



# Metrics

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<https://chaoss.community/metrics>

## SAMPLE REPORT

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# Project Popularity

Question: How popular is an open source project?

## Description

Project popularity can be measured by how much activity is visible around a project. Popularity has a positive feedback loop in which more popular projects get more attention, attract more users or developers, and see increases in popularity, spinning the popularity wheel.

Project popularity may be used as a proxy for understanding project value because open source project economic value is hard to measure, due to a lack of available usage or sales information for open source projects.

## Objectives

In a quest to earn a living wage, and to maximize future employment opportunities, workers may be interested in knowing which projects are growing and are underserved. Similarly, from an organizational perspective, knowing which projects are highly used can be helpful in knowing which projects might be worth investing in. The Project Popularity metric can be used to identify the trajectory of a project's development.

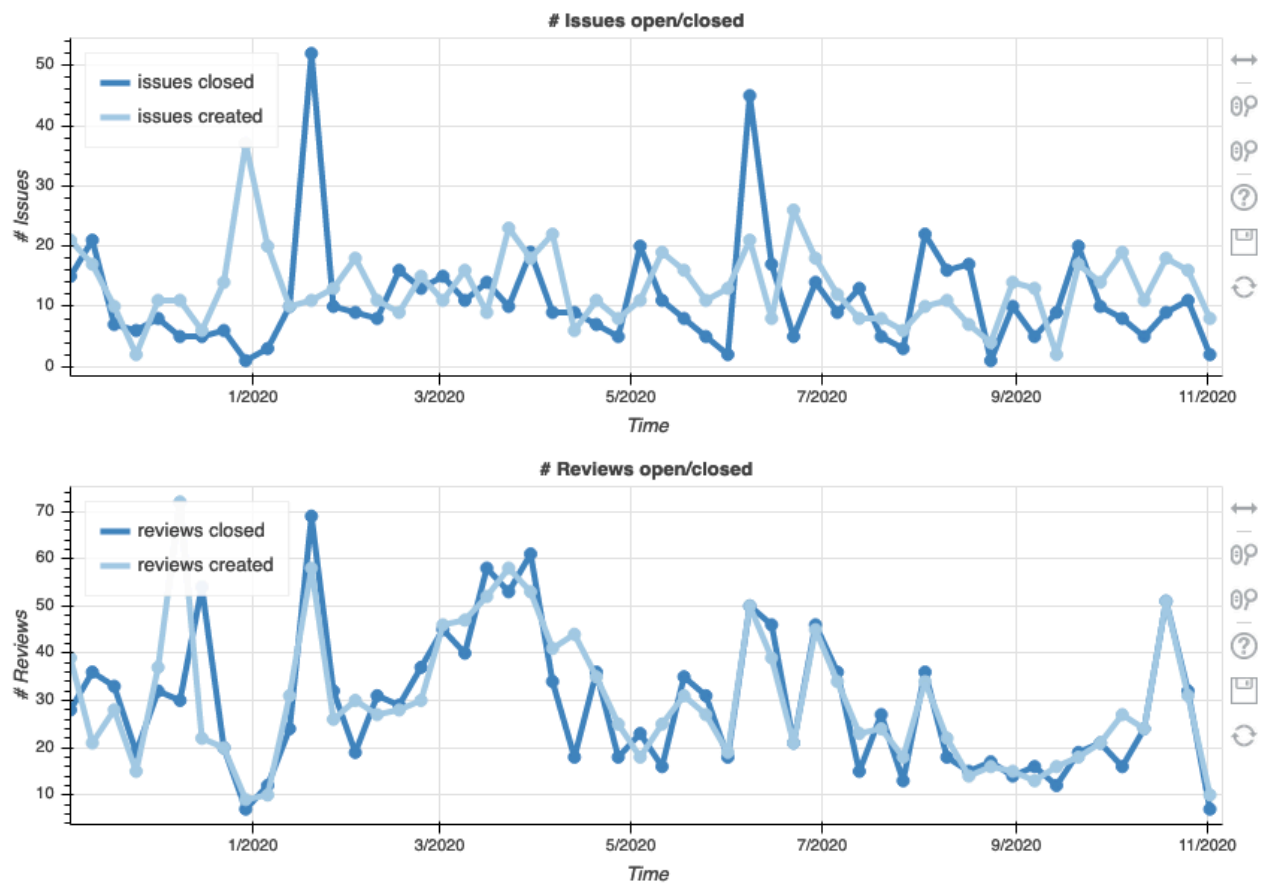
## Implementation

The project popularity metric is often considered with changes over time. There are numerous example vectors to consider when measuring project popularity based on the number of:

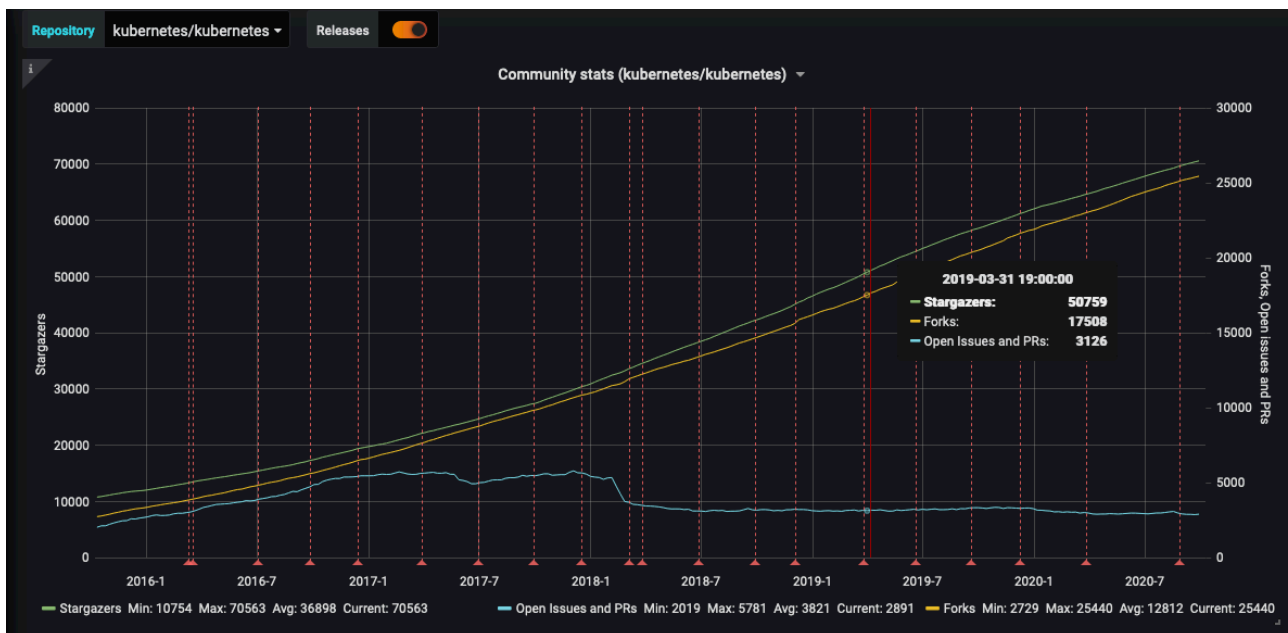
1. Social media mentions
2. Forks
3. [Change requests](#)
4. [New Issues](#)
5. Stars, badges, likes
6. [New contributors](#)
7. [Organizational Diversity](#)
8. Job postings requesting skills in project
9. Conversations within and outside of project
10. Clones
11. Followers
12. Downstream dependencies
13. People attending events that focus on a project

## Visualizations

Issues and reviews (change requests) visualization from Cauldron (GrimoireLab):



Kubernetes project popularity statistics from DevStats:



## Tools Providing the Metric

- Augur
- GrimoireLab
- Cauldron

## References

- [Popular OpenSource Projects](#)
- [Is It Maintained?](#)
- [Open Source Project Trends](#)
- [Kubernetes Salary](#)

# Project Velocity

Question: What is the development speed for an organization?

## Description

Project velocity is the number of issues, the number of pull requests, volume of commits, and number of contributors as an indicator of 'innovation'.

## Objectives

Gives an Open Source Program Office (OSPO) manager a way to compare the project velocity across a portfolio of projects.

The OSPO manager can use the Project Velocity metric to:

- Report project velocity of open source projects vs in-house projects
- Compare project velocity across a portfolio of projects
- Identify which projects grow beyond internal contributors (when filtering internal vs. external contributors)
- Identify promising areas in which to get involved
- Highlight areas likely to be the successful platforms over the next several years

[See Example](#)

## Implementation

Base metrics include:

- [Issues closed](#)
- [Number of reviews](#)
- [# of code changes](#)
- [# of committers](#)

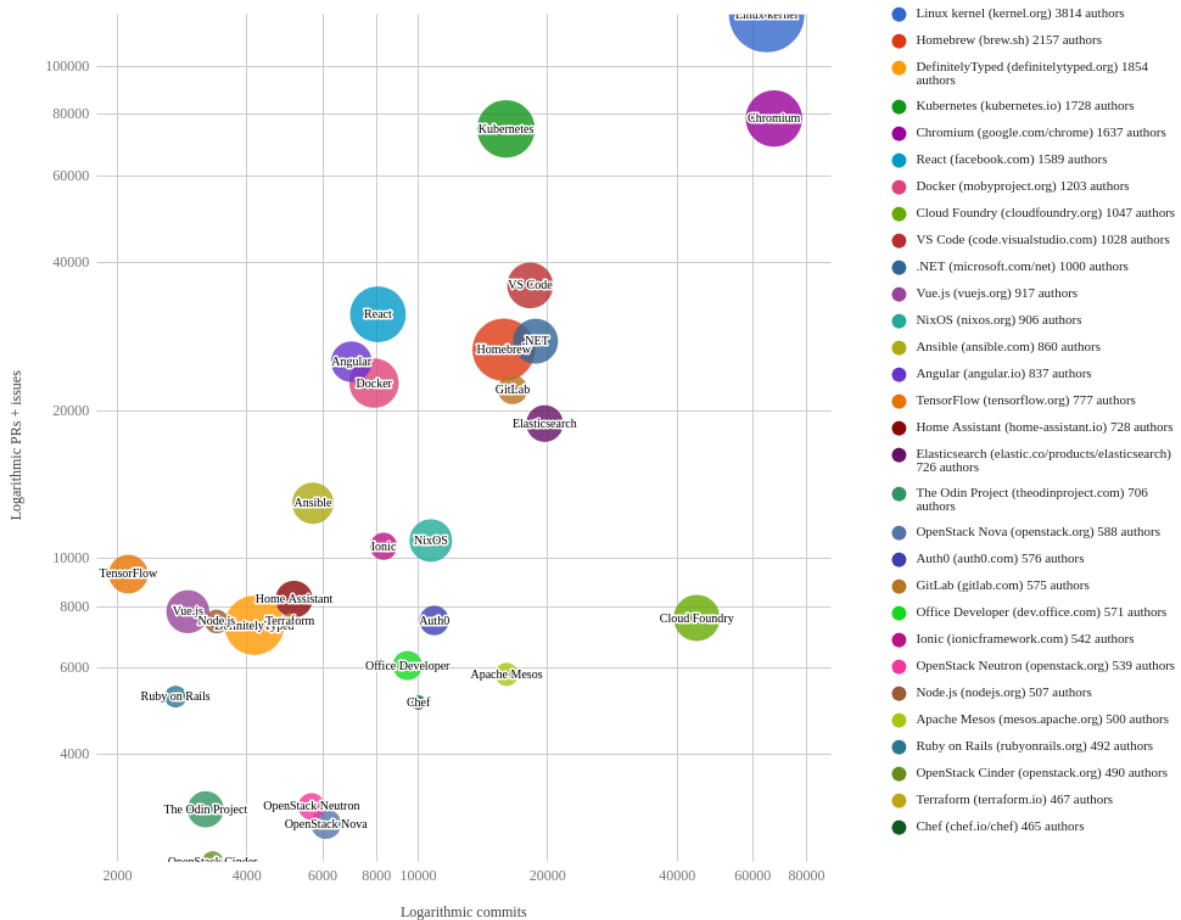
## Filters

- Internal vs external contributors
- Project sources (e.g., internal repositories, open-source repositories, and competitor open-source repositories)
- Time

## Visualizations

- X-Axis: Logarithmic scale for Code Changes
- Y-Axis: Logarithmic scale of Sum of Number of Issues and Number of Reviews
- Dot-size: Committers
- Dots are projects

## Top 30 Projects 05/2016 - 04/2017



From CNCF

## Tools providing the Metric

- CNCF - <https://github.com/cncf/velocity>

## References

- Can Open Source Innovation work in the Enterprise?
- Open Innovation for a High Performance Culture
- Open Source for the Digital Enterprise
- Highest Velocity Open Source Projects



# Test

File to showcase the code formatting and table display styles.

## Code Formatting

```
# Function for nth Fibonacci number
def fib(n):
    if n < 0:
        print("Enter non-negative number")
    elif n == 0:
        return 0
    elif n == 1 or n == 2:
        return 1
    else:
        return fib(n-1) + fib(n-2)

# Driver Code
print(fib(9))
```

## Table Display

Focus Area	Goal
Social Value	Identify if a project reduces poverty and injustice, strengthens democratic values, improves health and mental wellbeing, promotes international cooperation, fosters economic equality, or advances human achievement.
Organizational Value	Identify if a project is monetarily valuable from an organization's perspective.
Individual Value	Identify if a project is valuable to me as an individual user or contributor.
Communal Value	Identify if a project is valuable to its community of users (including downstream projects) or contributors.