

Meet Vulk Cooperative







- Worker-owned software consultancy
- Celebrating 5 years in operation
- 4 worker-owners, 5-10 associates
- Geographically distributed team
- Meetups in Austin, TX
 - Austin Software Co-operatives
 - Open Source Axes
- twitter.com/vulkcoop
- <u>twitter.com/opensourceaxes</u>

- Team
- Project Intro
- Goals
- Key features
- Walk-through of cncf.ci
- Tech Overview
- Roadmap
- Get Involved
- Q&A [10-15 minutes]

Meet the CNCF CI team





- W. Watson@wavell
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- Denver Williams
 @denverwilliams
- Joshua Smith*@nupejosh
- Robert Siekmann*@rsiekmann
- Krista Williams*@rystakei



CNCF CI Intro



The CNCF CI project consists of a CI testing system, status repository server and a dashboard -- cncf.ci.

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The **CI testing system** validates the build and deployment of each CNCF project for any commit on stable and HEAD to x86 and Arm architectures on bare metal (Packet) servers.

The **CI testing system** can reuse existing artifacts from a project's preferred CI system or generate new build artifacts.

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The CI testing system can reuse existing artifacts from a project's preferred CI system or generate new build artifacts.

The **status repository server** collects the test results and the **dashboard** displays them.





Europe 2019

CNCF.CI Goals:

• To compliment the CNCF landscape and trail map -- I.cncf.io



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- To promote CNCF hosted projects and help attract more projects to CNCF



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- To promote CNCF hosted projects and help attract more projects to CNCF
- To demonstrate the use of cloud native technologies on multiple test environments
- To support and contribute to a sustainable and scalable project ecosystem
- To get feedback from cloud native end users and projects
- To provide a third party, unbiased validation of build, deploy and e2e tests for CNCF Graduated and Incubating projects

Goal: Target CNCF Projects Kubecon





Graduated

















Incubating





























Goal: Target ONAP SO Project Kubecon







Goal: Target ONAP SO Project





Europe 2019



CNCF Launches Cross-Cloud Cl Project & Adds ONAP Networking Project to Dashboard Overview

Goal: Target ONAP SO Project





Europe 2019



CNCF Launches Cross-Cloud Cl Project & Adds ONAP Networking Project to Dashboard Overview

"...Our CNCF demo at ONS will illustrate to carriers that Kubernetes and ONAP are key to the future of network virtualization."

Dan Kohn, CNCF executive director



Review: Cross-Cloud Cl v1





Europe 2019 -



CI DASHBOARD: Overview

O Last updated 16 hours ago

Project	Build	Release	Deployments							
	Status	Stable Head	AWS	Azure	GCE	IBM Cloud	Bare Metal (Packet)	OpenStack	VMware vSphere	Oracle Clo Infrastruct
Kubernetes	SUCCESS	v1.12.2	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS
Orchestration	SUCCESS	dde084f	SUCCESS	SUCCESS	Success	SUCCESS	SUCCESS	SUCCESS	Success	SUCCESS
Prometheus	SUCCESS	v2.4.3	SUCCESS	SUCCESS	Success	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS
Monitoring	SUCCESS	8b91d39	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS
CoreDNS	SUCCESS	v1.2.5	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	Success	SUCCESS
Service Discovery	SUCCESS	95c9e14	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	Success	SUCCESS
Fluentd	Success	v1.2.6	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS
Logging	SUCCESS	3dabdc5	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS
Linkerd	SUCCESS	1.5.1	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS
Service Mesh	SUCCESS	36dc2c9	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS
Envoy	SUCCESS	v1.8.0	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCES
Service Mesh	SUCCESS	0ebe247	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS
NAP _	SUCCESS	v1.1.1	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS
Network Automatii	SUCCESS	9a3841e	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS	SUCCESS

Review: Cross-Cloud Cl v1





Europe 2019



CI DASHBOARD: Overview

O Last updated 16 hours ago

Project	Build	Release	Deployments	;						
	Status	Stable Head	AWS	Azure	GCE	IBM Cloud	Bare Metal (Packet)	OpenStack	VMware vSphere	Oracle Cloud Infrastructure
Kubernetes Orchestration	Success Success	v1.12.2 dde084f	Success Success	Success Success	Success	Success	Success	Success	Success	Success
Prometheus Monitoring	Success Success	v2.4.3 8b91d39	Success Success	Success Success	Success	Success	Success	Success	Success	Success
CoreDNS Service Discovery	Success	v1.2.5 95c9e14	Success Success	Success	Success	Success	Success	success	Success	Success

Quick Look: CNCF CI v2





CLOUD NATING COMPUTING FOUNDATION	/E		CI DASHBOARD: Overview			
COMPUTING FOUNDATI	ION		6	Clast updated: 12 hours ago		
Test environment Kubernetes	Stable v1.13.0 ▼	→ Bare Metal (Packet)	>	SUCCESS		
Project	Release	Build	Deploy	Test		
CoreDNS Service Discovery	v1.5.0 2ef55f8	Success	Success	Ø N/A		
Envoy Service Mesh	v1.10.0 829b905	() FAILED	QRUNNING RUNNING	Ø N/A Ø N/A		
Fluentd Logging	v1.4.2 3ac6966	Success Success	Success	Ø N∕A Ø N⁄A		
Prometheus Monitoring	v2.9.2 04f2270	Success	SUCCESS	Ø N/A		
Linkerd Service Mesh	1.6.2 603261b	Success	QRUNNING Success	Ø N∕A Ø N⁄A		
ONAP SO Network Automation	v1.1.1	Success • FAILED	SUCCESS	Ø N/A		



Quick Look: CNCF CI v2



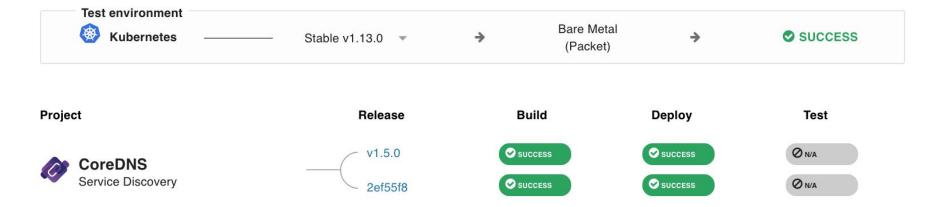
Europe 2019



CLOUD NATIVE COMPUTING FOUNDATION

CI DASHBOARD: Overview

② Last updated: 12 hours ago







Key Features: CNCF CI v2



Europe 2019

1. Project-centric -- highlight and validate CNCF Hosted Graduated and Incubating projects:

- Validate stable and HEAD releases of Graduated and Incubating projects
- Re-use build containers that are provided by a project's CI System
- Re-use upstream Helm charts
- Re-use end-to-end tests provided by projects

Key Features: CNCF CI v2



2. Collaboration -- increase engagement with CNCF Project maintainers:

- Maintainers can update project and release details via GitHub PR
- CI Testing System will integrate with external CI systems to retrieve a CNCF Project's build status and container artifacts
- Maintainers can provide Helm charts and smoke tests for deploy phase
- Maintainers can provide end-to-end tests for test phase

Key Features: CNCF CI v2





Europe 2019

3. Agnostic testing -- validate projects in a configurable test environment:

- Per Kubernetes Release
 - Stable
 - HEAD
- Per Architecture
 - X86
 - o Arm
- Bare Metal
 - Packet net







7	CLOUD NATIV		CI DASHBOARD: Overview			
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	Test environment		D			
		Stable v1.13.0 ▼	Bare Me (Packet	-2	SUCCESS	
Projec	et	Release	Build	Deploy	Test	
	CoreDNS	v1.5.0	⊘ success	⊘ success	Ø N/A	
	Service Discovery	2ef55f8	SUCCESS	⊘ success	Ø N∕A	
r(C)	Envoy	v1.10.0	1 FAILED	QRUNNING	Ø N∕A	
2000	Service Mesh	829b905	1 FAILED	RUNNING	⊘ N/A	
	Fluentd	v1.4.2	SUCCESS	⊘ success	Ø N/A	
	Logging	3ac6966	SUCCESS	⊘ success	Ø N∕A	
	Prometheus	v2.9.2	SUCCESS	SUCCESS	Ø N∕A	
¥	Monitoring	04f2270	SUCCESS	SUCCESS	Ø N∕A	
×	Linkerd	1.6.2	SUCCESS	RUNNING	Ø N/A	
(B)	Service Mesh	603261b	SUCCESS	SUCCESS	Ø N/A	
	ONAP SO	v1.1.1	⊘ success	⊘ success	Ø N/A	
	Network Automation	24ad960	● FAILED	ORUNNING	Ø N/A	







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CI DASHBOARD: Overview

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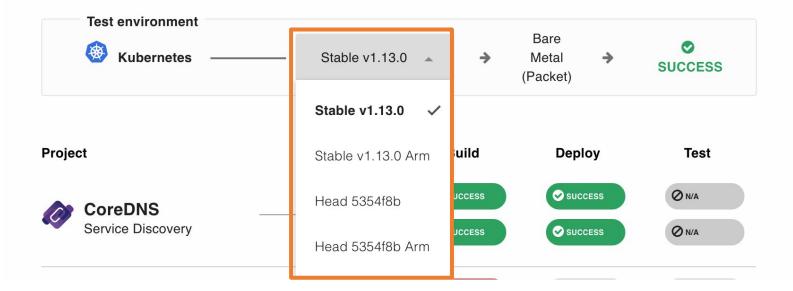


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CI DASHBOARD: Overview

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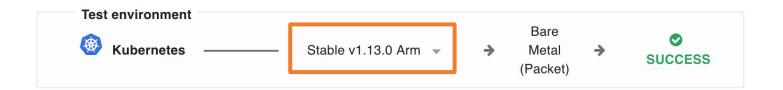


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CI DASHBOARD: Overview

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GitLab: Build job > CoreDNS > Arm





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https://gitlab.cncf.ci/coredns/coredns/-/jobs/179344 Paused (CoreDNS / coredns This project Search Sign in Repository Registry Pipelines Members Jobs Schedules Charts The artifacts will be removed in Job #179344 triggered about an hour ago by denverwilliams passed 1 month remaining Browse Download Running with gitlab-ci-multi-runner 1.11.5 (cbfcb5c) Trigger on CNCF (14a13103) Using Docker executor with image crosscloudci/debian-go ... Token: 8471 Pulling docker image crosscloudci/debian-go ... Running on runner-14a13103-project-9-concurrent-1 via 0ffd54e9d0ce... DASHBOARD API HOST PORT Fetching changes... productionapi.cncf.ci HEAD is now at e3f9a80 WIP: travis changes (#2766) CROSS_CLOUD_YML Checking out e3f9a80b as v1.5.0... Skipping Git submodules setup https://raw.githubusercontent.com/cros \$ export BASE_URL=\${BASE_URL:-\$(echo \$CI_PROJECT_URL | cut -d'/' -f1-3)} configuration/production/cross-\$ export CI COMMIT SHA SHORT=\$(echo \${CI COMMIT SHA} | cut -c -8) cloud.vml \$ if [-z "\$CROSS CLOUD YML"]; then ARCH \$ export CROSS_CLOUD_YML="\$CROSS_CLOUD_YML" \$ fi arm64 \$ source /opt/local/etc/rvmrc ; source /opt/local/etc/profile.d/rvm.sh ; cp -a /opt/local/d ashboard /dashboard ; pushd /dashboard ; source /opt/local/.env ; ./bin/update_dashboard ; Commit e3f9a80b /dashboard /builds/14a13103/1/coredns/coredns WIP: travis changes (#2766)



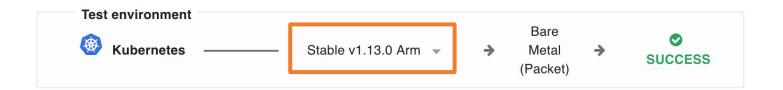


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CI DASHBOARD: Overview

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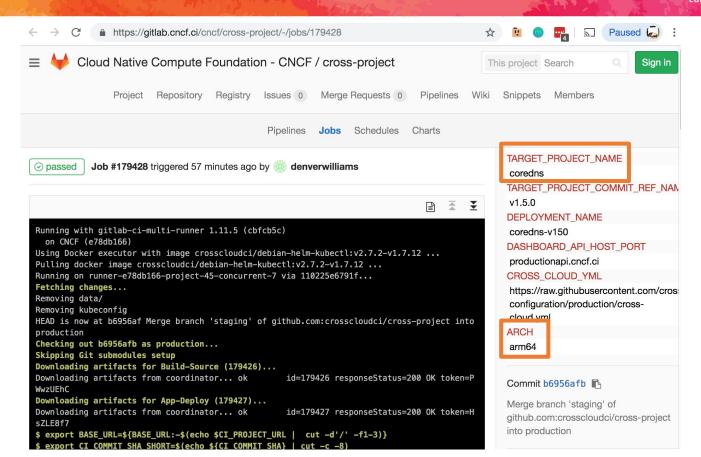




GitLab: Deploy job > CoreDNS > Arm

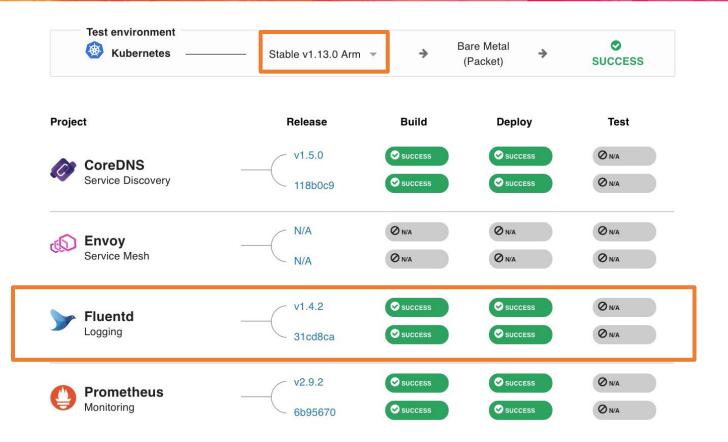










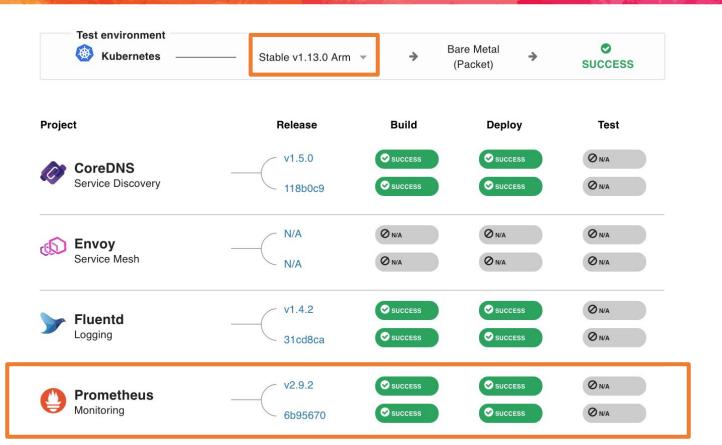




Walk-through: CNCF CI v2











Overview: CI Testing System Kubecon



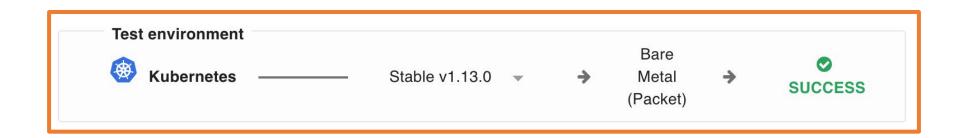


- **Provisioning the K8s Test Environment**
- **Build pipeline per project** (optional, can use project's build artifacts)
- App deployment pipeline per project
- E2e testing stage per project (future)

Overview: Provisioning K8s



- 1. Artifacts: Collect K8s artifact pinnings from the previous K8s builds
- 2. Test Environment Provisioning: Provision Packet server and bootstrap K8s
- 3. Update-Dashboard: Update Test Environment status badge

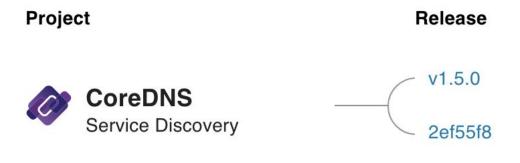


Overview: Build Stage





- **Build:** Compile or retrieve binaries and e2e tests
- **Package:** Create containers, create artifact pinning configuration and push to GitLab Docker registry
- **Update-Dashboard:** Update build status badges





Overview: App Deployment Stage





- 1. Artifacts: Collect project artifact pinnings from the previous build stages
- 2. Cross-Project: Use Helm charts to deploy each project
- 3. Dashboard-Update: Update deployment status badges



Tech Overview: CI Testing System





- Unified CI/CD platform: GitLab
- **Test Environment provisioning:** Terraform and Cloud-init
- App deployments: K8s manifest management with Helm
- Automated builds and deployments: Git + per project yaml configuration

Tech Overview: Dashboard



• Frontend: Vue.js

Status repository: Elixir and Erlang



CNCF CI Roadmap





Date	Milestone	Features	Events
January 2019	n/a	Announce plan and design for cncf.ci v2.0	CI Working group
February 2019	v2.0	Release cncf.ci v2.0.0	CI Working group
March 2019	v2.1	Support managing project details from per project repositories	ONS NA (April 3-5)
April 2019	v2.2	Add K8s version selector dropdown to Test Environment	CI Working group
April 2019	v2.3	Add K8s Arm support to Test Environment	CI Working group
May 2019	v2.4	Add Arm support to CoreDNS, Prometheus, Fluentd, Envoy, Intro & Deep Dive on cncf.ci	KubeCon EU (May 20-23)

CNCF CI Roadmap





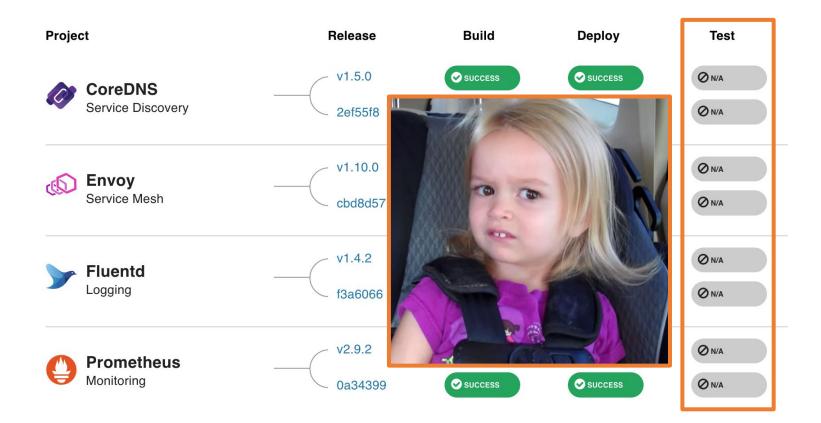
June 2019	v3.0	Add Kubeadm/Kubespray to CI system, Update K8s Stable release	CI Working group
July 2019	v3.1	Add support for external contributions to cncf.ci to accelerate adding + maintaining projects, Add support for external contributions of end-to-end tests	CI Working group
August 2019	v3.2	Add + maintain Graduated and Incubating projects, Add project-type headers and alpha sorting	[TBD]
September 2019	v3.3	TBD: Add + maintain projects	ONS EU (Sept 23- 25)
October 2019	v3.4	TBD: Add + maintain projects	[TBD]
November 2019	TBD	TBD: Intro and Deep Dive on cncf.ci	KubeCon NA (Nov 18-21)

https://github.com/crosscloudci/crosscloudci/blob/master/ROADMAP.md

Request for Contributions: E2e Tests







CNCF CI Roadmap





June 2019	v3.0	Add Kubeadm/Kubespray to CI system, Update K8s Stable release	CI Working group
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https://github.com/crosscloudci/crosscloudci/blob/master/ROADMAP.md

Upcoming Events





Europe 2019

CNCF CI Deep Dive at KubeCon EU 2019 > Topic: Adding Arm to cncf.ci

- Day: Wednesday, May 22
- o Time: 11:05 11:40am
- Location: Hall 8.0 E4
- https://sched.co/MPi8

CI WG In-Person Lunch Discussion

- Day: Tuesday, May 21
- Time: 12:45 2pm
- Location: Fira Gran Via, Hall 7 + 8.1

CI WG Public Meetings

- Day: 4th Tuesday of month > Next Meeting: June 25th
- Time: 11:00am Pacific Time (US and Canada)
- Location: https://zoom.us



How to Collaborate



- Join #cncf-ci on CNCF Slack:
 - https://slack.cncf.io
- Attend CI WG Public Meetings:
 - https://github.com/cncf/wg-ci
- Subscribe to the CNCF CI public mailing list:
 - https://lists.cncf.io/g/cncf-ci-public
- Create issues on GitHub:
 - https://github.com/crosscloudci/ci-dashboard/issues

Connect with the Team









@crosscloudci



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Thank you!





Europe 2019



CNCF CI Team:

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