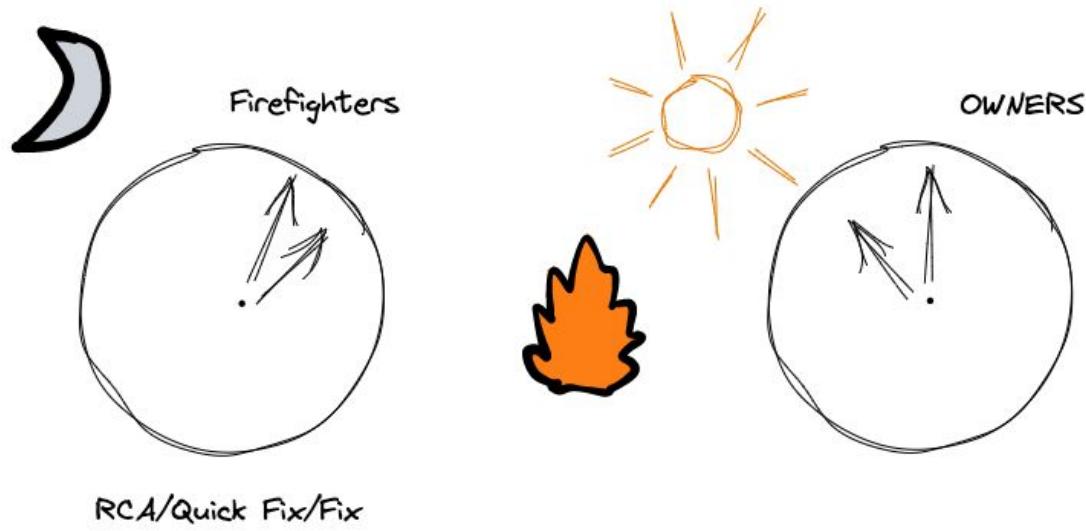
Strategically Growing OWNERS



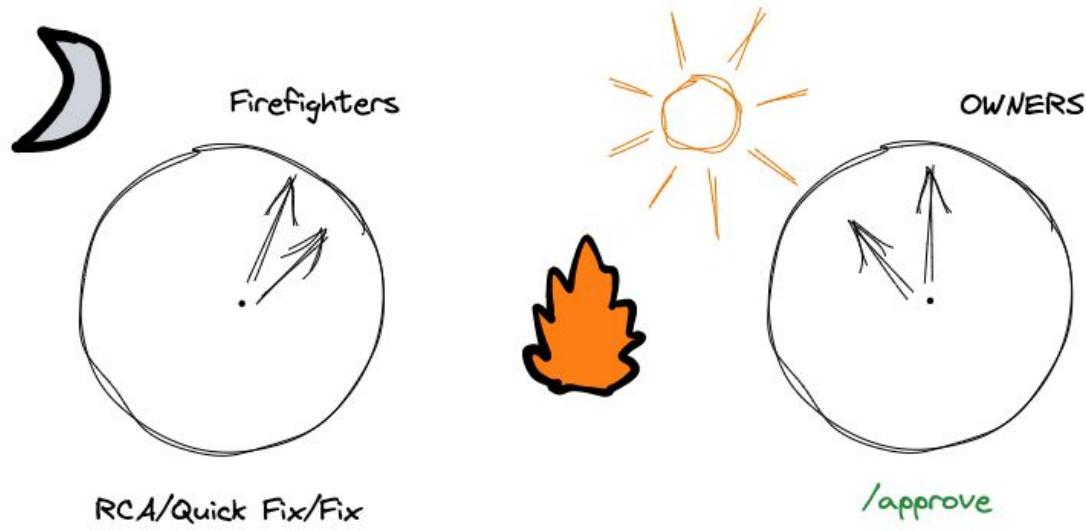
Strategically Growing OWNERS



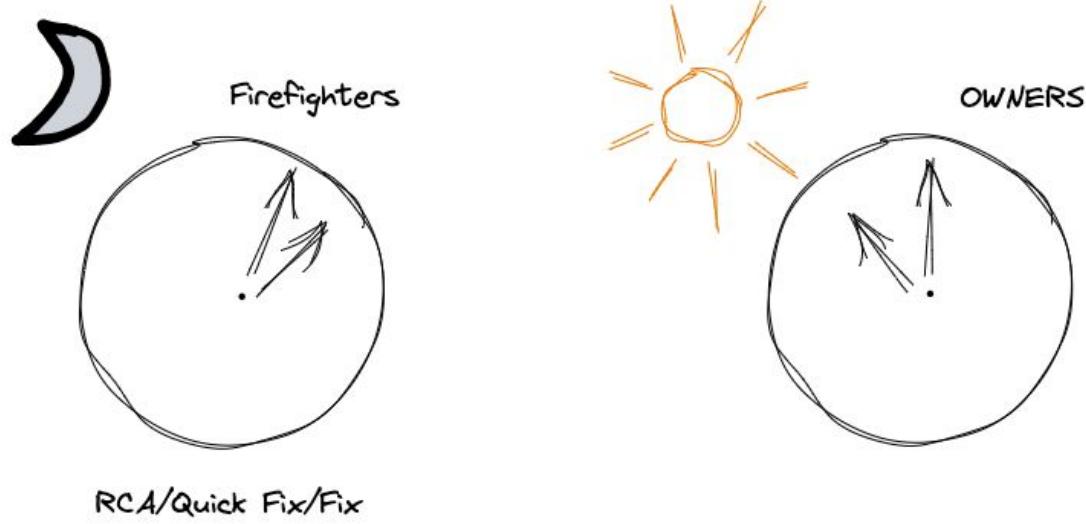
Strategically Growing OWNERS



Strategically Growing OWNERS



Strategically Growing OWNERS



Strategically Growing OWNERS

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- Looking back at our fire stories, we can get things back on track quicker if we have a geo distributed set of firefighters:
 - But is that enough?
 - Along with this, we also benefit from a geo distributed set of OWNERS
 - Brings back things back on track faster (ex: unblocks CI faster)
 - More time for CI to soak changes made by PRs (especially towards the end of a release)



Reliability



Reliability

We don't need firefighters if we don't have fires



Reliability

Investing in the reliability of the project gives exponentially positive returns



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- This effort is largely owed to SIG Testing – thank you to everyone involved, but there is still a *lot* of help needed here.



Reliability

Investing in the reliability of the project gives exponentially positive returns:

- There has been a great amount of work being put towards reliability of the Kubernetes project.
- This effort is largely owed to SIG Testing – thank you to everyone involved, but there is still a *lot* of help needed here.
 - If you are an end user or a vendor or someone who cares about Kubernetes, investing and funding folks to work on the Kubernetes project is critical for us as an ecosystem.



Having More Firefighters



Having More Firefighters

According to Curto-Millet et al. in “The sustainability of open source commons”:

“Not all participation is equal and projects and communities need to encourage positive social relations. This involves participants becoming core members through situated learning and identity construction.”



Having More Firefighters

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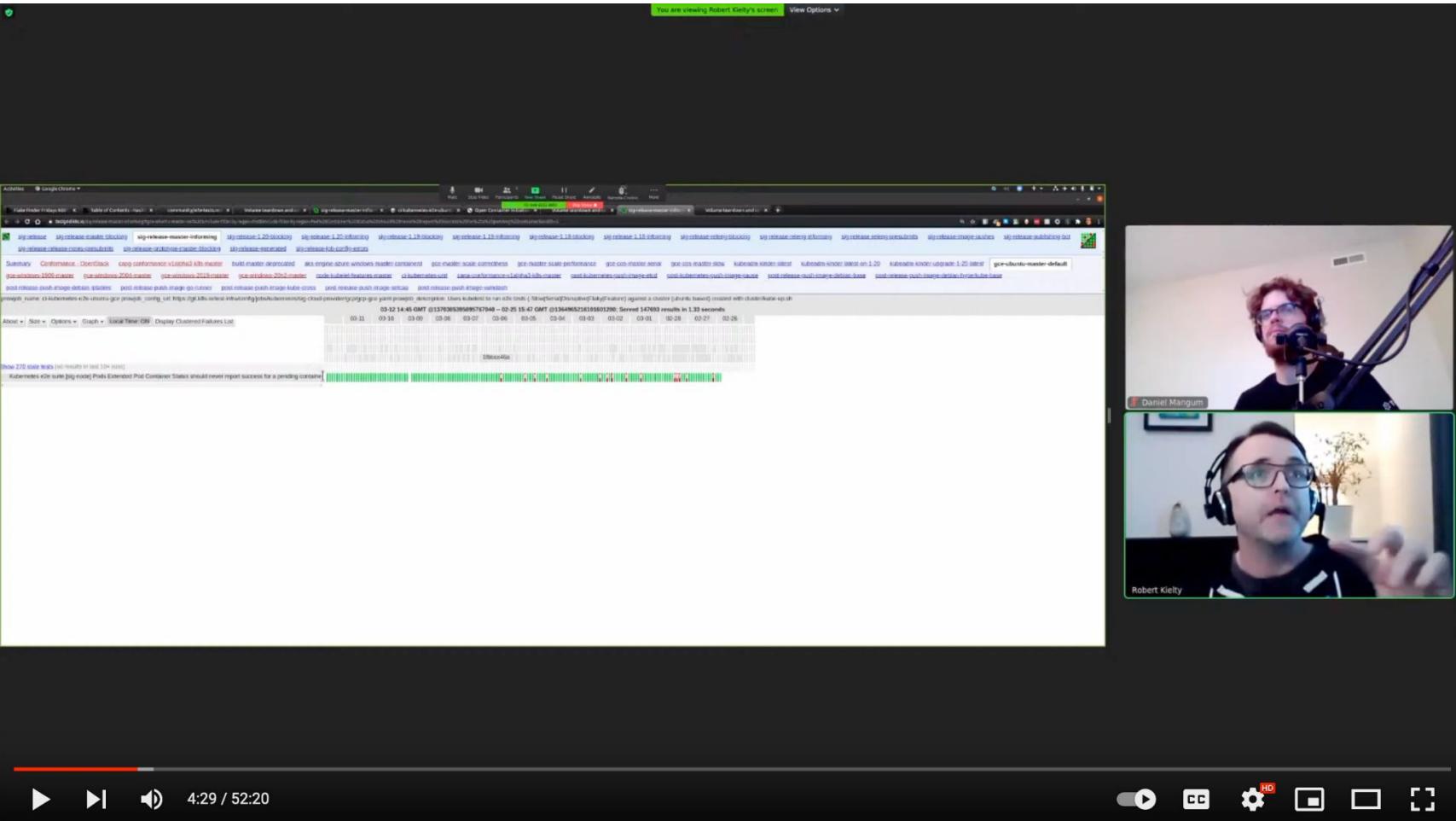


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- Enable folks who are potential firefighters
 - When fires come up - having broken down, tangible descriptions and analyses enable potential firefighters.
- We have amazing teams like the Release CI Signal who can be enabled to be the entry point of firefighting.



Having More Firefighters



Flake Finder Fridays #001



Kubernetes
19.2K subscribers

Subscribe

Like 8



Share



Clip



Save



Link to the video: [YouTube](#)



@MadhavJivrajani & @theonlynabarun

Takeaways

Globally distributed contributors, with employer support, trained to triage and debug fires, with the right tools.

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Thank You!



@MadhavJivrajani & @theonlynabarun

Come join us at the **Kubernetes SIG Meet and Greet Tomorrow** at **12.30PM**
at **Europe Foyer 1, Ground Floor, Congress Centre.**





Please scan the QR Code above
to leave feedback on this session