



KubeCon



CloudNativeCon

Europe 2019

What goes in a release

Kubernetes 1.14
in code, conversations, and hearts

Maria Ntalla, Pivotal

Welcome!

This is the slidedeck I used when giving this talk during Kubecon Barcelona 2019.

For an up-to-date version, complete with errata and additional resources, visit <http://bit.ly/kubecon-what-goes-in-a-release> .

Thanks!

Maria

:wave:



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@ntallaki



@maria



- Community aspect of open source
Kubernetes
 - Collaboration
 - Priorities
 - Discussion
 - Implementation

The data



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- During 1.14 release (Jan-March 2019)

The data



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- During 1.14 release (Jan-March 2019)
- Github
- Slack
- And more!

The fine print



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- Warning: sweeping aggregation ahead

The fine print



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- Warning: sweeping aggregation ahead
- Warning #2: human bias ahead

The fine print



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- Warning: sweeping aggregation ahead
- Warning #2: human bias ahead
- Warning #3: approximation ahead



In the beginning,
there was the code



- github.com/kubernetes



- github.com/kubernetes
- 68 public repos
 - most with activity during 1.14



- github.com/kubernetes
- 68 public repos
 - most with activity during 1.14
- “kubernetes”/“k8s” bring 10’s of 1000’s external results

Github cont'd



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- 1 particularly interesting one;
 - `kubernetes/kubernetes`



- 1038 issues (481 still open)
- 2047 PRs (295 still open)



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- 2047 PRs (295 still open)
- 370 contributors

Github: More in detail



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Github: More in detail



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- Over 1415 PRs that were closed or merged
 - A net of 5.5M lines of code added

Github in more detail



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- 15 commits/PR

Github in more detail



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Europe 2019

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 - A net of 5.5M lines of code added
- 15 commits/PR
- Most active areas:
 - kubelet, kubectl, scheduler

Github in more detail



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- ~6k unique files changed
 - Some multiple times
 - Total: >31k files changed
- Go(2598), bash(315), docs(61), yaml(120)

Github in more detail



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- Test vs Source code
 - overall: 2206 over 6100
 - .go: 855 over 2598

Who are these people?



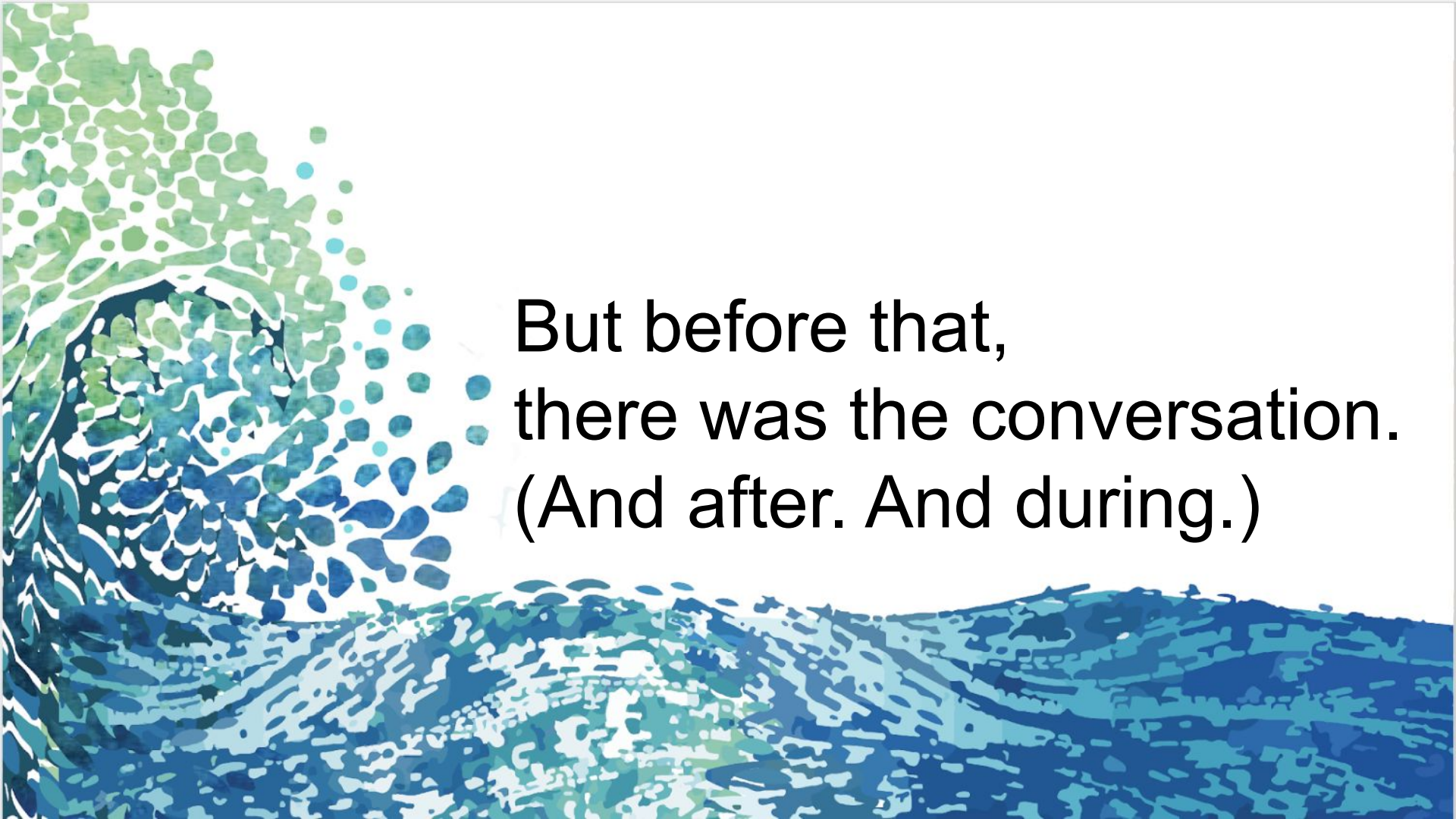
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- A total of 370 contributors opened PRs during 1.14
- 173 org members/not-yet-org
- 197 not -yet-org-members



But before that,
there was the conversation.
(And after. And during.)

Github in words



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- 18708 comments across 3085 issues/PRs
 - Lots of them come from bots (~50/h)
- Average PR lifetime: 552 hours

Github: more than words



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- Total of 1231 reactions in k/k PRs

Github: more than words



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- Total of 1231 reactions in k/k PRs

834



Github: more than words



KubeCon



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15



Github: more than words



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834

15

44



Github: more than words



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Europe 2019

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834

15

44

156



Github: more than words



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CloudNativeCon

Europe 2019

- Total of 1231 reactions in k/k PRs

834

15

44

156

41



Github: more than words



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Europe 2019

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834



15



44



156



41



141



- k8s.slack.io
- 267 public channels
 - all but a few had some activity
- Most active:
 - sig-testing, followed by sig-release

Slack words



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- 180k conversations during 1.14
- 6243 mentions of github.com/kubernetes

Slack words



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- 6000+ of “What do you think?”

Slack words



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- 6000+ of “What do you think?”
- 16k “I don’t know”

Slack words



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- 6000+ of “What do you think?”
- 16k “I don’t know”
- 28k times of “I agree/I like it”

Slack words



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- 6000+ of “What do you think?”
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- Exactly 56 results of “I disagree”

Slack words



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- 6000+ of “What do you think?”
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- 319 shoutouts

Slack words



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- 6000+ of “What do you think?”
- 16k “I don’t know”
- 28k times of “I agree/I like it”
- Exactly 56 results of “I disagree”
- 319 shoutouts
- 129 bikeshed alerts

Slack: more than words



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Email



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- 300 emails in SIG mailing lists
- Chain lengths between [1-57]
 - averaging at 3-4 messages
- Viewership: ~20-30*

Real-time



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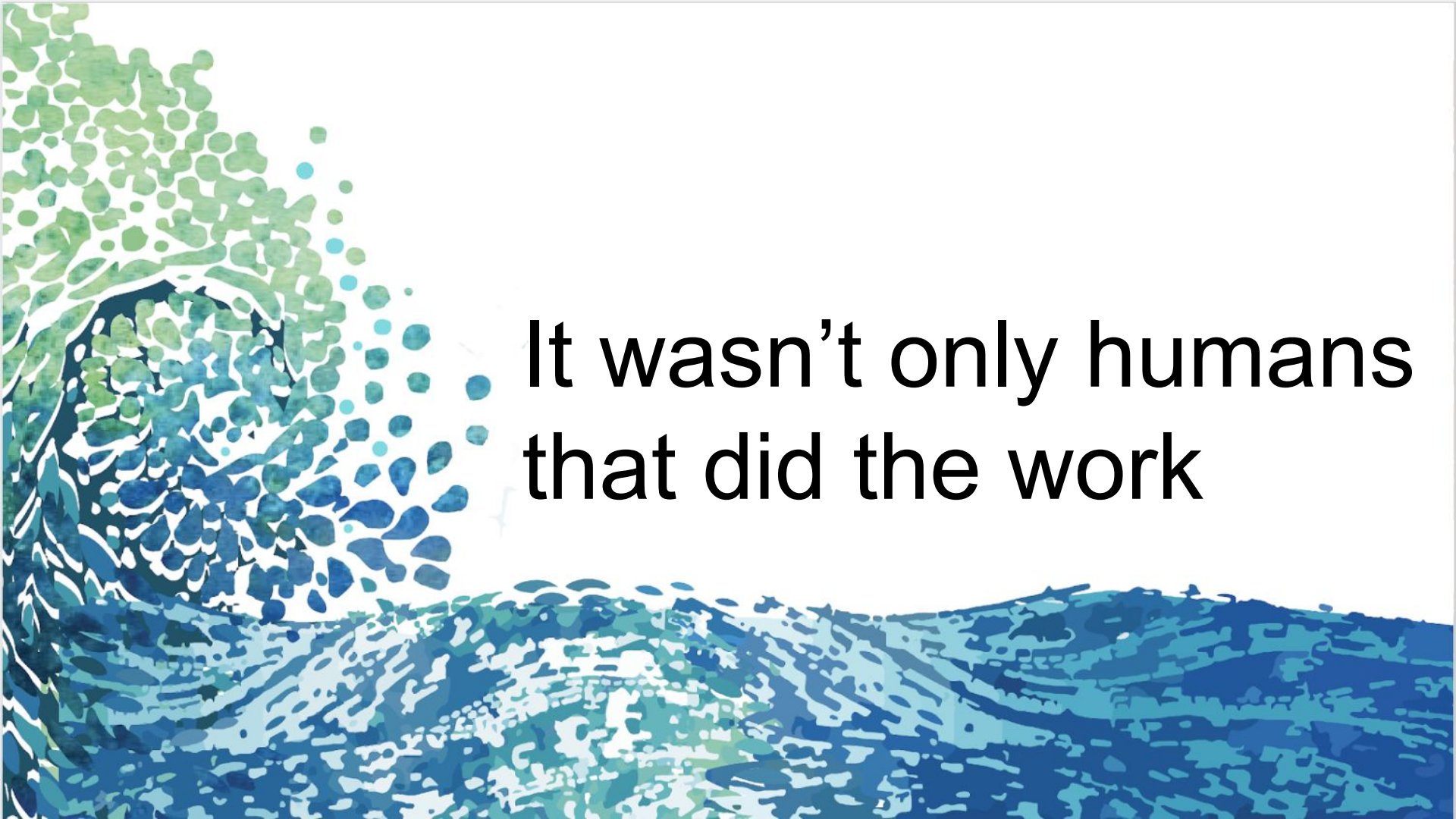


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- 140 publicly recorded meetings
- ~100 hours
- Viewership: 0-300



It wasn't only humans
that did the work



- Participating in conversations
- Managing issue and PR creation process

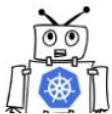


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k8s-ci-robot commented on 10 Jan

Member



Thanks for your pull request. Before we can look at your pull request, you'll need to sign a Contributor License Agreement (CLA).



Please follow instructions at <https://git.k8s.io/community/CLA.md#the-contributor-license-agreement> to sign the CLA.



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fejta-bot commented on 19 Mar



/retest

This bot automatically retries jobs that failed/flaked on approved PRs (send feedback to [fejta](#)).

Review the [full test history](#) for this PR.

Silence the bot with an `/lgtn cancel` or `/hold` comment for consistent failures.



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/pony computer

k8s-ci-robot commented on 18 Dec 2018

Member



```
erfcdu djkkk kkkk ewrrrfch tuhbbi  
guinhmedx fcfcfcfcfcty!  
jhjyy gggg mh bnnnnnjm  
cfgcfrxcck bcxzczzzz:  
umjnhmyirc imnhnmkinh
```





- Participating in conversations
 - CLAs
 - rerunning tests
 - posting pony pictures

- Building, testing, merging
- 1125 test jobs
- Artifacts, logs, test summaries



- Over 161k build & test job runs
 - >123k total hours
 - ...in 2 weeks



- ~40% (71k hours/2 weeks) failed
 - e.g. bugs, no longer valid tests, flakes
 - PRs in flight: 1130500 hours



Conclusion



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With a mix of folks who have been around longer, and contributors earlier on on their kubernetes journey.



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With lots and lots of conversation,
iteration, different views,
and questions.



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And finally, with a whole lot of help from their robot friends.



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¡Gracias!



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