

Measuring the Health of Your CNCF Project: Going Beyond Stars and Forks

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whoami



- Geek, traveler, reader
- 20+ yr tech career focused on community & open source (Intel, Puppet, Scale Factory, ...)
- OpenUK Board, CHAOSS Board and Maintainer, TODO Group Steering
- CNCF Contributor Strategy TAG
- PhD from the University of Greenwich focus on Linux kernel collaboration

Photos by Mom, [Josh Bancroft](#), [Don Park](#)

Agenda

Approaches to Project Health

Project Health Metrics and Interpretation

- Responsiveness
- Contributors
- Velocity and Releases
- Inclusivity

Other Considerations

Resources and Final Thoughts

<https://contribute.cncf.io/maintainers/community/project-health/>

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Approaches to Project Health

Avoid the Popularity Trap

Not stars / forks



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Project Health

Focus on areas
for improvement



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Interpretation

Every CNCF project
is different

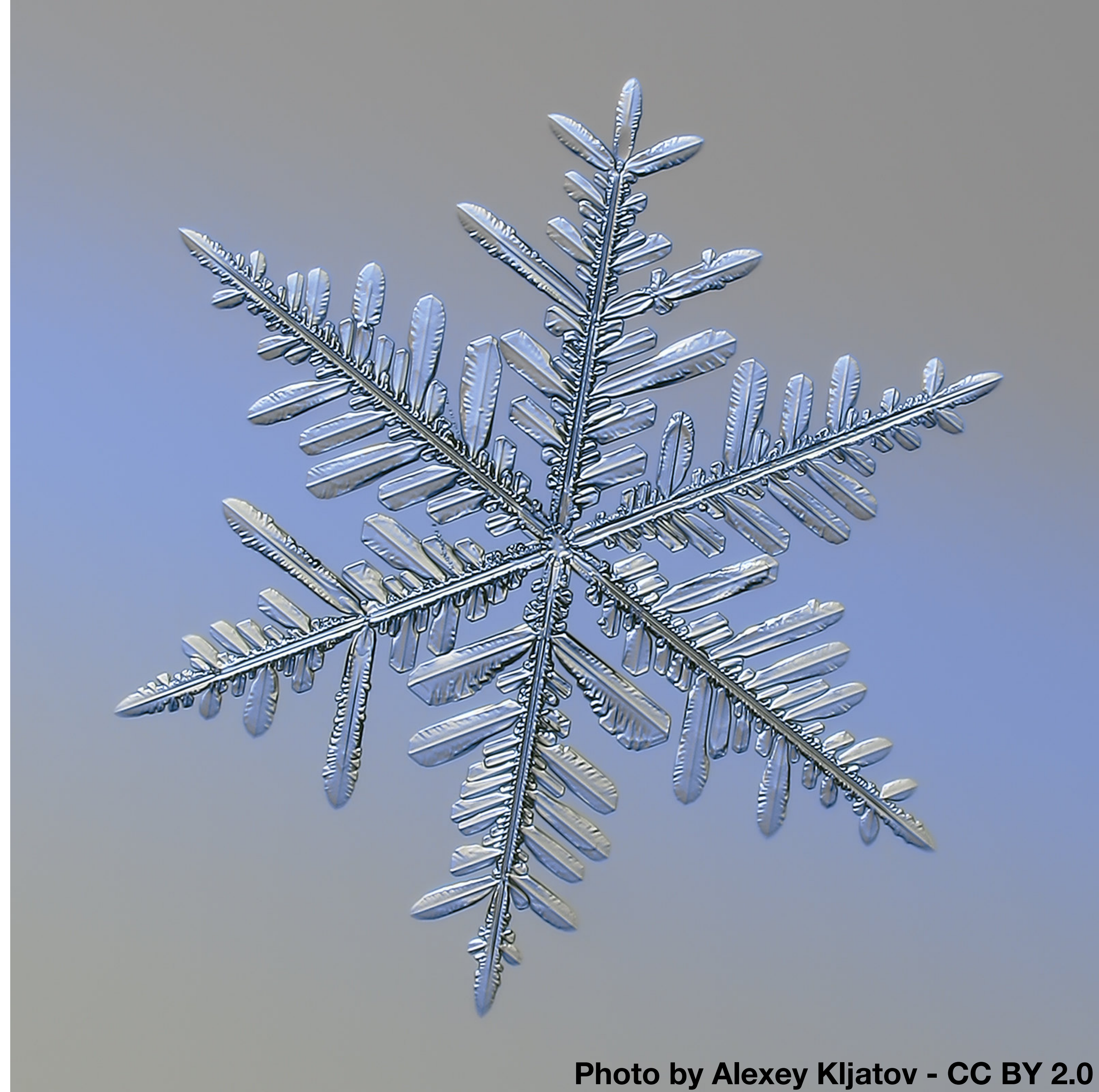


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Project Health: Metrics and Interpretation

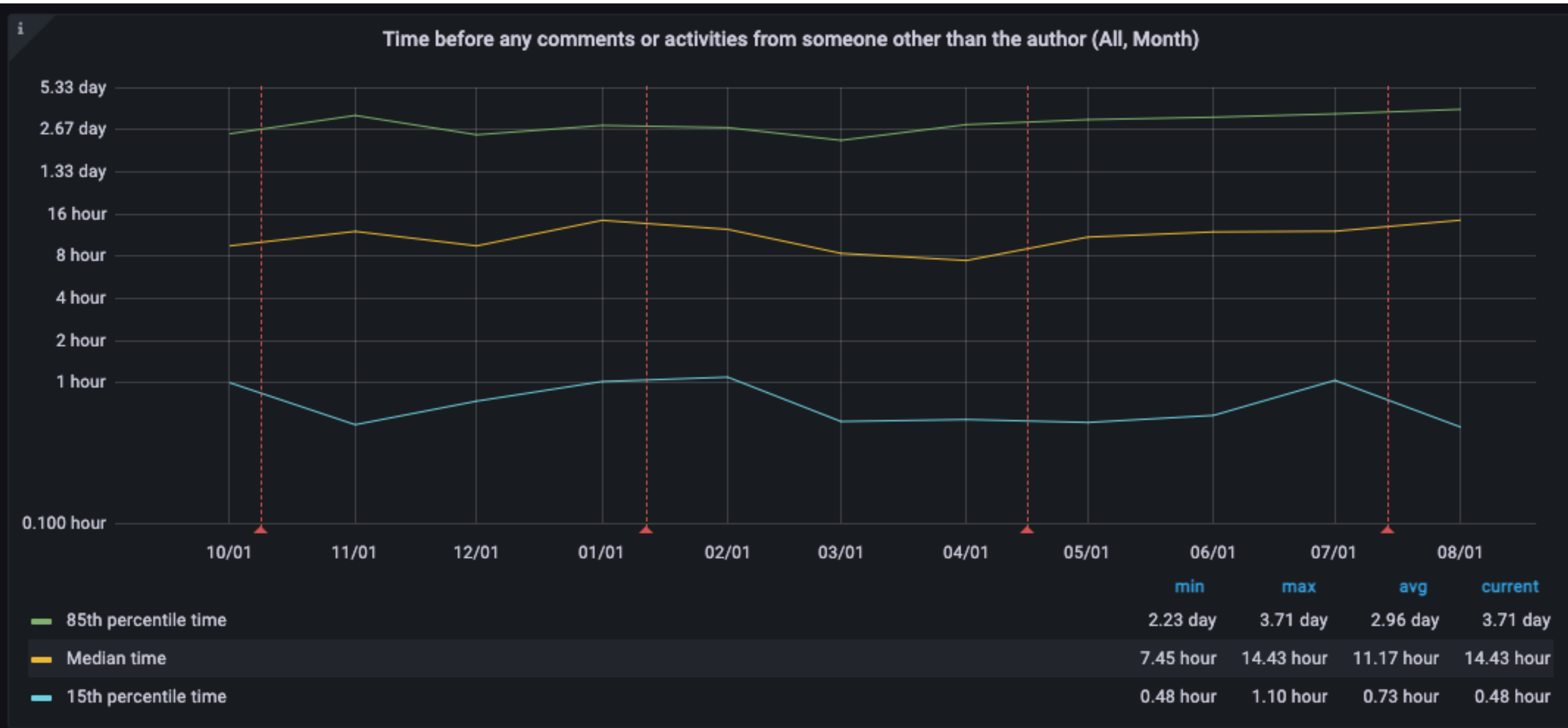
Photo by [K-nekoTR](#) - CC BY-NC-ND 2.0

Responsiveness

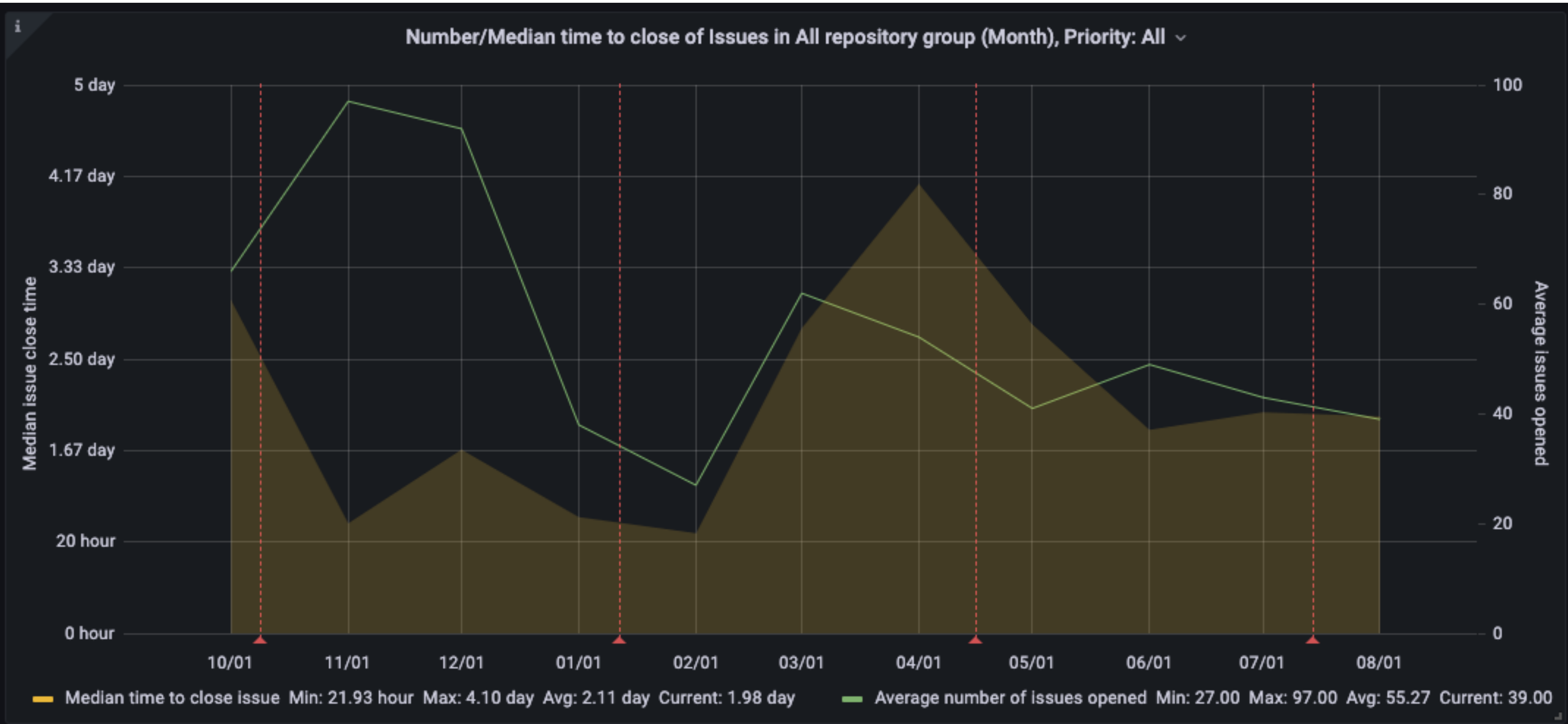
Keeping up with contributions
helps with retention



First Response - PR Time to Engagement



Resolution - Issues Age (aka Time to Close)

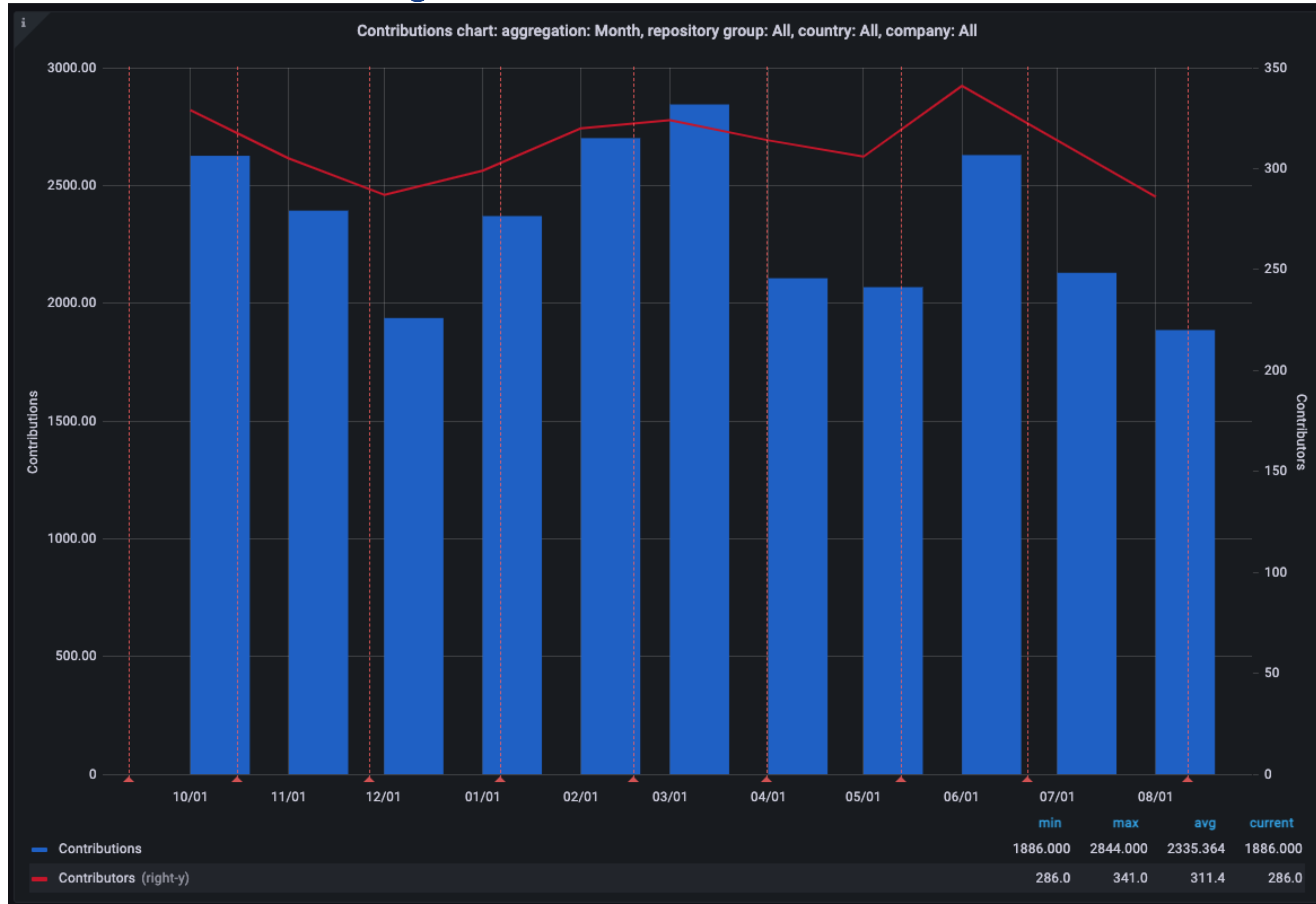


Contributor Activity

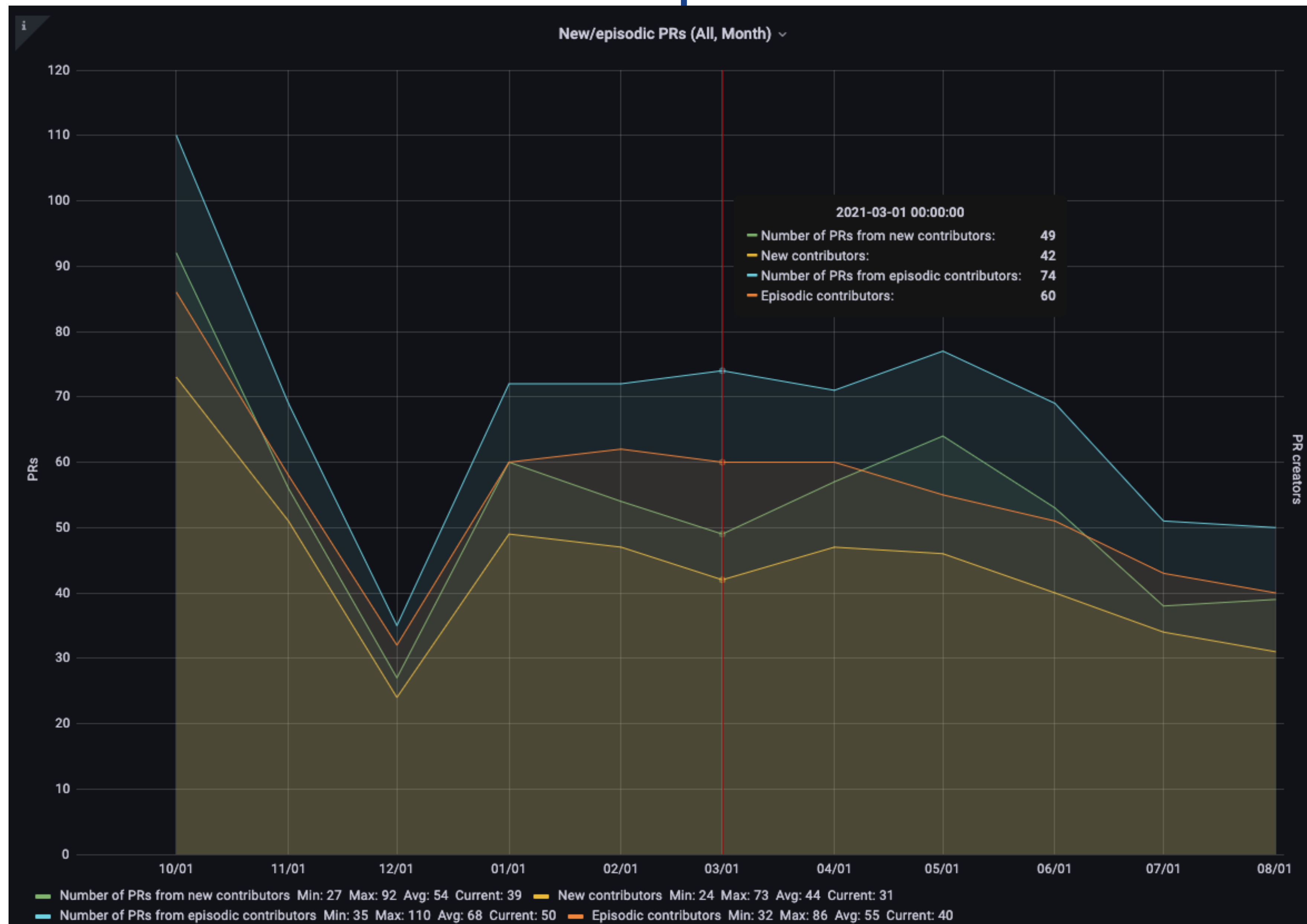
Do people want to stick around?



Contributor Activity - Contributions Chart



Contributors - New and Episodic



Contributor Risk

Lower risk:
many contributors and
organizational diversity



Image by the CNCF
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Organizational Diversity - Companies Table







Range	Last year ▾	Metric	Contributions ▾
Prometheus Companies statistics (Contributions, Range: Last year), bots excluded ▾			
Rank ^	Company	Number	
	All	28070	
1	Inuits	5175	
2	Grafana Labs	4987	
3	Independent	2768	
4	Robust Perception	2558	
5	Red Hat	1258	
6	PromLabs	889	
7	SoundCloud Limited	619	
8	CNCF	535	
9	Instana	338	
10	Polar Signals	177	

Project Velocity

Are contributions increasing,
steady, or decreasing?



Velocity - Projects Health Table

Metric	Kubernetes	Prometheus	Envoy	CoreDNS	containerd	Fluentd
						
Commits: Days since last commit	0 days	0 days	0 days	2 days	0 days	3 days
Commits: Last commit date	09/02/2021 11:34:28 pm	09/02/2021 10:56:46 pm	09/02/2021 11:55:24 pm	08/31/2021 08:34:32 am	09/02/2021 12:42:39 pm	08/30/2021 05:15:50 am
Commits: Number of commits in the last 12 months	57749	3936	11364	922	3131	303
Commits: Number of commits in the last 3 months	13670	1084	3160	159	757	56
Commits: Number of commits in the last 3 months (previous 3 months)	15572	1344	3205	212	1065	72
Commits: Number of commits in the last 3 months vs. previous 3 months	↓	↓	↓	↓	↓	↓
Commits: Number of commits in the last 6 months	29121	2357	6344	371	1822	128
Committers: Number of committers in the last 12 months	3422	419	403	77	163	25
Committers: Number of committers in the last 3 months	1262	129	155	23	67	8
Committers: Number of committers in the last 3 months (previous 3 months)	1322	141	187	32	66	5
Committers: Number of committers in the last 3 months vs. previous 3 months	↓	↓	↓	↓	↑	↑

Release Activity

Regular releases and
security updates

Inclusivity

Inclusive and welcoming projects attract and retain more diverse contributors



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Other Considerations

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Timeframe

Have a regular cadence for evaluating project health.



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Time Window

How many weeks /
months to view

The screenshot shows the VMware vSphere Time Window picker interface. At the top, there are icons for a chart, a save icon, a settings icon, and a dropdown menu currently set to "Last 30 days". The main area is divided into two columns. The left column, titled "Absolute time range", has a "From" field containing "now-30d" and a "To" field containing "now". Below these fields is a blue button labeled "Apply time range". The right column, titled "Relative time ranges", lists several preset intervals: "Last 5 minutes", "Last 15 minutes", "Last 30 minutes", "Last 1 hour", "Last 3 hours", "Last 6 hours", "Last 12 hours", "Last 24 hours", "Last 2 days", and "Last 7 days". Below the "Apply time range" button, there is a message: "It looks like you haven't used this time picker before. As soon as you enter some time intervals, recently used intervals will appear here." followed by a link: "Read the documentation to find out more about how to enter custom time ranges." At the bottom, the interface shows "Browser Time United Kingdom, BST" and a "UTC+01:00" button, with a "Change time zone" button to its right.

Time Window picker interface showing absolute and relative time ranges.

Absolute time range

From: now-30d

To: now

Relative time ranges

- Last 5 minutes
- Last 15 minutes
- Last 30 minutes
- Last 1 hour
- Last 3 hours
- Last 6 hours
- Last 12 hours
- Last 24 hours
- Last 2 days
- Last 7 days

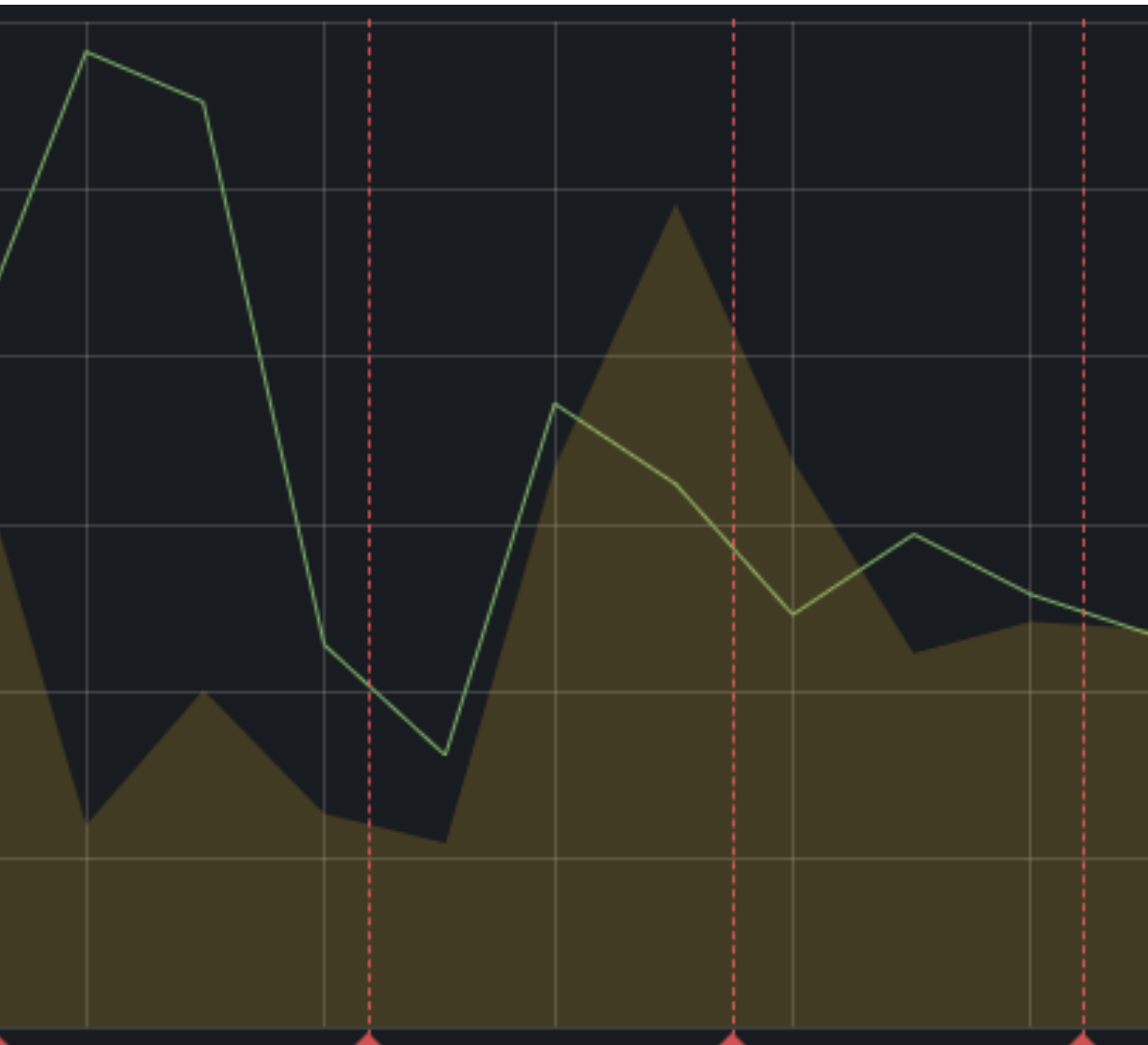
It looks like you haven't used this time picker before. As soon as you enter some time intervals, recently used intervals will appear here.

[Read the documentation](#) to find out more about how to enter custom time ranges.

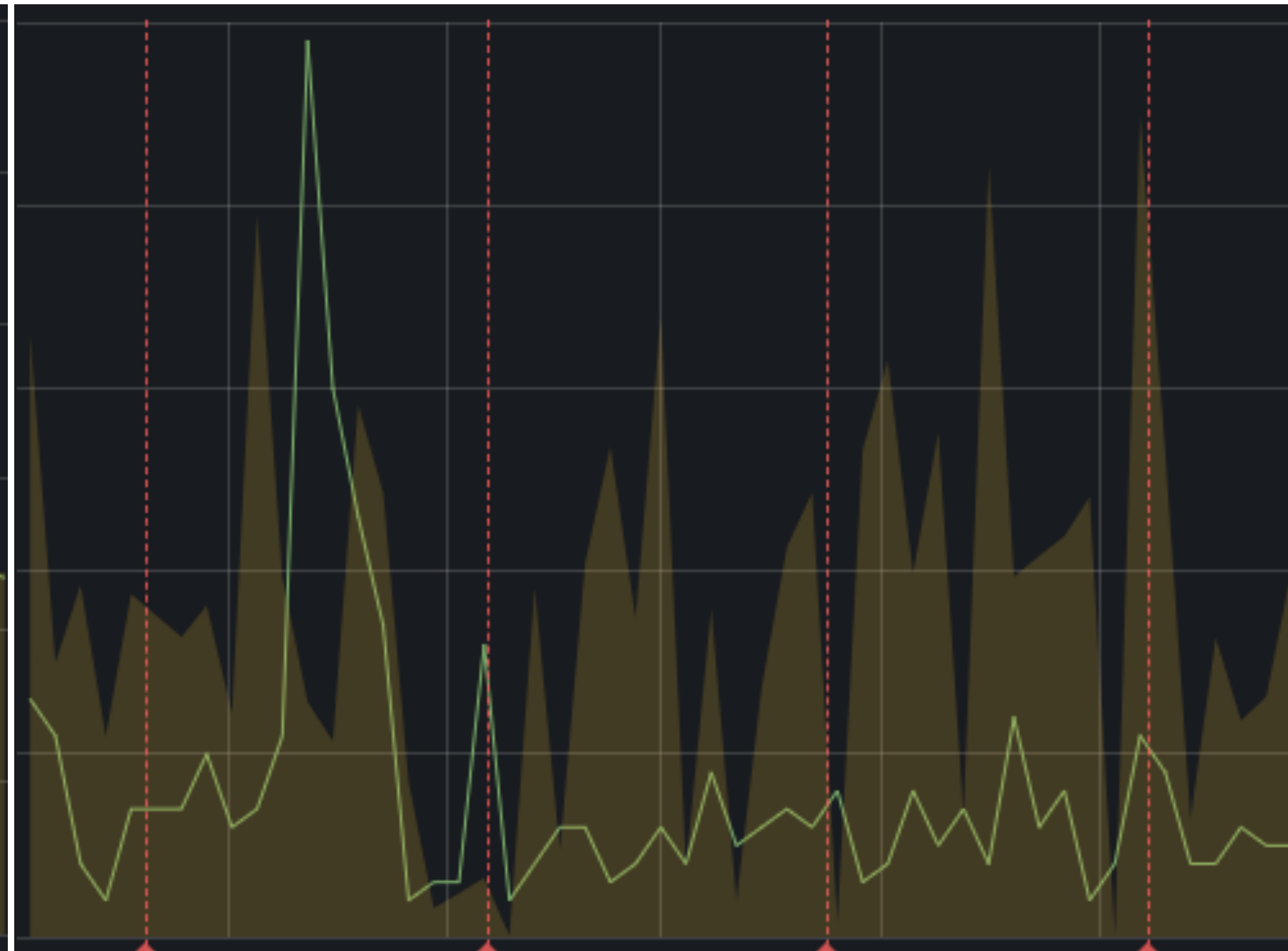
Browser Time United Kingdom, BST UTC+01:00 Change time zone

Period

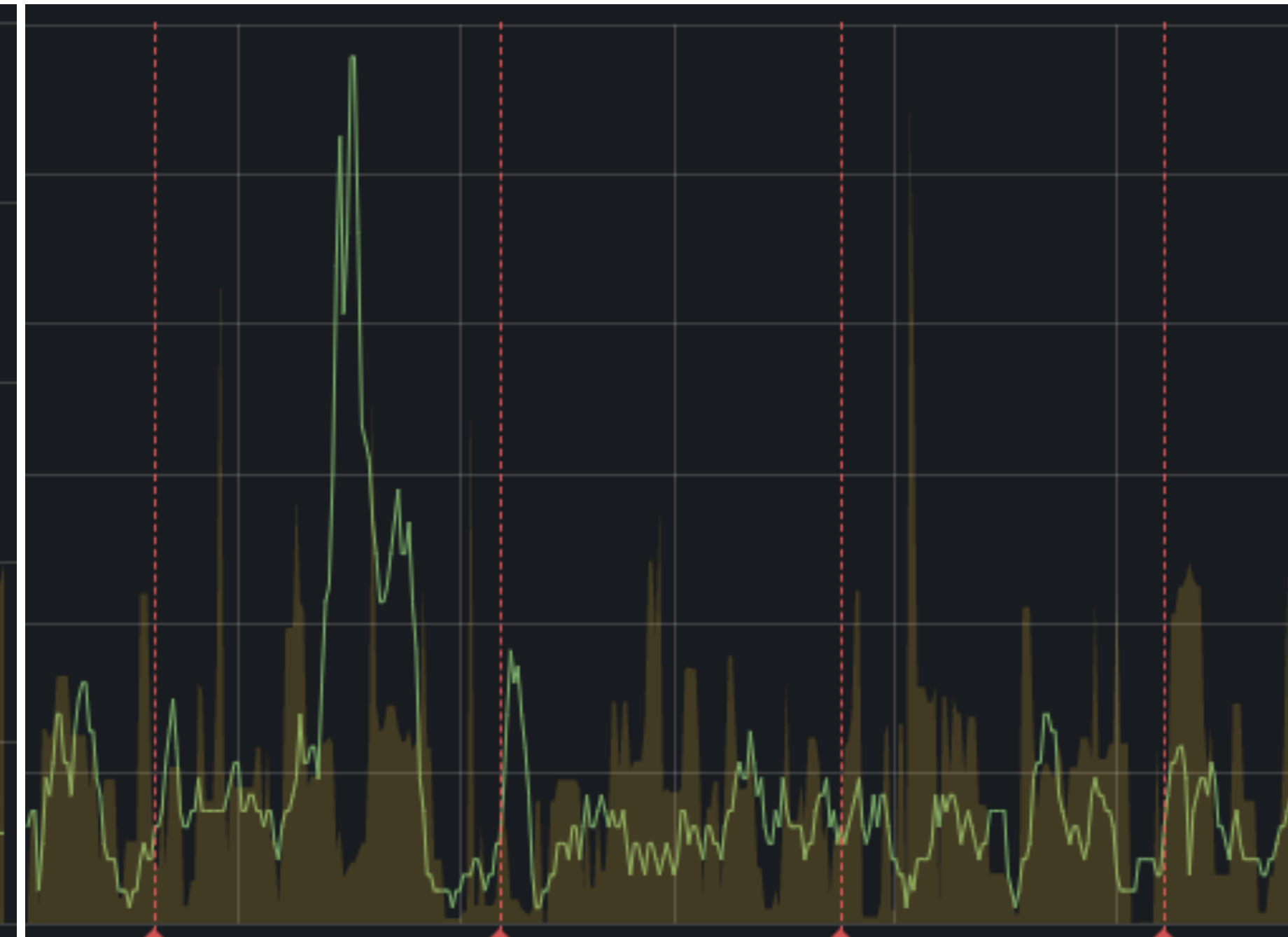
Month



Week



7 Days MA



Look for trends first and then dig into the details to interpret

Scope

Whole project or
repository group

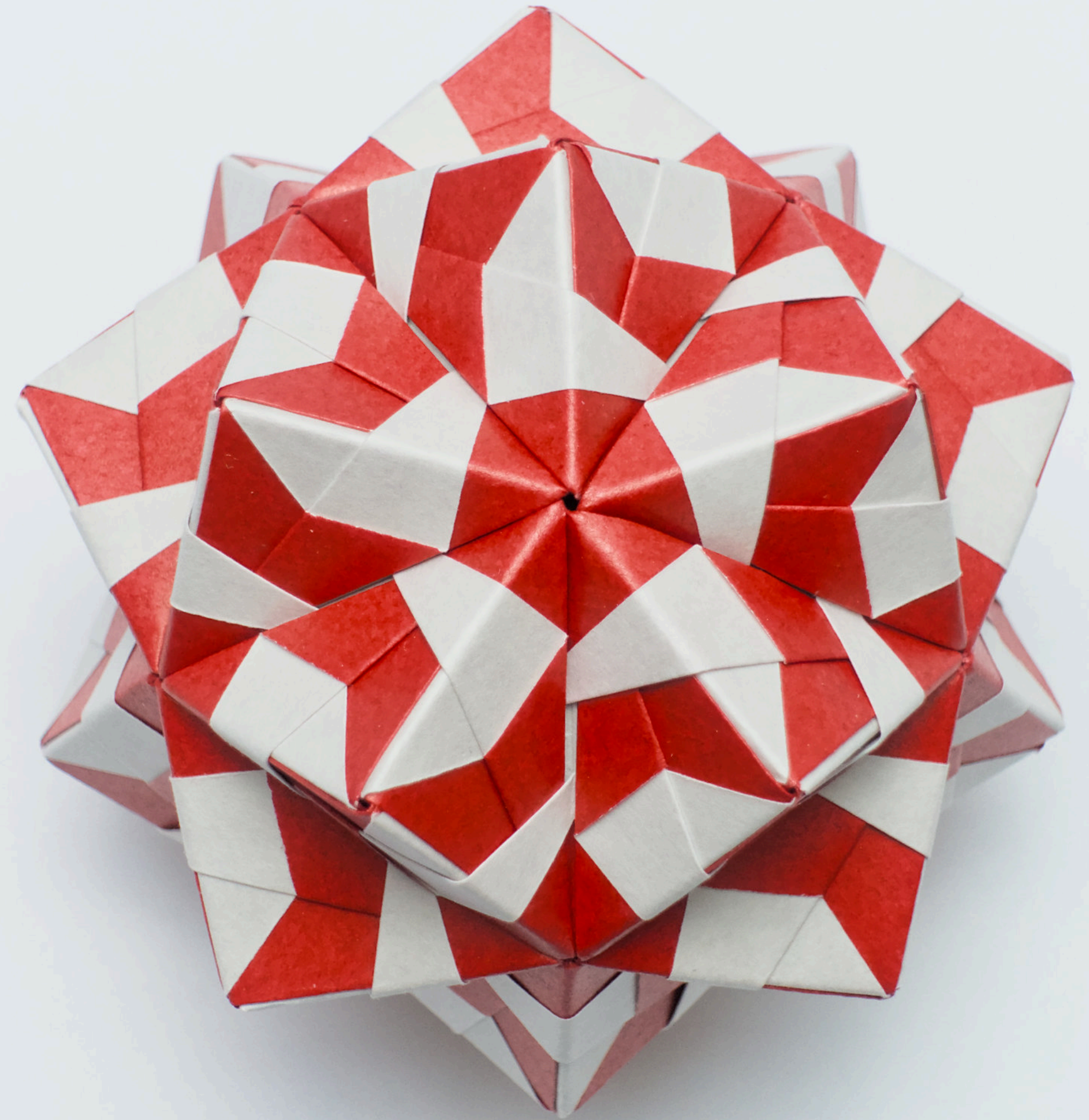


Image by Michał Kosmulski CC BY-NC 2.0

Resources

CNCF Contributor Strategy TAG Docs

<https://contribute.cncf.io/maintainers/>

<https://github.com/cncf/tag-contributor-strategy>

Linux Foundation's TODO Group

<https://todogroup.org/guides/>

CHAOSS Metrics Project

<https://chaoss.community/>

Final Thoughts

Project health metrics
require interpretation
and verification



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Thank You!

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Open Source at VMware

blogs.vmware.com/opensource

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