



KubeCon



CloudNativeCon

North America 2024

Helm 4: The Next Generation of the Kubernetes Package Manager

Andrew Block
Red Hat

Matt Farina
SUSE

Containerized Applications

Images

Infrastructure Configuration

Application Configuration

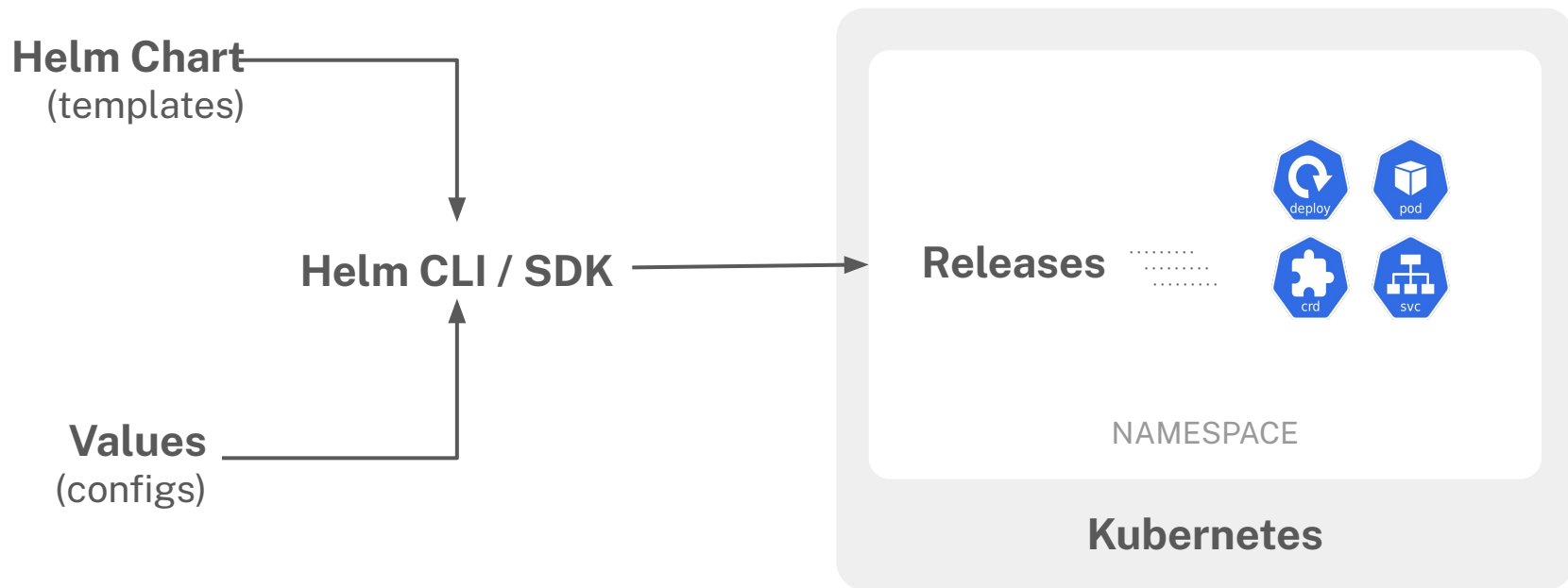
Declarative Configuration





- <https://helm.sh>
- <https://github.com/helm/helm>

Helm Primary Components



The Helm Project Today



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Graduated Project

🕒 7,670 Commits

☆ Star 27k ▼

🔗 Fork 7.1k ▼

**Thriving
Contributor Base**

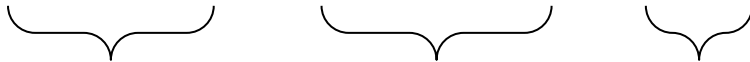
Artifact Hub

✓ Helm charts (12838)

✓ Helm plugins (43)

**Industry Wide
Adoption**

v3.16.3

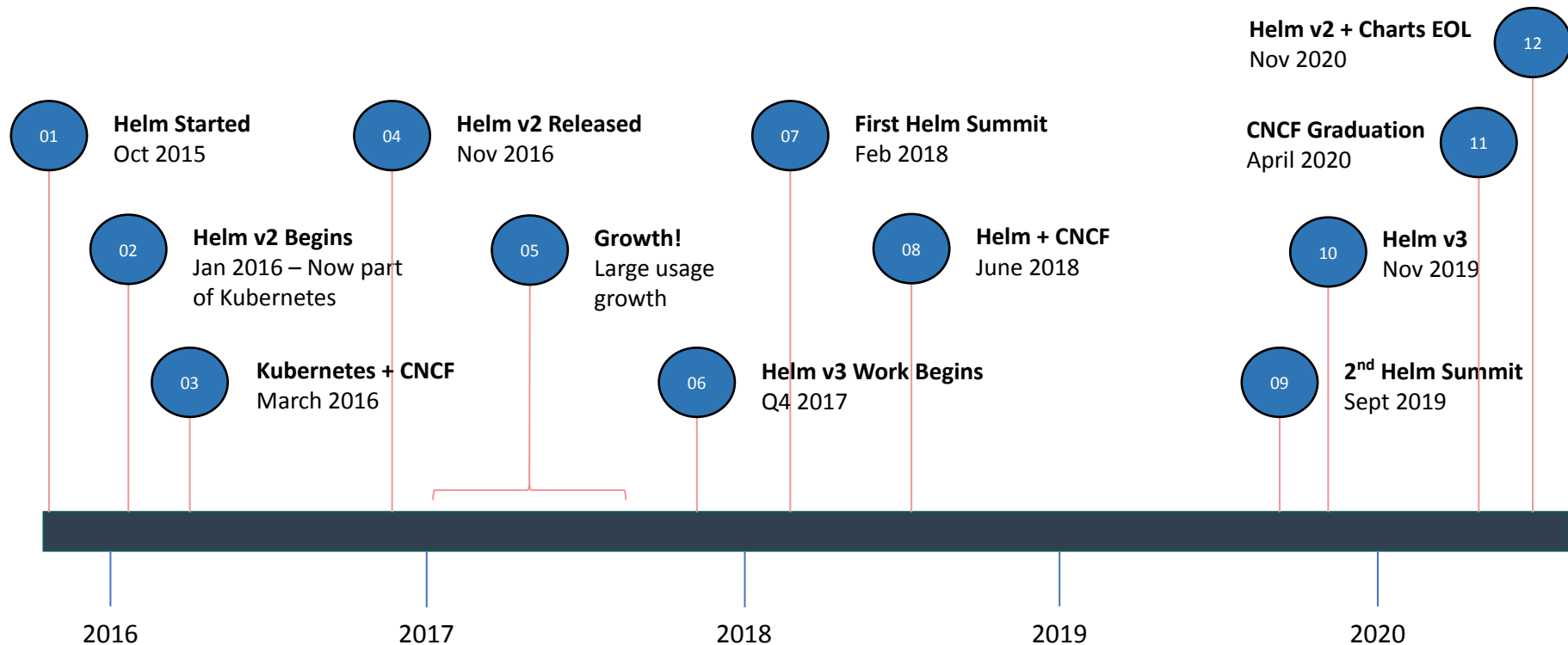


Major breaking changes are rare

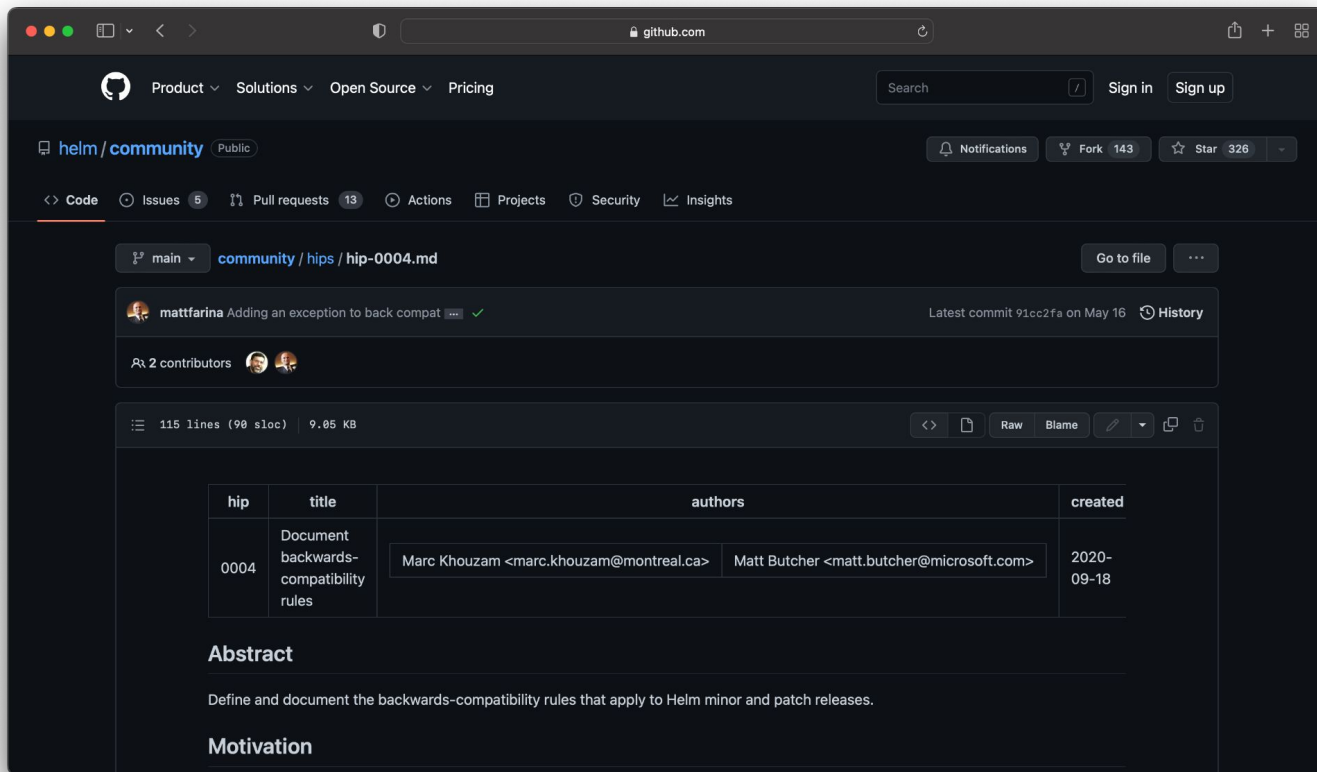
Minor feature additions are 3
times per year

Patch releases are monthly on
months w/o feature release

The Ancient Past...



Helm is Stable



github.com

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helm/community Public

Notifications Fork 143 Star 326

Code Issues 5 Pull requests 13 Actions Projects Security Insights

main community / hips / hip-0004.md Go to file

mattfarina Adding an exception to back compat Latest commit 91cc2fa on May 16 History

2 contributors

115 lines (90 sloc) 9.05 KB

| hip | title | authors | created |
|------|--|---|------------|
| 0004 | Document backwards-compatibility rules | Marc Khouzam <marc.khouzam@montreal.ca> Matt Butcher <matt.butcher@microsoft.com> | 2020-09-18 |


Abstract


Define and document the backwards-compatibility rules that apply to Helm minor and patch releases.


Motivation

Why Helm 4?

Nov 13, 2019

 bacongobbler

 v3.0.0

 e29ce2a

Compare ▾

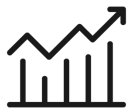
Helm v3.0.0

The Helm Team is proud to announce the first stable release of Helm 3.

Helm 3 is the latest major release of the CLI tool, focusing on simplicity, security, and usability.

Check out below what's available in this major release.

5 years, 1 day since the original release of Helm 3.0.0



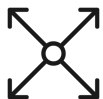
Technical Debt

Accumulation within the Helm codebase that has becoming a limiting factor for future innovation



API Versioning Policy

Strict backwards compatibility policy following semantic versioning limits types of changes and enhancements that can be made



Feature Size

Size of proposed initiatives are larger than what can/should be delivered in a minor version of a project

Take advantage of the latest capabilities of Kubernetes and the Cloud Native Community

Frameworks



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Patterns

Projects



kubernetes

Communities



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“If you don’t evolve, you will die”

- Marcus Lemonis



Collaborate on Slack

Engage with other members of the Helm community



Create a H4HIP

A Helm Improvement Proposal (HIP) specifically focused on items related to Helm 4



Join the Community Meetings

Participate with other members of the Helm community to discuss efforts related to Helm 4

What Makes A Good Helm Pull Request?

1. Start With An Issue (and reference it) and a HIP if appropriate
2. Ensure each commit has DCO Sign-off (`git commit -s`)
3. Tests!
4. Explain anything not-obvious with code comments
5. Make changes bit sized. The larger the change the harder it is to get reviewed

Where To Contribute

- `helm/helm` - The client and SDK
- `helm/helm-www` - The website and docs
- `helm/helm-mapkubeapis` - A plugin to help deal with k8s changing APIs
- `helm/chart-releaser` - Hosting Helm Charts via GitHub Pages and Releases
- `helm/chart-testing` - CLI tool for linting and testing Helm charts
- `helm/chartmuseum` - Helm chart repository server



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Let's Get Started