# Flatcar Container Linux Monthly Community Meeting

11 May 2021

# Agenda

Welcome / Meet the team

Flatcar Interoperability

Upcoming Releases

Spotlight: CAPI

Q&A / Discussion

# Meet the Team

- ❏ Thilo Fromm
- ❏ Sayan Chowdhury
- ❏ Marga Manterola
- ❏ Dongsu Park
- ❏ Mathieu Tortuyaux
- ❏ Andy Randall
- ❏ Kai Lüke

# Kinvolk and Microsoft

"Flatcar Container Linux has a sizeable community of users on Azure, as well as other clouds, and on-premises. We know the CoreOS community has been on a winding journey over the years—we want to assure the Flatcar community that Microsoft and the Kinvolk team will continue to collaborate with the larger Flatcar community on the evolution of Flatcar Container Linux." - Brendan Burns, Microsoft

"This will not be a replay of the movie you've seen before. In fact, we and Microsoft are committed to doubling down on the Flatcar community: we want to expand the universe of partners, contributors, and users, to ensure a vibrant, successful and sustainable long-term future for Flatcar as a truly open, community-driven project." - Chris Kühl, Kinvolk

# Welcome

Monthly meeting cadence

Open to all - users, contributors, developers, partners, supporters, sponsors, train enthusiasts, …

Part of our commitment to ensuring Flatcar thrives as a truly community-driven project

Everyone has a role to play!

Interoperability

# Interoperability

[Interop matrix](#) - Flatcar support for specific environments

Adopt or add an environment by filing a PR

Upcoming Releases

# Flatcar Container Linux: Guiding Vision

Flatcar Container Linux is:
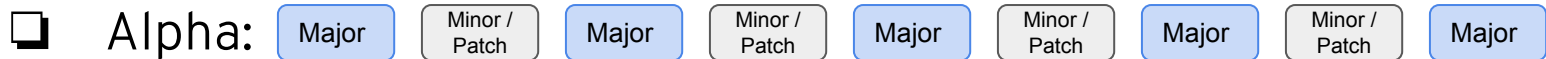
optimized for running containers, with minimal footprint

secure by default and always up-to-date

fleet-centric, manageable at scale, and fully automatable

# Release cadence (theoretical model)

- Alpha: | Major | | Minor / Patch | | Major | | Minor / Patch | | Major | | Minor / Patch | | Major | | Minor / Patch | | Major |
  - High release cadence, latest upstream packages
  - MAJOR version release every 2 weeks, MINOR/PATCH release every (other) week
  - Includes new major version of core component (no release if no updates available)

- Beta: | Major | | Minor / Patch | | Major | | Minor / Patch | | Major |
  - For stabilising/maturing features; roughly every second Alpha is promoted to Beta
  - MAJOR version release every month, MINOR/PATCH every 2 weeks

- Stable: | Major | | Minor / Patch |
  - Production-grade quality; roughly every second Beta goes Stable
  - MAJOR version release every 2 months, MINOR/PATCH every month
  - Stability always prioritized over release schedule

- LTS: | Major | | Minor / Patch |
  - Annual release based on Flatcar Stable, including LTS kernel
  - Supported for at least 18 months (⇒ overlap period with 2 active LTS channels)

# Current Release

## April 28th, 2021

https://www.flatcar-linux.org/releases/

- Alpha
    - Major Release: **2857.0.0**
    - Includes patch level updates to Linux kernel, systemd and bug fixes.
    - Package upgrades for **curl**, **gnutls**, **git**, **sqlite**, **dnsmasq**, **go** and others.
    - Deprecation of **rkt** and **kubelet-wrapper.**
- Beta
    - Major Release: **2823.1.0**
    - Includes patch level updates to Linux kernel, systemd, bug fixes along with changes from 2823.0.0.
- Stable
    - Minor Release: **2765.2.3**
    - Includes patch level updates to Linux kernel, and bug fixes.
- LTS 2021
    - Release: **2605.15.1**
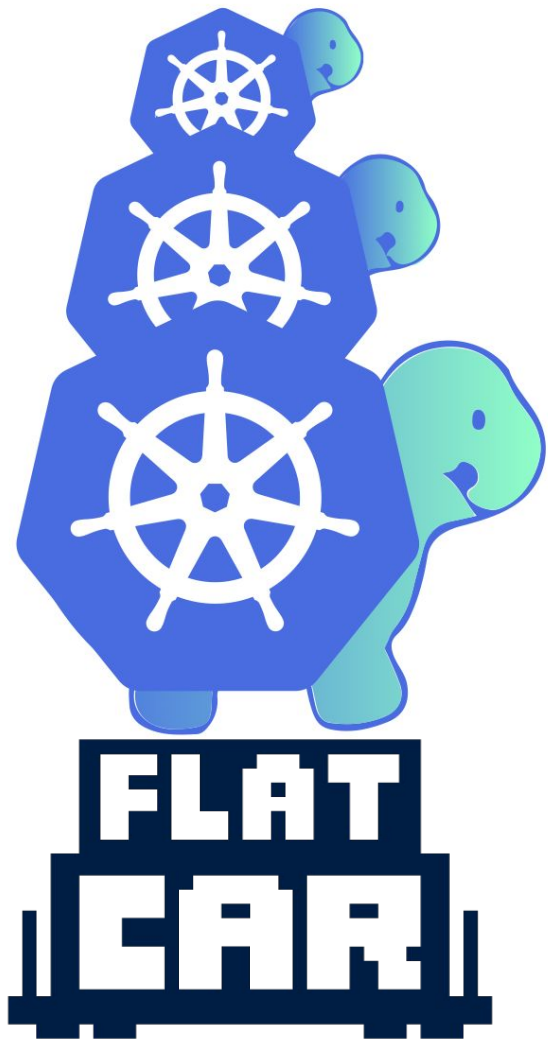    - Include patch level updates to Linux kernel, and bug fixes.

# Upcoming Releases

**May 19th, 2021**                    https://www.flatcar-linux.org/releases/

- Alpha
    - Major Release: **2879.0.0**
    - Includes patch level updates to Linux kernel
    - Planned Package upgrades for **dbus, nvidia-drivers, binutils, rust (SDK)**
- Beta
    - Minor Release: **2823.1.1**
    - Includes patch level updates to Linux kernel
- Stable
    - Minor Release: **2765.2.4**
    - Includes patch level updates to Linux kernel and systemd
- LTS 2021
    - Release: **2605.16.1**
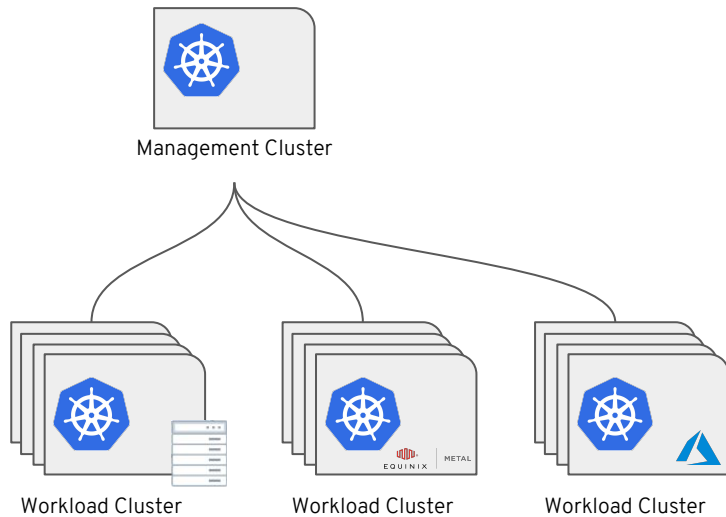    - Include patch level updates to Linux kernel and systemd

# Cluster API Concepts



Management Cluster

Workload Cluster     Workload Cluster     Workload Cluster

Each provider is a separate
implementation

Infrastructure Provider

# Cluster API: OS Config

YAML
url: http://...qcow2

ENV
NODE_OS=$slug

Golang
amiLookUpImage()

No single standard for OS config definition

# Cluster API - Image Builder

input

+Packer
+ansible

qcow2
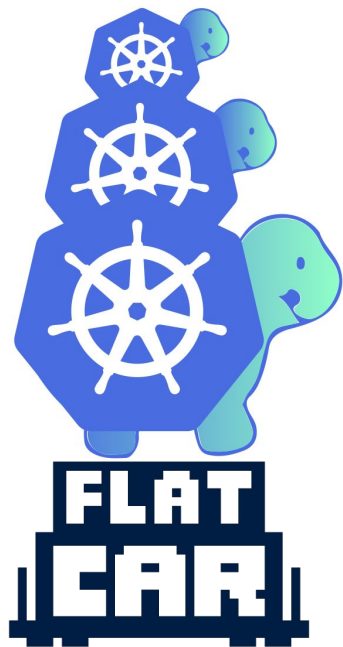
output

aws ami

output

vsphere ova

output
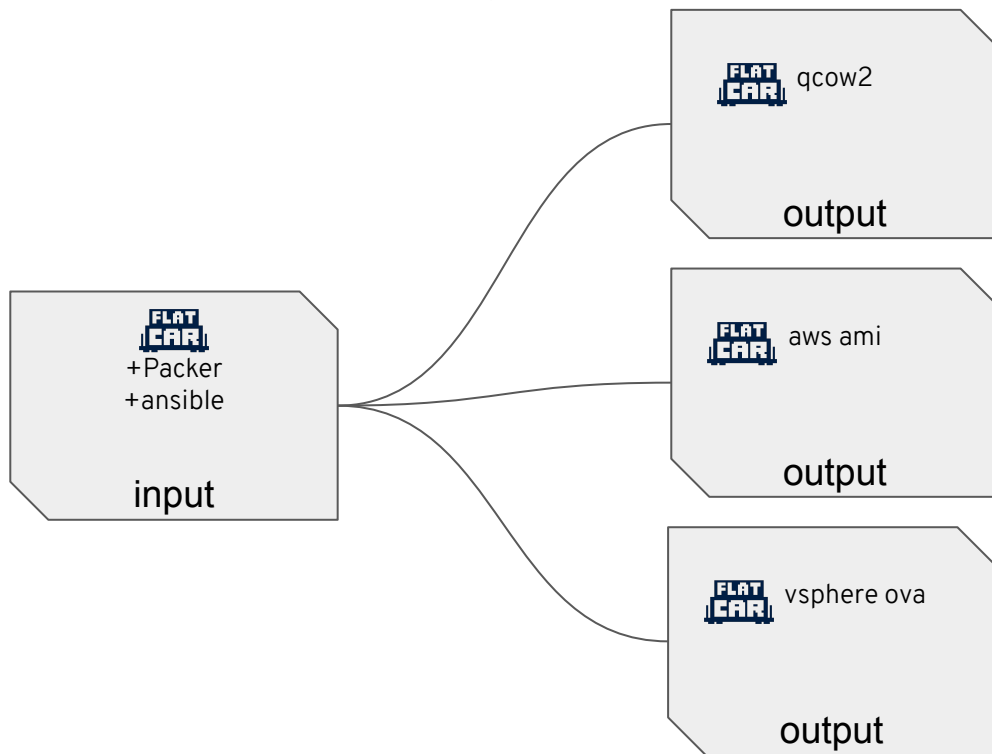
# Cluster API Status and Plans
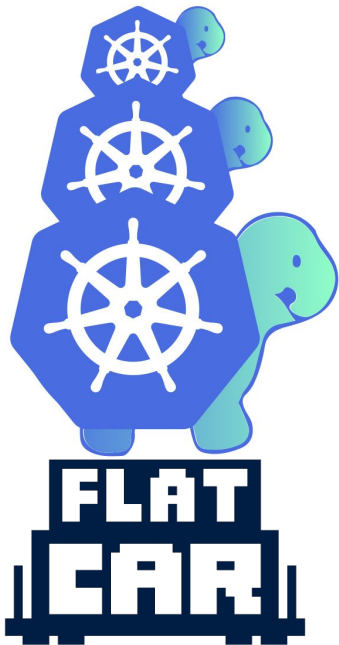
- ❏ Upstream common components: PRs in progress

- ❏ Image builder
  - ❏ AWS and Qemu support already merged
  - ❏ Support for other cloud providers in progress

- ❏ Bootstrap kubeadm ignition provider
  - ❏ Support ignition instead of default cloud-init
  - ❏ https://github.com/kubernetes-sigs/cluster-api/pull/4172

- ❏ Ignition support for AWS provider
  - ❏ Support Ignition in the AWS infrastructure provider
  - ❏ https://github.com/kubernetes-sigs/cluster-api-provider-aws/pull/2271

# Cluster API Status and Plans (cont.)

❏ Per-Platform infrastructure providers
  ❏ AWS (initial target) — working around cloud-init assumptions, migrate to Ignition
  ❏ Metal3 - already merged to upstream
  ❏ vSphere - migrate to Ignition to be done
  ❏ Azure - initial proof of concept
  ❏ Tinkerbell - initial proof of concept
  ❏ Equinix Metal - to be done

Jump aboard!

# Calls to Action

Spread the word

Become a contributor (github.com/kinvolk/Flatcar)

Join the community (IRC/Matrix, email list)

Join us for the next community call

Share your feedback - how can we better support and grow the community? What should we cover in future community calls?

# Q&A / Discussion

# Thank you!

Github: **kinvolk/flatcar**
Twitter: **flatcar_linux**
Email: