

Project Description

Helm is an open source package manager for Kubernetes. It provides the ability to provide, share, and use software built for Kubernetes. Helm was created in 2015 at Deis, which was later acquired by Microsoft. What is now known as Helm Classic was introduced at the inaugural KubeCon that November. In January 2016, Helm Classic was merged with Google's Deployment Manager for Kubernetes into the repository that is now the main Helm project. The project currently has more than 30,000 GitHub stars and receives more than 2 million downloads a month from across the globe. In April 2020, Helm hit [graduated status](#) within CNCF, joining the ranks of Fluentd, containerd, and others.

This report assesses the state of the Helm project and how CNCF has impacted its progress and growth. Without access to a multiverse to play out alternative scenarios, it is impossible to sort out causation. However, we can document correlations. This report is part of a series of project journey reports published by CNCF focused on graduated projects.

Project Snapshot

Helm's first commit was made on [October 19, 2015](#). Between [joining](#) CNCF on June 1, 2018, and today, Helm has added:

13,874	9,454	14.5K	128.7K	1,694
CONTRIBUTORS	CODE COMMITS	PULL REQUESTS	CONTRIBUTIONS	CONTRIBUTING COMPANIES

*Note: These statistics were collected with the [DevStats](#) tool, which CNCF built in collaboration with CNCF project communities. "Contributor" is defined as somebody who made a review, comment, commit, or created a PR or issue.

CNCF Premise of Open Source Software Development

A basic premise behind CNCF conferences (including [KubeCon + CloudNativeCon](#) and [Helm Summit](#)), and open source in general, is that most interactions are positive-sum. There is no fixed amount of investment, mindshare, or development contributions allocated to specific projects. Just as open source development is based on the idea that, collectively, we are smarter together than any one of us alone, open source foundations work to make the entire community better. Equally important, a neutral home for a project and community fosters this type of positive-sum thinking, and drives growth and diversity that we believe are core elements of a successful open source project.

CODE DIVERSITY

Diversity Across Company Size and Type (End User, Vendor, Foundation)

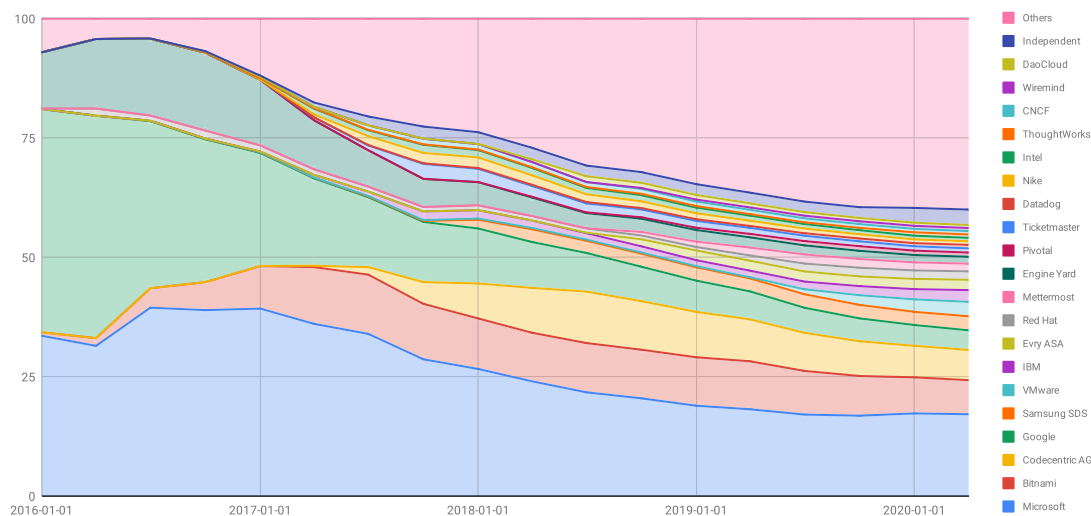
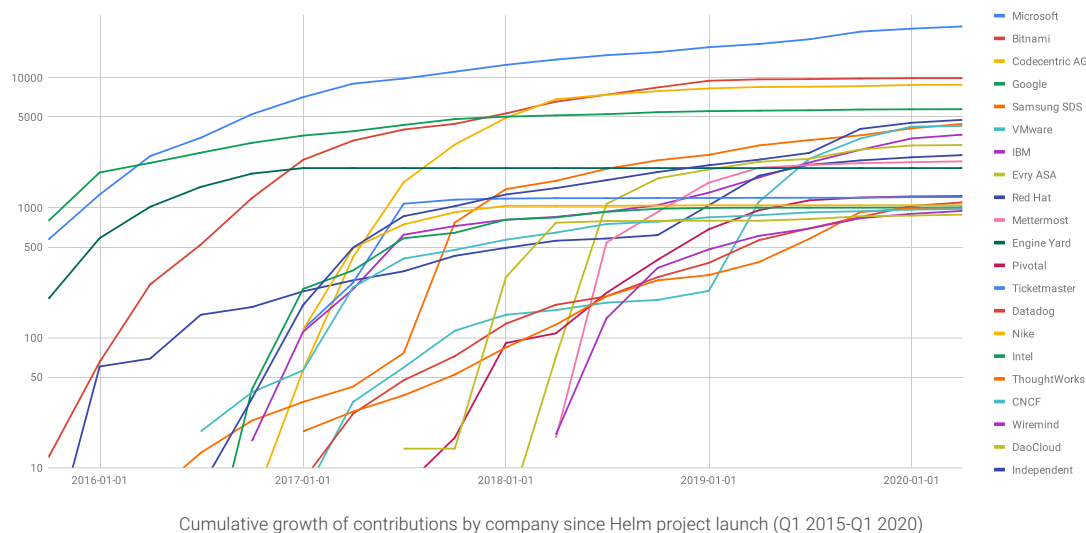
From its roots at Deis (and Microsoft), the Helm project has grown to incorporate meaningful code contributions from more than 1,600 organizations. High-velocity open source projects like Helm garner wide adoption and contribution from both vendor and end user communities. As such, Helm code contributions come from a wide range of companies, fostering user-driven innovation.

Contributors to Helm include many of the world's largest tech companies, such as Google, Microsoft, Samsung SDS, VMware, and IBM, as well as fast-growing mid-size companies like Datadog. Contributions also come from dozens of small businesses and startups, such as codecentric AG. The diversity of vendor contributors is also expanding; Bitnami (now owned by VMware) has grown to become the third-largest contributor to Helm since project inception. Contributing organizations to Helm are well-distributed between vendors and end users, demonstrating that end-user innovation can foster and sustain fast-growing, successful projects.

By the Numbers

The top two contributing companies to Helm as of the end of the December 2019 reporting period were Microsoft and codecentric AG, with 17% and 6% of contributions, respectively. Microsoft and Google provided the majority of initial code contributions to the project over the first two years, but the Helm project has diversified to include many additional companies. The total number of companies contributing code has increased by 41% since Helm joined CNCF, from 930 to 1,314. As Microsoft's percentage of all contributions has decreased, the company has continued to contribute a high volume of code even as codecentric AG, Bitnami, and Samsung SDS have dramatically expanded their contributions. This indicates a healthy dynamic in which the project originators continue to contribute high volumes of code but encourage other organizations to contribute a greater percentage of code over time, sharing stewardship and growing the community. Another key project health indicator is the number of contributors. Helm has enjoyed 216% expansion of individual contributors over the two years since the project joined CNCF. During the three years before joining CNCF, Helm accumulated 3,642 contributors. In the two years since, Helm has added 11,514 contributors.

Helm contributions by company (cumulative)

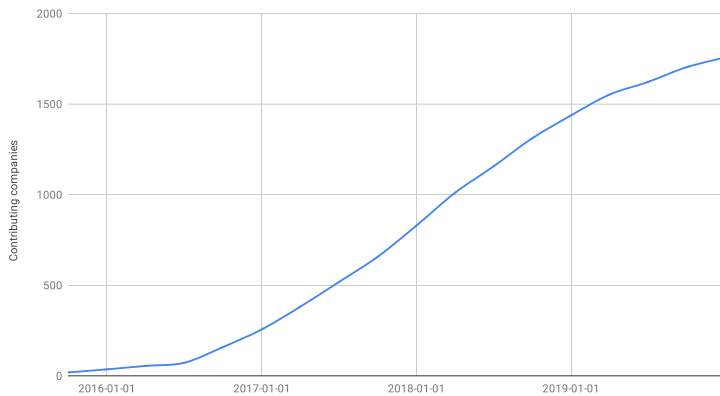


Percentage of Helm code contributions by company

Percentage breakdown of contributions by company since Helm project launch (Q1 2015-Q1 2020)

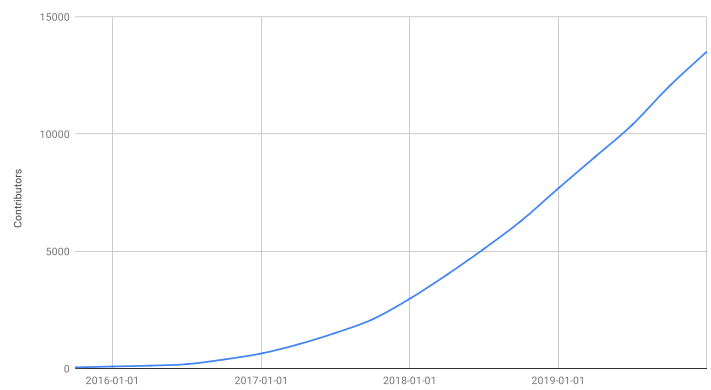
CNCF HELM PROJECT JOURNEY REPORT

Total number of companies contributing Helm code



Cumulative number of companies contributing by quarter (Q1 2015-Q1 2020)

Number of contributors to Helm project



Cumulative growth in contributors by quarter (Q1 2015-Q1 2020)

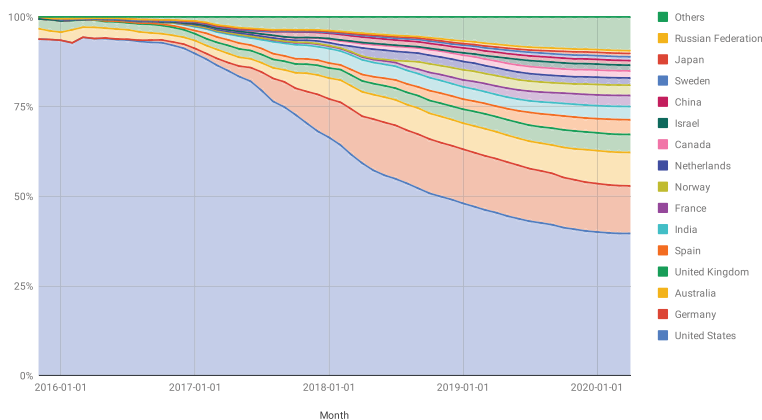
GEOGRAPHIC DIVERSITY OF CONTRIBUTORS

Contributors to Helm have come from more than two dozen countries spread across five continents. The geographic diversity of contributions expanded quickly from 4 countries in the first year of the project to 11 during the second year. The chart shows the percentage of contributors over time, broken down by country (based on self-reported location on GitHub).

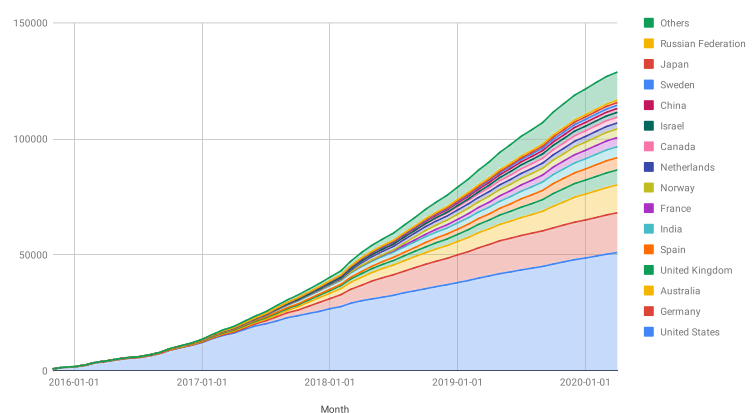


Map of project contributors by country since project launch (Q1 2015-Q1 2020)

Percentage contributors to Helm by country



Change in number of monthly contributors by country as a percentage of total (Q1 2015-Q1 2020)

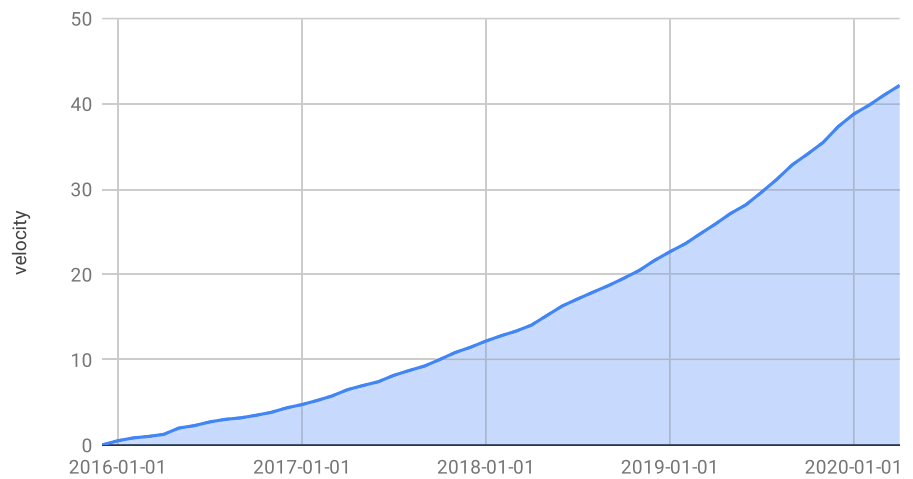


Change in number of contributors by country (Q1 2015-Q1 2020)

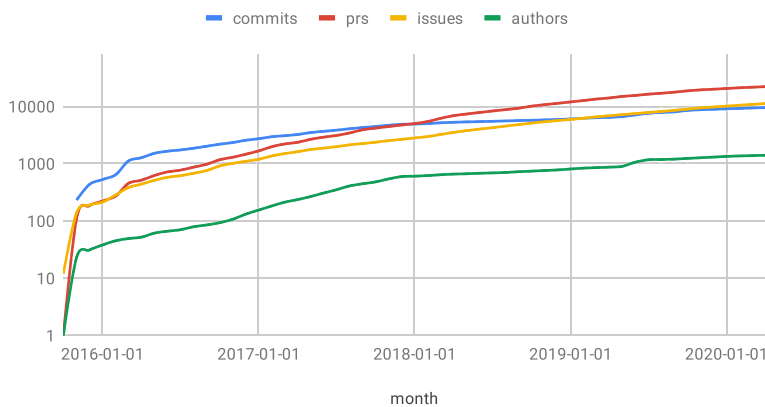
DEVELOPMENT VELOCITY

Among the top projects in terms of velocity, Helm is flourishing. One way we track developer velocity is with the following formula: velocity = commits + PRs + issues + authors. We also look at the growth of PRs, code commits, and issues filed as separate line charts. A third way to examine velocity is by looking at the cumulative number of contributors over time. The charts below illustrate sharply rising velocity for Helm.

Monthly velocity of Helm

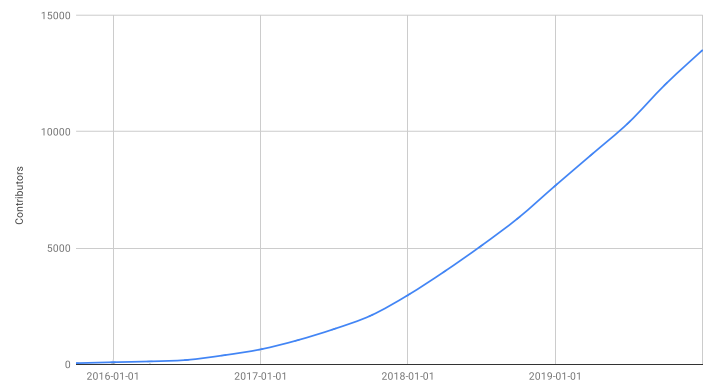


Helm commits, PRs, and issues



Growth of Helm pull requests, code commits, issues, and authors over time (Q1 2015-Q1 2020)

Number of contributors to Helm project



Cumulative growth of Helm contributors over time (Q1 2015-Q1 2020)

EDUCATION, EVENTS, AND SPONSORSHIP

Growth of community participation in education, events, and sponsorship is a reliable proxy for the health of a project.

The Helm project actively participates in KubeCon + CloudNativeCon North America, China, and Europe through a variety of presentations and talks from community leaders. In 2019, the project hosted 46 presentations across all CNCF flagship events.



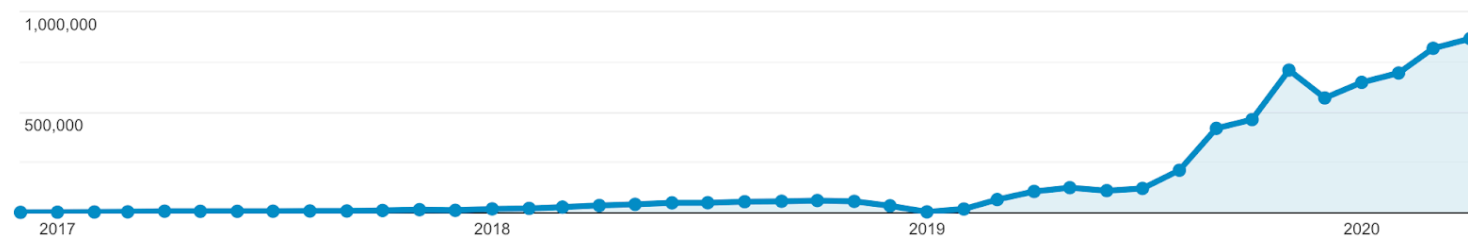
MARKETING GROWTH AND PROGRAMS

Website and Social Media

When Helm joined CNCF in November 2015, the foundation started promotional efforts to help sustain, nurture, and expand the Helm community. This includes blog posts, email newsletter mentions, and social media support. Thanks in part to these marketing efforts, public awareness of and interest in Helm has grown quickly. Google Analytics data for Helm shows an increase in pageviews since the project was contributed to CNCF, totaling more than 6.5M to date.

The project has over 18.5k followers on Twitter, having increased its following since joining CNCF.

● Pageviews



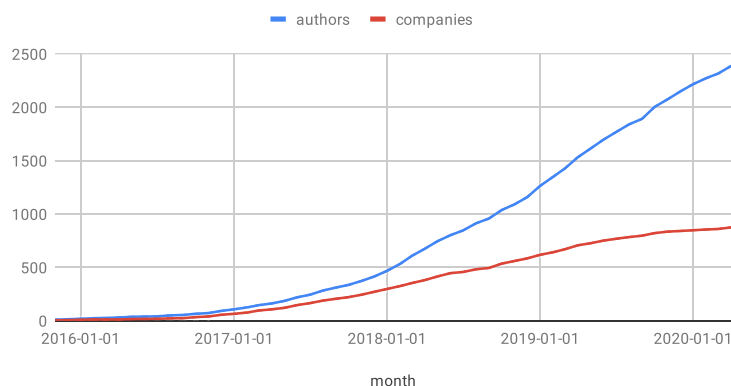
Growth in monthly pageviews from November 2015 to April 2020

PROJECT DOCUMENTATION*

Continuous additions to and improvements of project documentation are essential for the growth of any open source project. Robust documentation is critical to educating new users and to helping existing users resolve problems and understand a project's capabilities. Helm documentation has significantly increased over the years. Since Helm joined, the number of authors and companies committing documentation to Helm has grown by 189% and 93%, respectively. As of this report, 2,318 authors have committed, and 861 companies are involved in committing documentation. The number of documentation commits has increased by 183% since Helm joined CNCF (as of June 2018).

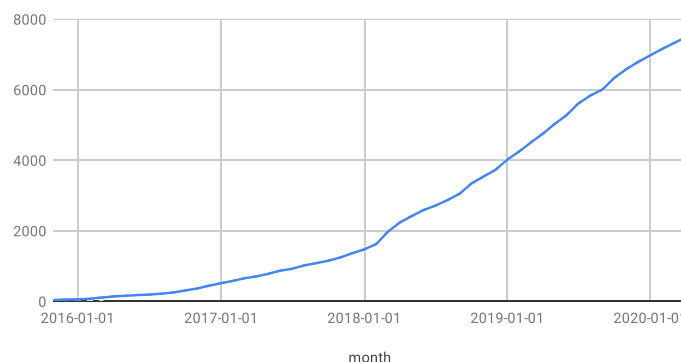
**Documentation for Helm is collected in .md files. CNCF uses the DevStats tool to automatically collect and count statistics of all relevant .md files in the Helm repositories in GitHub.*

Helm documentation committers



Growth in participation in Helm project documentation (Q1 2015-Q1 2020)

Documentation commits



Cumulative growth of Helm project documentation commits (Q1 2015-Q1 2020)

CONCLUSION

CNCF is committed to fostering and sustaining an ecosystem of open source, vendor-neutral projects by democratizing state-of-the-art software development and deployment patterns to make technology accessible for everyone. We hope this report provides a useful portrait of how CNCF is fostering and sustaining the growth of Helm.

To learn more about the Helm project, we invite you to attend their [CNCF project webinar](#) on June 12 at 10:00 am PT.

"Throughout my time at Condé Nast and American Express, Helm has swiftly become the de facto package manager to Kubernetes," said Katie Gamanji, CNCF TOC member and cloud platform engineer at American Express. "It is a highly customizable tool, and it abstracts the application deployment to a simple configuration file. I am excited to see Helm as a graduated CNCF project this year, as it is a mechanism that sustains open collaboration and closes the gap between the application and infrastructure teams."

"Helm has empowered our developer teams to leverage our on-premise multi-tenant Kubernetes installation in a big way," said Nick Shine, technology engineer at State Farm. "With the power of Helm and a GitLab CI Runner Helm Chart, developers were able to take control of and manage their own CI/CD infrastructure in a single command without the overhead and redundancy of every team becoming experts in Kubernetes. Our internal Helm Chart Repository has grown from just a few charts, customized to comply with our security policies, to almost 40, providing developer teams with a wider range of tools, databases, and language choices than ever before."

"Helm is a fantastic tool for Kubernetes application deployment," said Liying Zhang, product manager, JD Retail. "We recently started to use Helm for deploying our ChubaoFS cluster on JD's Kubernetes platform, where it has helped to reduce the deployment time from several hours to a few minutes. In addition to ChubaoFS, we also use Helm to manage many other charts including ectd, Grafana, MySQL, Zookeeper, etc. I'm thrilled to see this project to increase activity and benefit more users."