

Sustaining Jenkins and CI/CD through the CD.Foundation

Open Source Leadership
Summit



CD.FOUNDATION

Tracy Miranda

Director of Open Source
Community @ CloudBees



A neutral home for
the next generation
of continuous
delivery
collaboration



Premier Members



General & End User Members



Initial Projects:



<https://cd.foundation/projects>

An origin story from
the Jenkins
perspective



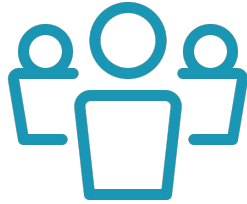
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Jenkins is The Leading CI/CD Tool

In 2018 Jenkins achieved record growth levels.



192,000+
known active installs



15 million
Jenkins Users



20 million
Jenkins Jobs



Kohsuke Kawaguchi

CTO @ CloudBees
Creator of Jenkins

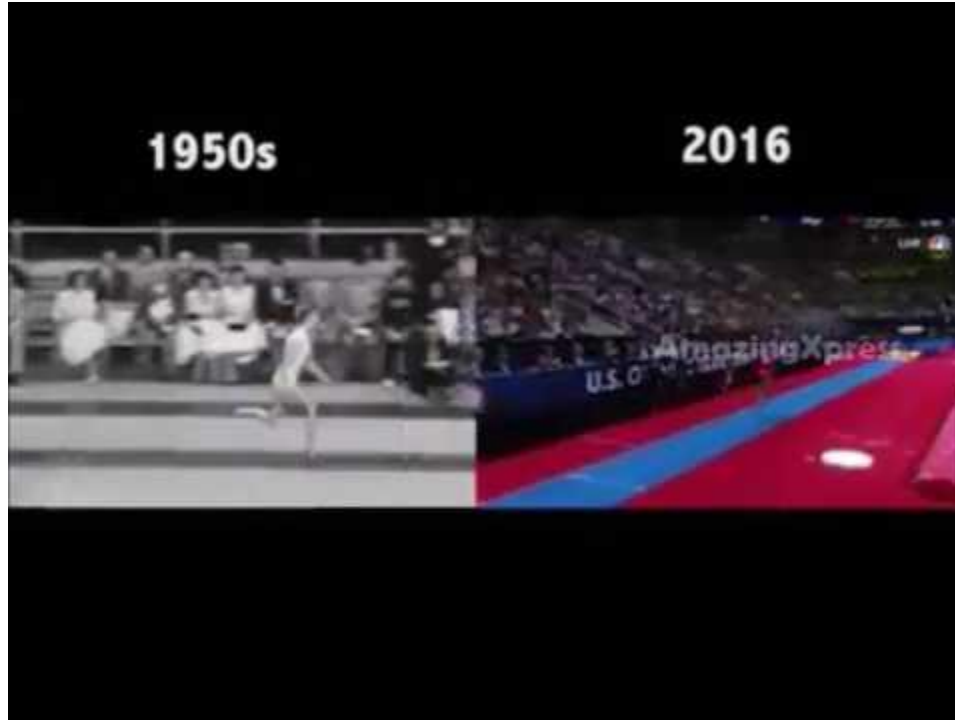


Jenkins Governance Issues

- Limits to current support and services
 - Jenkins hosted by Software in the Public Interest
 - Limited services non-profit organization
 - Jenkins board members signed up for services with their personal credit cards



What worked before isn't going to cut it today



Jenkins Governance Issues

- High barrier to participation by corporate contributors
 - A little too unique to be well understood by corporate open source offices
 - Jenkins was losing out on company contributions and participation
 - Config as code good example of corporate backed initiative
 - Jenkins community members really wanted the corporate blessing/investment to keep working on it



Jenkins Governance Issues

- Misperception that Jenkins is owned by CloudBees
 - CloudBees a key steward of the Jenkins project
 - Key members of Jenkins community work at CloudBees
 - This repeatedly led to unnecessary friction
 - CloudBees employees would sometimes back away from engaging in open source



Jenkins Governance Issues

- Need to coordinate broader community of contributors
 - non technical contributors such as meetup organizers
 - outreach coordinators
 - No speaker bureau

Jenkins Governance Issues

- Raising and using money without legal entity
 - Not tapping ability to raise money
 - Only occasional fund raising drives
 - Even for money raised, lacked the ability to use it effectively
 - No ability to hire people!!!!
 - Irregular budget is not good for paying recurring expenses
 - Jenkins really needed a steady budget and the ability to plan ahead



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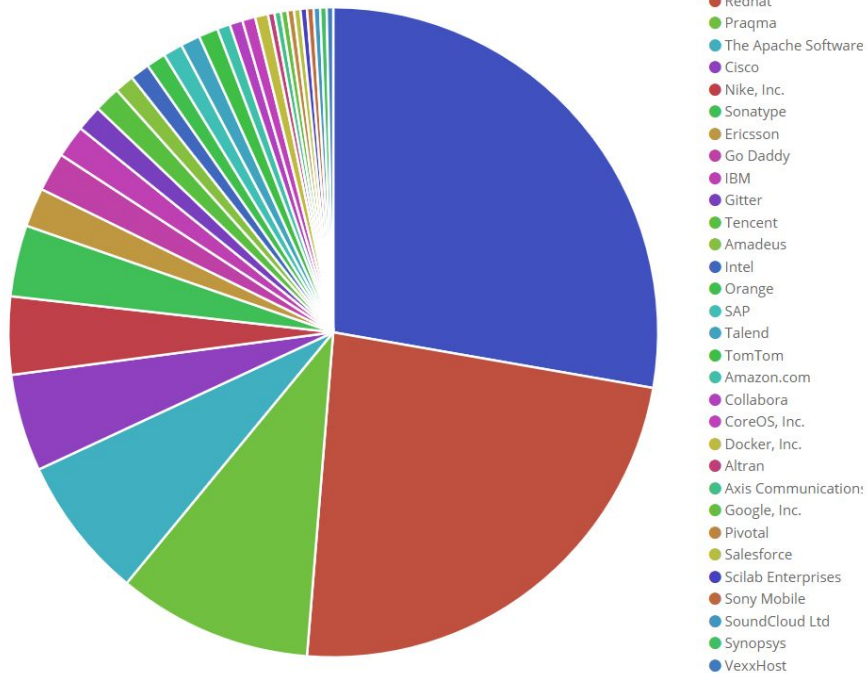
Jenkins Governance Issues

- Limits to current support and services e.g. entering into legal contracts
- High barrier to participation by corporate contributors
- Misperception that Jenkins is owned by CloudBees
- Need to coordinate broader community of contributors e.g. non technical contributors such as meetup organizers, outreach coordinators, etc
- Raising and using money without legal entity



Community health measures?

github_pullrequests_organizations_author



R. Tyler Croy

Jenkins board member

<https://jenkins.io/>



Jenkins Software Foundation?

- Tyler Croy & Chris Aniszczyk (Linux Foundation & CNCF)
 - First discussed with community at Jenkins Contributor Summit 2017
 - Tyler went to OSLS Sonoma to meet others involved with foundations
- Feedback
 - Jenkins community was very receptive
 - Foundation Fatigue
 - Ed Warnicke of Cisco: please don't make us sit on the board of another foundation!!!!

Continuous Delivery Foundation evolution

“Take [the idea of Jenkins Software Foundation](#), but make it bigger. Let’s make a foundation that applies to not just Jenkins, but all things CD, kind of like how CNCF is bigger than Kubernetes.”

- R Tyler Croy

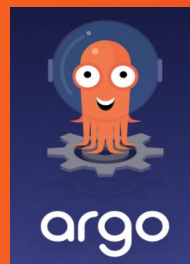
CI/CD landscape



Travis CI



shippable



AWS CodePipeline



InfraBox

drone.io



Kelsey Hightower ✓

@kelseyhightower

Follow



There is no single continuous integration and delivery setup that will work for everyone. You are essentially trying to automate your company's culture using bash scripts.

8:59 AM - 20 Nov 2017

674 Retweets 1,587 Likes



51



674



1.6K

What about CNCF?



The screenshot shows the top navigation bar of the CNCF website with links for About, Projects, Certification, People, Community, and Newsroom, along with a 'JOIN NOW' button and a search icon. The main content area features the heading 'What is CNCF?' followed by a paragraph explaining the foundation's mission: 'CNCF is an open source software foundation dedicated to making cloud native computing universal and sustainable. Cloud native computing uses an open source software stack to deploy applications as microservices, packaging each part into its own container, and dynamically orchestrating those containers to optimize resource utilization. Cloud native technologies enable software developers to build great products faster.' Below this text is a prominent pink 'JOIN' button.

CLOUD NATIVE
COMPUTING FOUNDATION

About ▾ Projects ▾ Certification ▾ People ▾ Community ▾ Newsroom ▾ [JOIN NOW](#) 🔍

What is CNCF?

CNCF is an open source software foundation dedicated to making cloud native computing universal and sustainable. Cloud native computing uses an open source software stack to deploy applications as microservices, packaging each part into its own container, and dynamically orchestrating those containers to optimize resource utilization. Cloud native technologies enable software developers to build great products faster.

[JOIN](#)

Projects

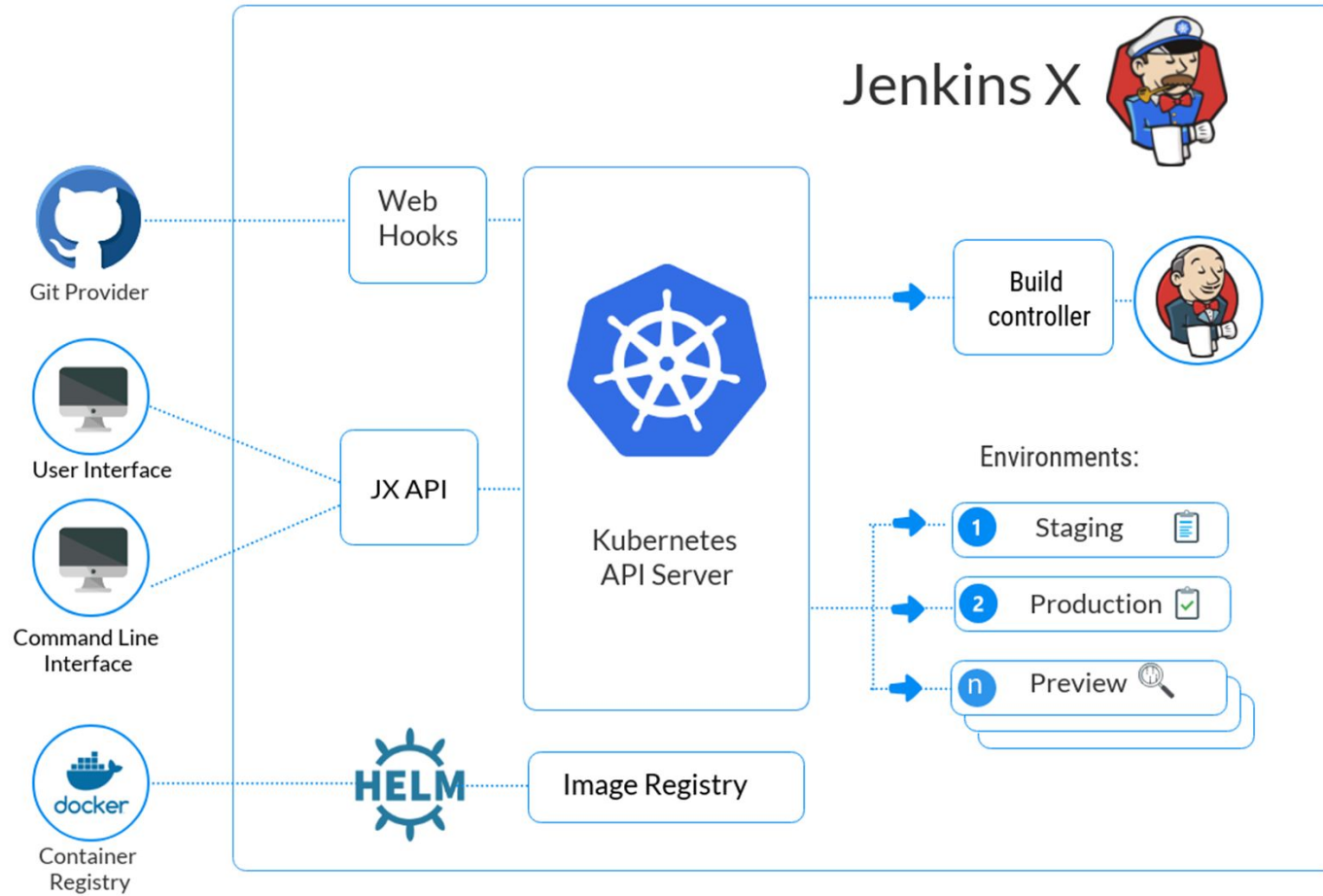
We host and nurture components of cloud native software stacks, including Kubernetes, Prometheus and Envoy. Kubernetes and other CNCF projects are some of the **highest velocity projects** in the history of open source. We are regularly adding new projects to better support a full stack cloud native environment.



JENKINS X

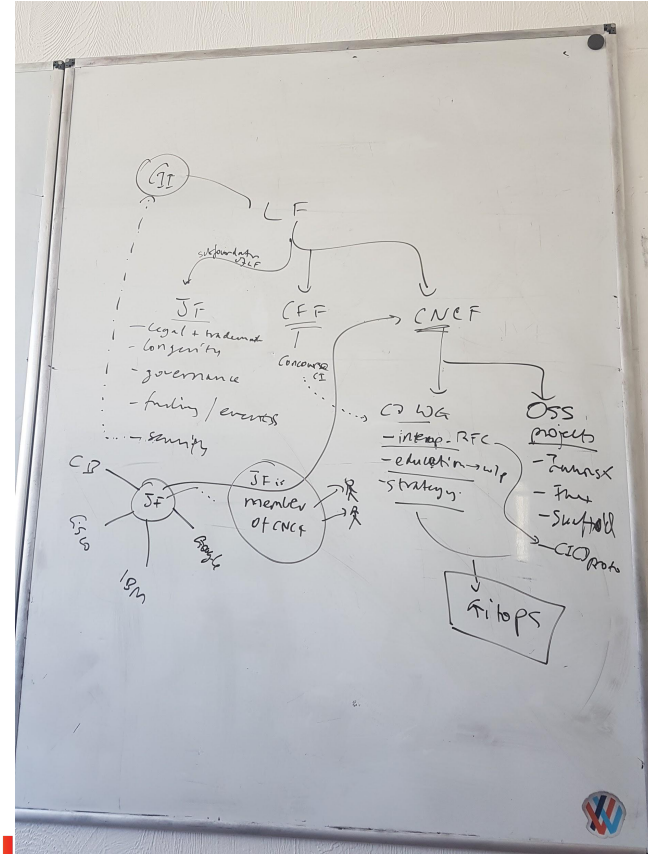
CI/CD solution for
modern cloud
applications on
Kubernetes





What about CNCF?

- Jenkins X is cloud native
 - Close collaboration with Kubernetes & other projects in ecosystem
- Should we try to do something there?



Reproducible
Decoupled
Reusable
Portable



Knative Build & Pipeline: Tekton

- Knative Serverless platform launched
- Build and pipeline part of the project
- Effort to standardize concepts

Branch: master [🔗](#)

🕒 35m 53s

Changes by rtyler

Commit: e45f4fb

🕒 2 days ago

Push event to branch master



Prepare Workspace - 2s



[Restart Prepare Workspace](#)



> Check out from version control

1s

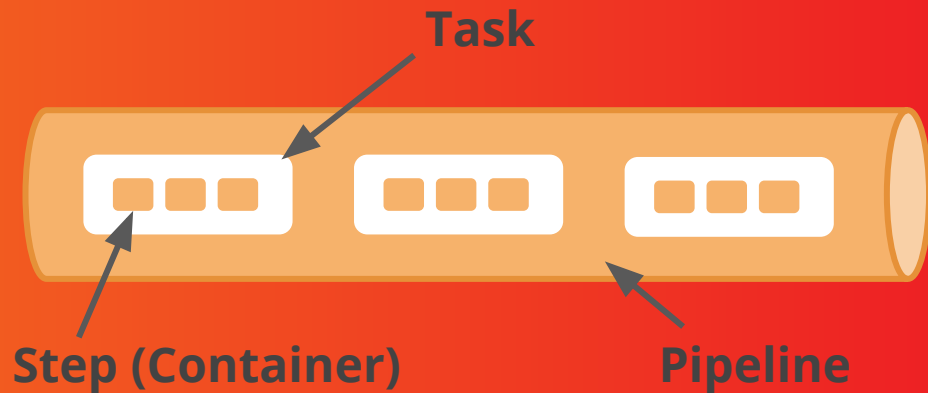


> Shell Script

2s

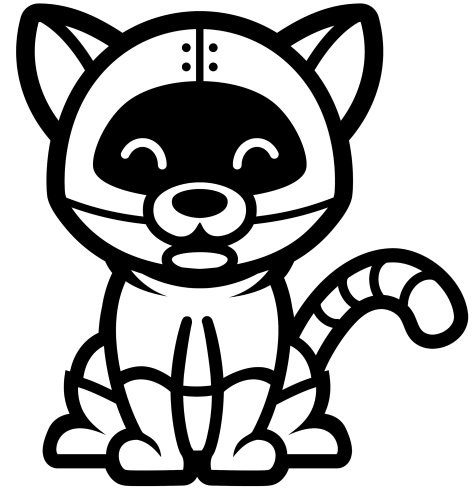
Tekton Pipelines

- CI/CD
- Container based
- Kubernetes CRDs
- API Spec



Tekton Pipelines: Community

- Regular contributions from:
 - Google
 - Cloudbees
 - Pivotal
 - RedHat
 - IBM
- Integrated with:
 - Knative
 - Triggermesh Aktion
 - Jenkins X



Continuous Delivery Foundation it is!

- Laser focus on 'CD'
- More than just cloud native
 - Also mobile, IoT, etc
- Now what about corporate involvement...

CloudBees



- Leader in the DevOps space
- Many of Jenkins & Jenkins X contributors work there
- Exec team helped to formulate details of the vision
 - Recognized the potential of the 'positive sum game' for all CD players
- Leaning into open source rather than being protectionist

"Everyone is a developer and any idea delivered changes the world. We have seen continuous delivery become the gold standard for delivering ideas, therefore forming the Continuous Delivery Foundation is a natural evolution in making continuous delivery accessible to all. We are proud to be a founding member of the CDF, to support the inclusion of Jenkins and Jenkins X and to foster the industry collaboration and interoperability that will surely result from this."

- Sacha Labourey, CEO of CloudBees



Google

- Enthusiastic about the idea from the start
- Also bought into the vision
- Early partners in driving the formation
- Ready to evolve Knative build/pipeline and contribute to CDF

Today the Linux Foundation is more than Linux...

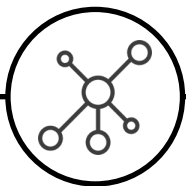
Security



We are securing the internet as home to world's largest certificate authority
securing 100M web sites.



Networking



We are home to 9 of the top 10 open source networking projects in the world **backed by the majority of global**



Cloud



We are creating a **portability layer for the cloud**, driving standards and developing reference tools for cloud native development.



kubernetes



Automotive



Our Automotive Grade Linux platform is backed by 12 automakers and is either in or slated for production in **millions of vehicles worldwide.**



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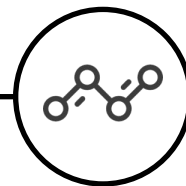
Blockchain Edge/Embedded Web



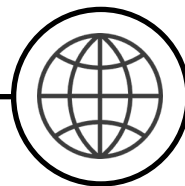
We are creating a permanent, secure distributed ledger that makes it easier to create cost-efficient, decentralized **business networks.**



HYPERLEDGER



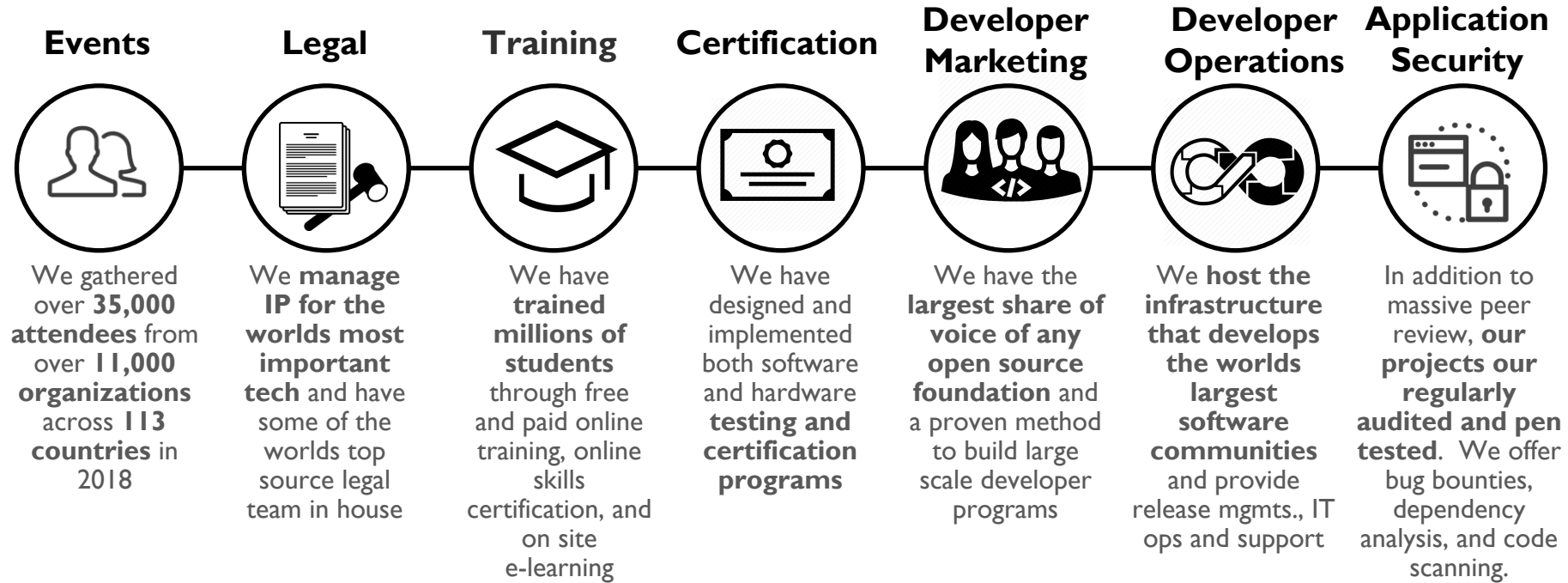
We are creating projects used in building the **majority of embedded Linux distributions** and rationalizing edge computing.



We are providing the **application development frameworks** for next generation web, mobile, serverless, and IoT applications.



The LF is an innovation engine for open source



What about Governance?

- Lots of decisions about structure
- Modelled on CNCF
 - Simplifications where necessary
 - Inspiration from Deep Learning charter too
- Three main bodies
 - Governing board
 - Technical oversight committee
 - Marketing Committee

CDF Mission

- CDF believes in the power of Continuous Delivery to empower developers and teams and to produce high quality software more rapidly
- CDF believes in the open-source solutions collectively addressing the whole SDLC
- CDF fosters and sustains the ecosystem of open-source, vendor neutral projects through collaborations and interoperability
- CDF advocates this idea and encourages collaborations among practitioners to share and improve their practices

Recruiting

- Clear vision
- Clear messaging around related efforts
- Spread the load
- Focus on end users too
- FOMO!



Spinnaker

Premier Members



General & End User Members



Close engagement with Jenkins community

- Lots of conversations
 - Contributor summits
 - FOSDEM
 - Virtual
 - In person
- Helped evolve, share concerns, share enthusiasm
- Still ongoing!



Batimsse
@bmathus

Following

Jenkins #BOF @fosdem starting — Tracy giving some insights on the recently announced Continuous Delivery Foundation initiative [groups.google.com/forum/m/?utm_m ...](https://groups.google.com/forum/m/?utm_m...)
Room is packed! \o/



3:16 PM - 3 Feb 2019

13 Retweets 14 Likes



CDF Launches!



Jenkins
@jenkinsci

Following

Jenkins project members @kohsukekawa , @agentdero and @tracymiranda share the stage to announce @CDeliveryFdn where Jenkins, Jenkins X, Spinnaker, and Tekton are joining to define the future of Continuous Delivery.



5:38 PM - 12 Mar 2019

12 Retweets 17 Likes



Jez Humble ✓
@jezhumble

Following

Google Cloud's @kimsterv and Christie Wilson talking about Tekton, an open container-based CD framework:
github.com/tektoncd



5:19 PM - 12 Mar 2019

2 Retweets 4 Likes

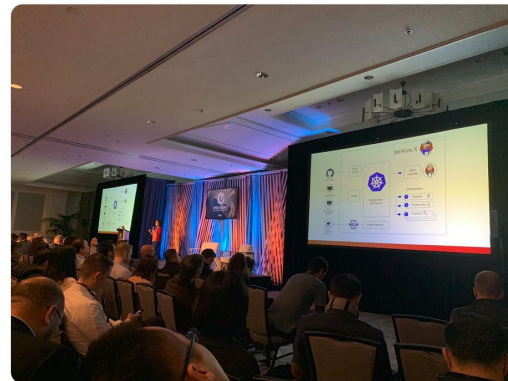


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Jez Humble ✓ @jezhumble · 5h

Following up are @netflix' @aglover talking about Spinnaker, and @CloudBees' @tracymiranda presenting JenkinsX



Not everyone is a fan...



Immediate Benefits for the community

DevStats

This is a toolset to visualize [GitHub archives](#) using [Postgres](#) databases and [Grafana](#) dashboards. Everything is open source so that it can be used by other CNCF and non-CNCF open source projects. The only requirement is that project must be hosted on a public [GitHub](#) repository/repositories. Author: [Łukasz Gryglicki](#)

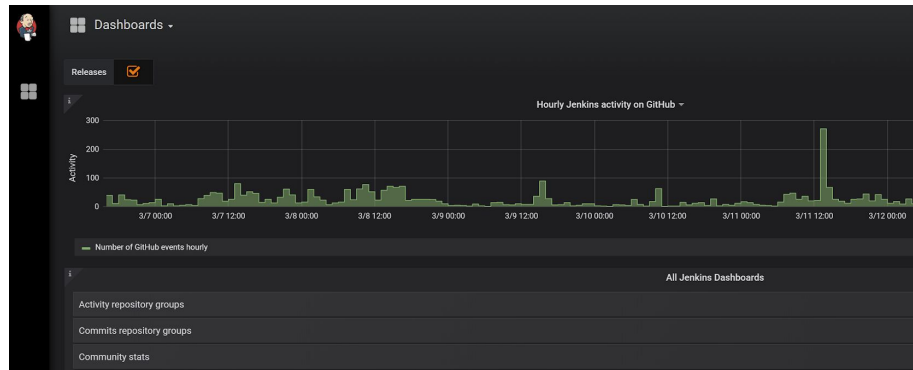
Projects:



Database dumps:



Hardware for this site is graciously donated by [packet](#)



The future of Jenkins

- Jenkins becomes better by our powers combined!
- Bring CI/CD to the rest of the software engineering organization.
- More Cloud Native.
- Powerful cross-platform Pipeline support.
- Open up to new markets e.g. China

Initial Projects:



<https://cd.foundation/projects>

Continuous Delivery Summit - May 20th 2019

COMMUNITY CO-LOCATED EVENTS



KubeCon



CloudNativeCon

Europe 2019

May 20 – 23, 2019 | Fira Gran Via, Barcelona, Spain | #KubeCon #CloudNativeCon

Join the community
building the future
of Continuous
Delivery

<https://cd.foundation>

@CDeliveryFdn



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