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
General & End User Members
Initial Projects:

- Tekton
- Jenkins
- Spinnaker
- JenkinsX

https://cd.foundation/projects
An origin story from the Jenkins perspective
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

Source: https://groups.google.com/d/msg/jenkinsci-dev/1w67jI3K4S4/OFDYSEiXEwAJ
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

Source: https://groups.google.com/d/msg/jenkinsci-dev/1wb7Jl3K4S4/OFDYSEIxEwAJ
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

Source: https://groups.google.com/d/msg/jenkinsci-dev/1w67Jl3K4S4/OFDYSETXEWAJ
Jenkins Governance Issues

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

Source: https://groups.google.com/d/msg/jenkinsci-dev/1wb7/l3K4S4/OFDYSE1XEwAJ
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 if 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

Source: https://groups.google.com/d/msg/jenkinsci-dev/1wb713K4S4/OFDYSe1XEWAJ
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

Source: https://groups.google.com/d/msg/jenkinsci-dev/1wb7jI3K4S4/OFDYSE1XEwAJ
Community health measures?
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!!!!
“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

- CI/CD
- Spinnaker
- weave flux
- circleci
- Bamboo
- Concourse
- codefresh
- TC
- Buildkite
- Travis CI
- shippable
- argo
- AWS CodePipeline
- drone.io
- InfraBox
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.
What about CNCF?

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.

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
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 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 providers.

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

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

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

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

**Web**
- 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

Events
We gathered over 35,000 attendees from over 11,000 organizations across 113 countries in 2018

Legal
We manage IP for the world’s most important tech and have some of the world’s top source legal team in house

Training
We have trained millions of students through free and paid online training, online skills certification, and on-site e-learning

Certification
We have designed and implemented both software and hardware testing and certification programs

Developer Marketing
We have the largest share of voice of any open source foundation and a proven method to build large scale developer programs

Developer Operations
We host the infrastructure that develops the world’s largest software communities and provide release mgmts., IT ops and support

Application Security
In addition to massive peer review, our projects are regularly audited and pen tested. We offer bug bounties, dependency analysis, and code scanning.

CD FOUNDATION
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!
Premier Members

- CapitalOne
- circleci
- cloudbees
- Google
- HUAWEI
- IBM
- JFrog
- NETFLIX
General & End User Members

- alauda.cn
- Alibaba Cloud
- anchore
- armory
- Atos
- Autodesk
- DeployHub
- GitLab
- HSBC
- puppet
- Rancher
- Red Hat
- SAP
- Snyk
- Sumo Logic
- CD Foundation
Close engagement with Jenkins community

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

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.

Google Cloud's @kimsterv and Christie Wilson talking about Tekton, an open container-based CD framework: github.com/tektoncd
Not everyone is a fan...

Alexis Richardson
@monadic

Replying to @mchmarny @GoogleOSS and 2 others

Into cdf as tekton or whatever you are calling it now. Let me spell it out. Forming CDF is a mistake. Joining it is a mistake. Putting projects in is a mistake.

7:53 PM - 12 Mar 2019

1 Like
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: Lukasz Przybylo

Projects:
- Spinnaker
- Tekton
- Jenkins
- Jenkins X
- All CDF

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:

- Tekton
- Jenkins
- Spinnaker
- JenkinsX

https://cd.foundation/projects
Join the community building the future of Continuous Delivery

https://cd.foundation

@CDeliveryFdn