



# 开源社区治理与度量指标

2021.06.07

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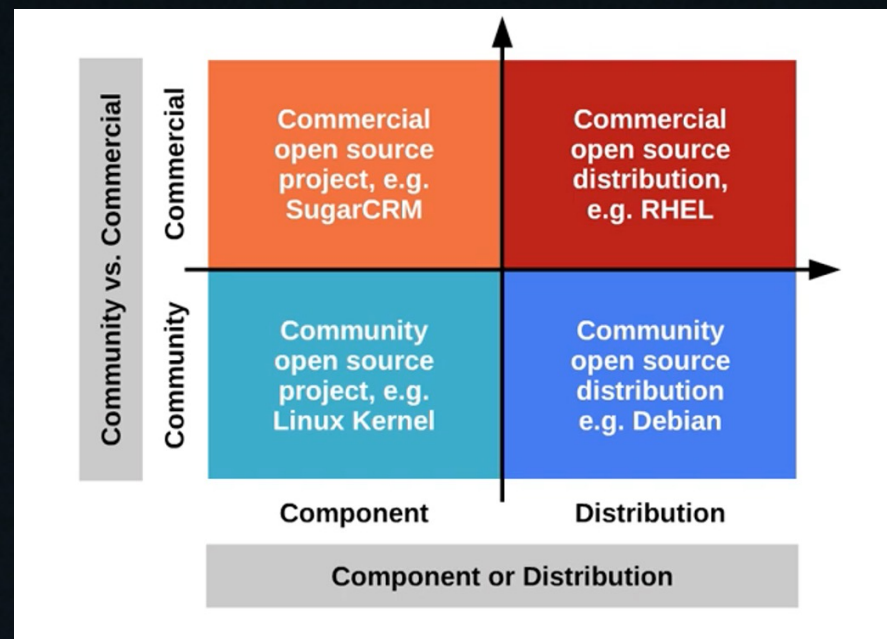
3 / 数字化治理

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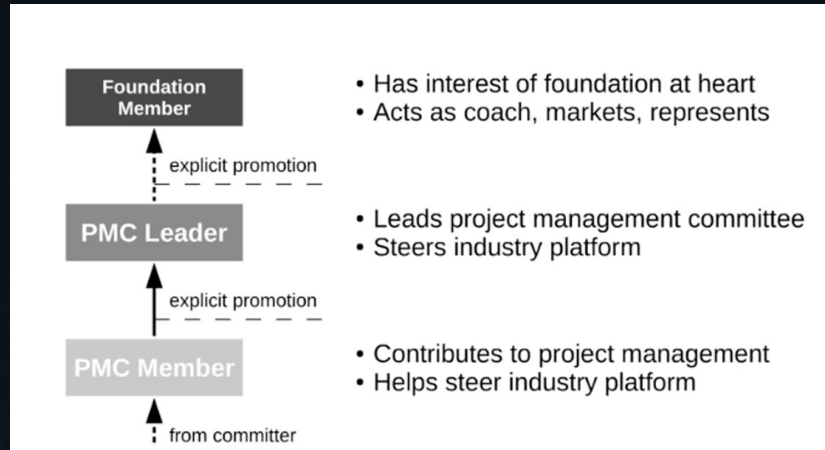
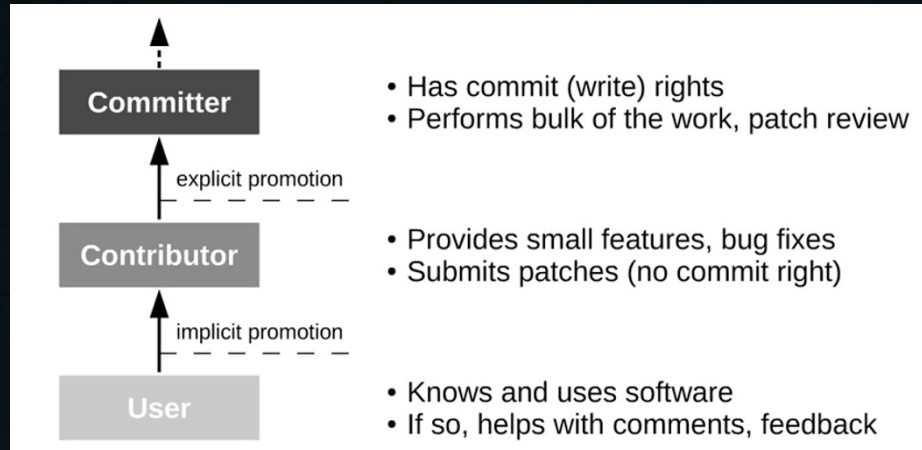
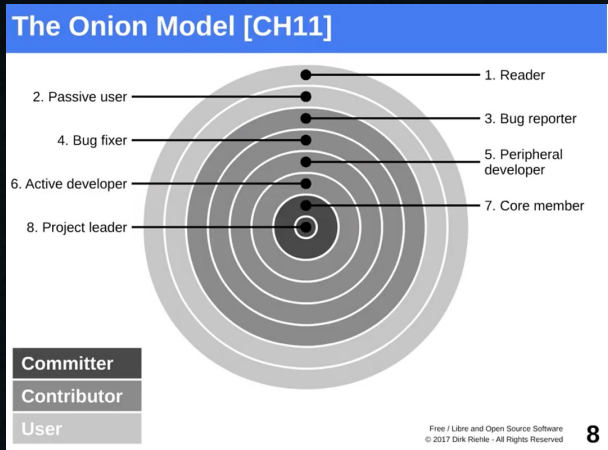
背景：什么是开源治理？

“开源治理是一种政治哲学，它提倡将开源和开放内容运动的哲学应用到民主原则中，以使任何有兴趣的公民都能像wiki文档一样添加到策略的创建中。”



开源是高度创新的。开源社区流程和我们在公司内部看到的非常不一样，因此开源带来了新的流程和协作模式。

# 01 / 制度治理



1. Egalitarian
2. Meritocratic
3. Self-organizing

- 平等主义 -- 每个人都可以做出贡献
- 任人唯贤 -- 根据争论的是非曲直做出决定
- 自我组织 -- 人们组织并决定自己的流程



## Community Over Code

## Decentralized innovation. Built on trust.



# 01 / 流程治理

- 开放协作流程
  - Git, 分支管理与版本控制...
- CI/CD
- Robotic Process Automation
- Agile, Scrum Developing

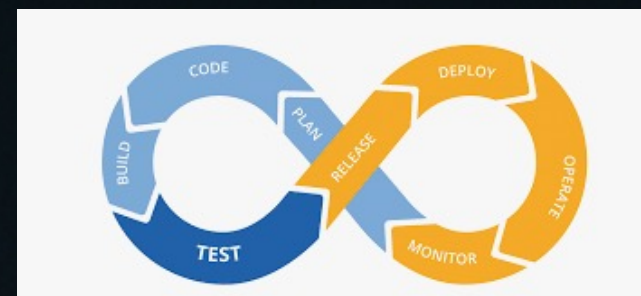
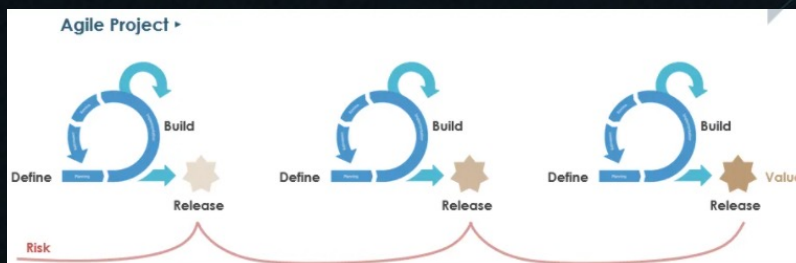


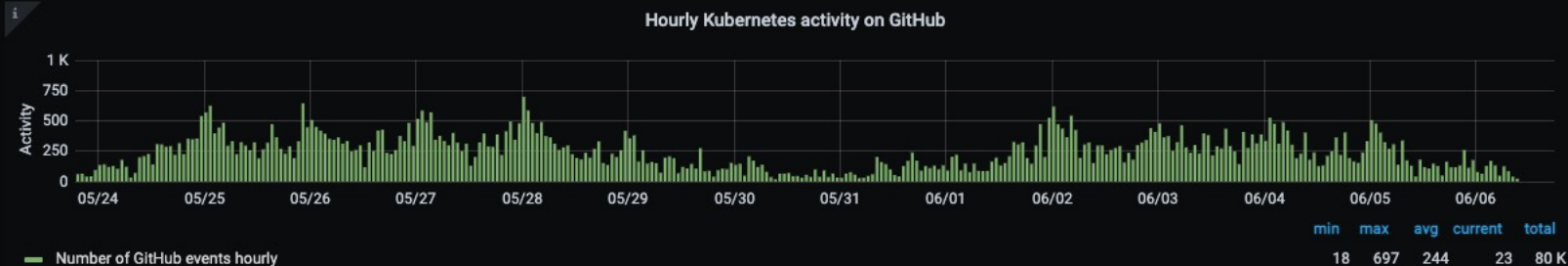
表 2.1 GitHub 2020 年全域开发者账号活跃度统计 Top 10

#	开发账号	活跃度	issue_comment	open issue	open pull	pull review comment	merge pull	star	fork
1	dependabot[bot]	36,082,423.2	3,062,227	0	17,914,723	0	1,311,348.0	0	0
2	dependabot-preview[bot]	10,169,281.1	2,097,036	38,354	3,547,903	0	1,214,518.7	0	0
3	pull[bot]	9,591,558.7	0	0	3,204,996	0	2,585,151.0	0	0
4	renovate[bot]	2,668,048.6	57,090	2,450	949,411	0	620,122.0	0	0
5	github-learning-lab[bot]	1,988,666.3	1,578,947	727,017	93,468	53,231	66,450.2	0	0
6	github-actions[bot]	984,674.2	632,314	60,492	128,594	39,412	72,411.8	0	0
7	direwolf-github	894,975.0	0	0	516,714	0	0	0	0
8	codecov[bot]	826,249.8	838,764	0	0	0	0	0	0
9	snyk[bot]	654,743.4	0	0	346,988	0	34,277.0	0	23
10	sonarcloud[bot]	527,040.0	755,729	0	0	0	0	0	0



# 01 / 运营看板

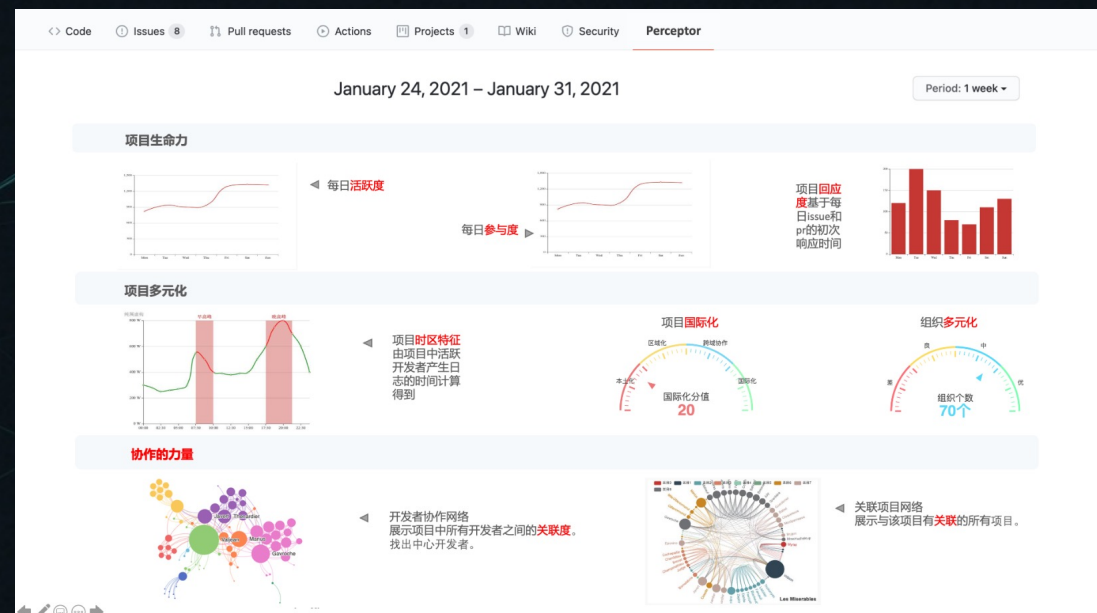
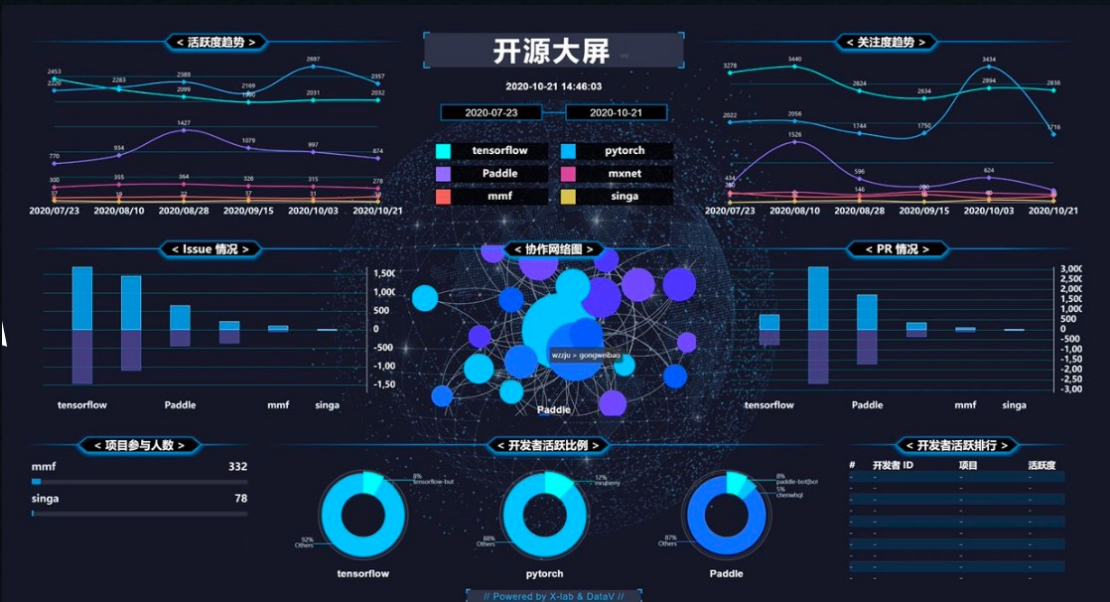
- Releases
- Kubernetes
- Prometheus
- Envoy
- CoreDNS
- containerd
- Fluentd
- Jaeger
- Vitess
- TUF
- Helm
- Harbor
- TIKV
- Rook
- etcd
- OPA
- OpenTracing
- gRPC
- CNI
- Notary
- NATS
- Linkerd
- CRI-O
- CloudEvents
- Falco
- Argo
- Dragonfly
- Contour
- Operator Framework
- SPIFFE
- SPIRE
- Cortex
- Thanos
- Builpacks
- KubeEdge
- Flux
- Emissary-ingress
- Telepresence
- OpenMetrics
- Virtual Kubelet
- Brigade
- Network Service Mesh
- OpenEBS
- OpenTelemetry
- in-toto
- Strimzi
- KubeVirt
- Longhorn
- ChubaoFS
- KEDA
- SMI
- Volcano
- CNI-Genie
- Keptn
- Kudo
- Cloud Custodian
- Dex
- LitmusChaos
- Artifact Hub
- Kuma
- PARSEC
- BFE
- Crossplane
- Chaos Mesh
- Serverless Workflow
- K3s
- Backstage
- Tremor
- Metal³
- Porter
- OpenYurt
- Open Service Mesh
- Keylime
- SchemaHero
- Cloud Deployment Kit for Kubernetes
- cert-manager
- OpenKruise
- Tinkerbell
- Pravega
- Kyverno
- GitOps WG
- Piraeus-Datastore
- k8dash
- Athenz
- Kube-OVN
- Curiefense
- Distribution
- ingraind
- Kuberhealthy
- K8GB
- Trickster
- WasmEdge Runtime
- ChaosBlade
- Vineyard
- Antrea
- Fluid
- Submariner
- All CNCF



Thanks for visiting the community dashboard for the [Kubernetes project](#).

Before using any of the graphs, please check-out [the readme](#) for additional context.

Please report any bugs by opening an issue on [the devstats repository](#).



# 01 / 健康度量

一个项目做得“好”的意思是什么？有三个相互关联但不相同的成功指标：

- 流行度 – 有多少人使用此项目
- 依赖度 – 有多少软件依赖于此项目
- 活跃度 – 项目正在被活跃开发代表该项目能够被持续维护

一些与响应性相关的指标：

- 创建提问和拉取请求的数量
- 首次响应的平均时间
- 平均关闭提问或者拉取请求的时间

对开发项目进行健康度量时，注意几个重要的注意事项：

- 缺乏粒度
- 不同项目间工作速度的不同
- 一致但低活跃/不一致但爆发式活跃
- 稳定的项目
  - 体育馆模式：高贡献低使用；俱乐部模式：低贡献高使用



《Working In Public》

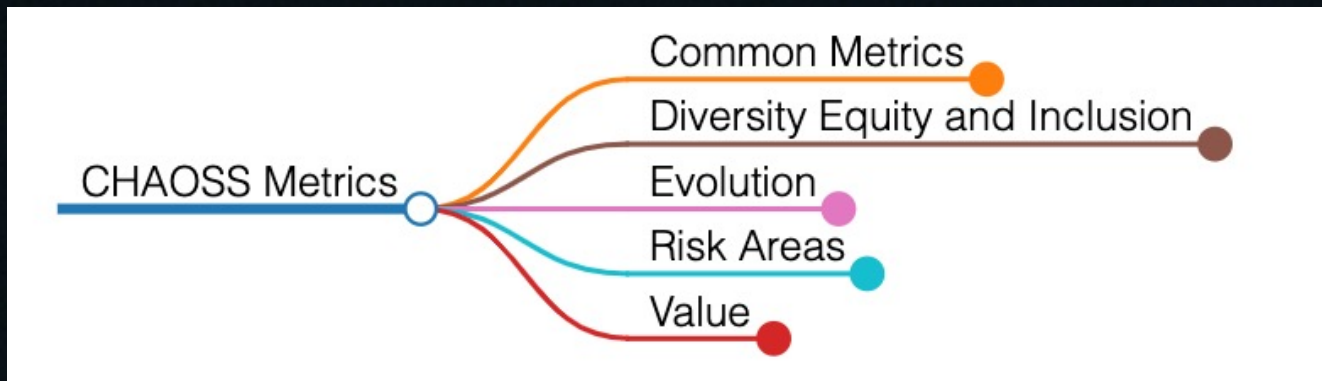
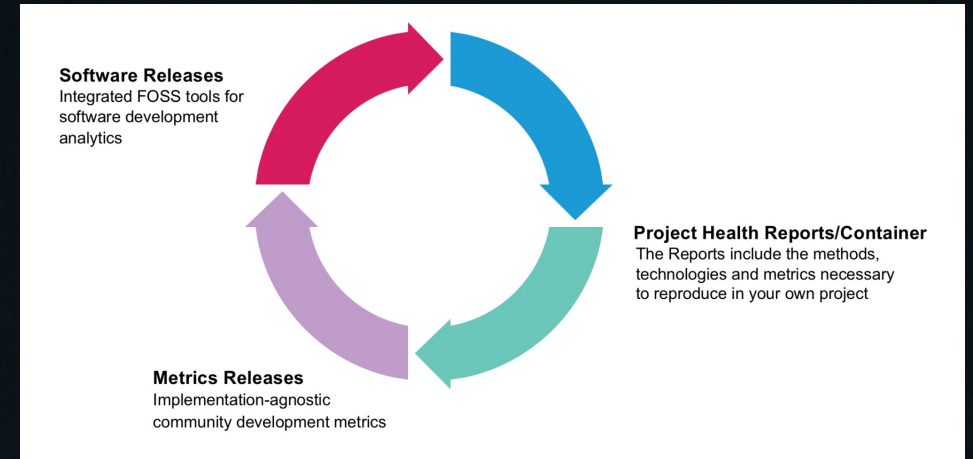
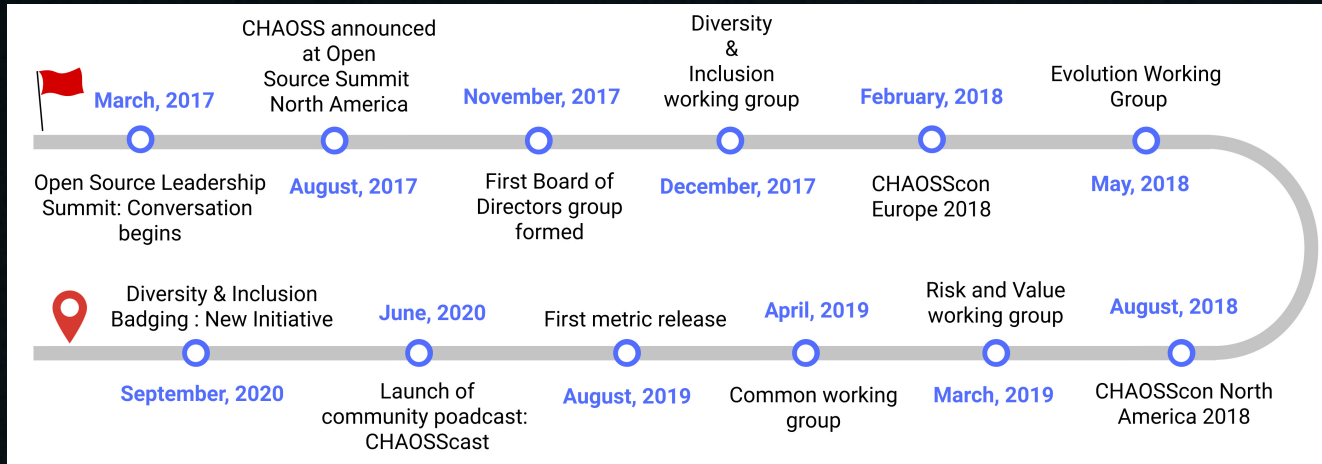




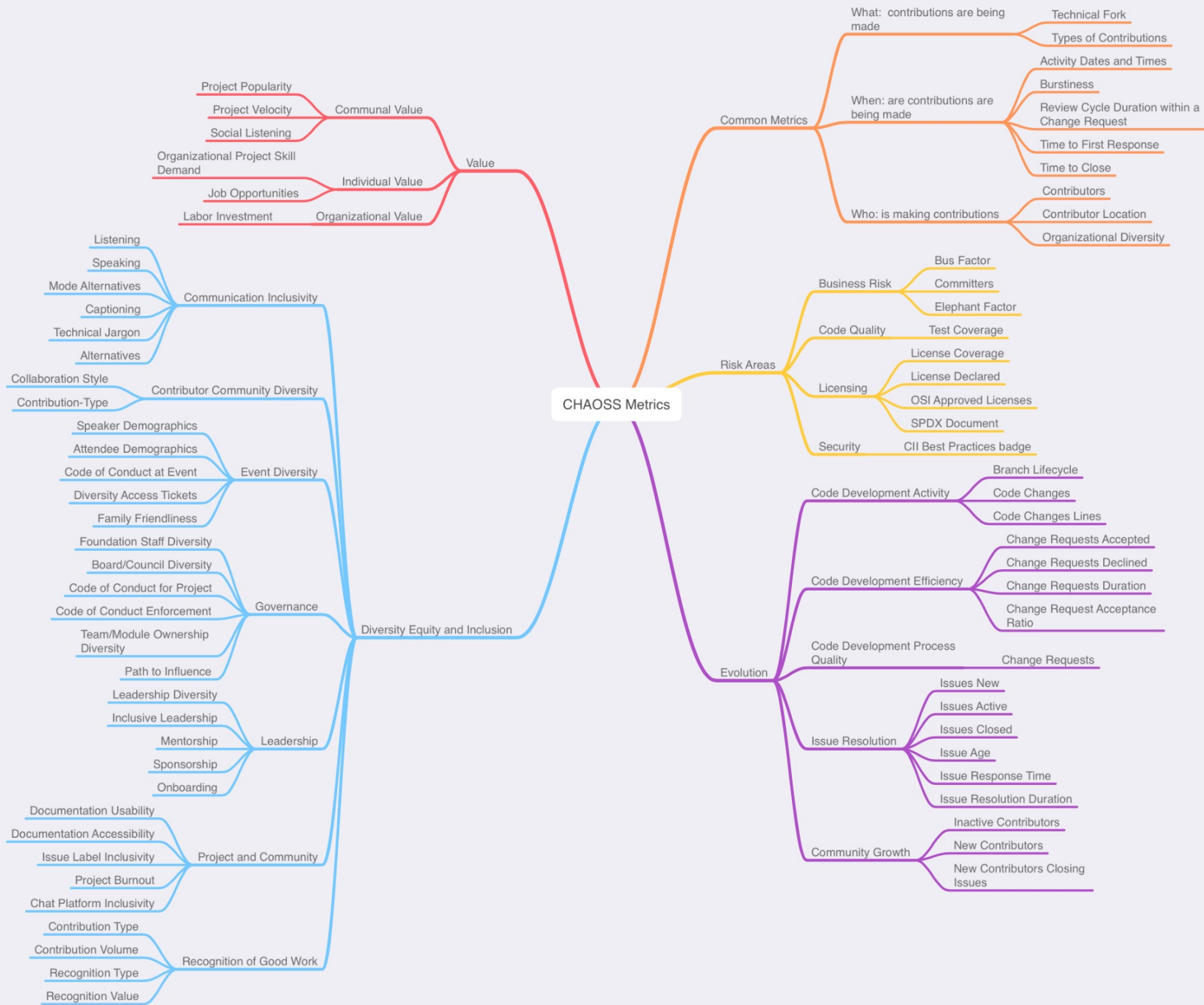
## 开源社区度量指标：CHAOSS Metrics

# 02

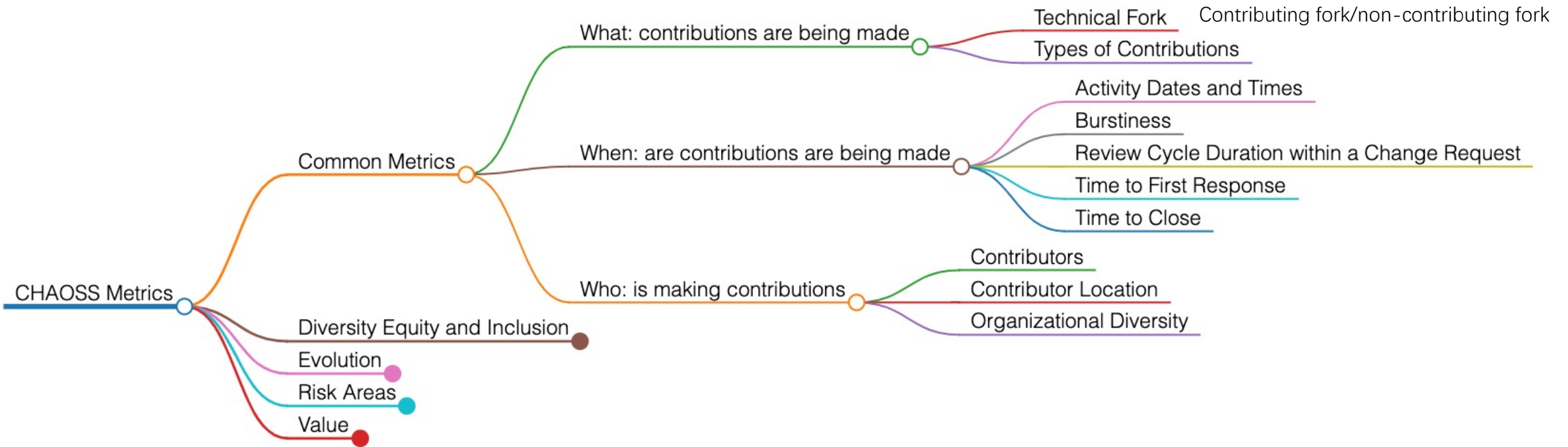
CHAOSS is a Linux Foundation project focused on creating analytics and metrics to help define community health



- 可量化 - 图表分析
- 非量化 - 文字报告
- 数据采集



# 02 / Common Metrics

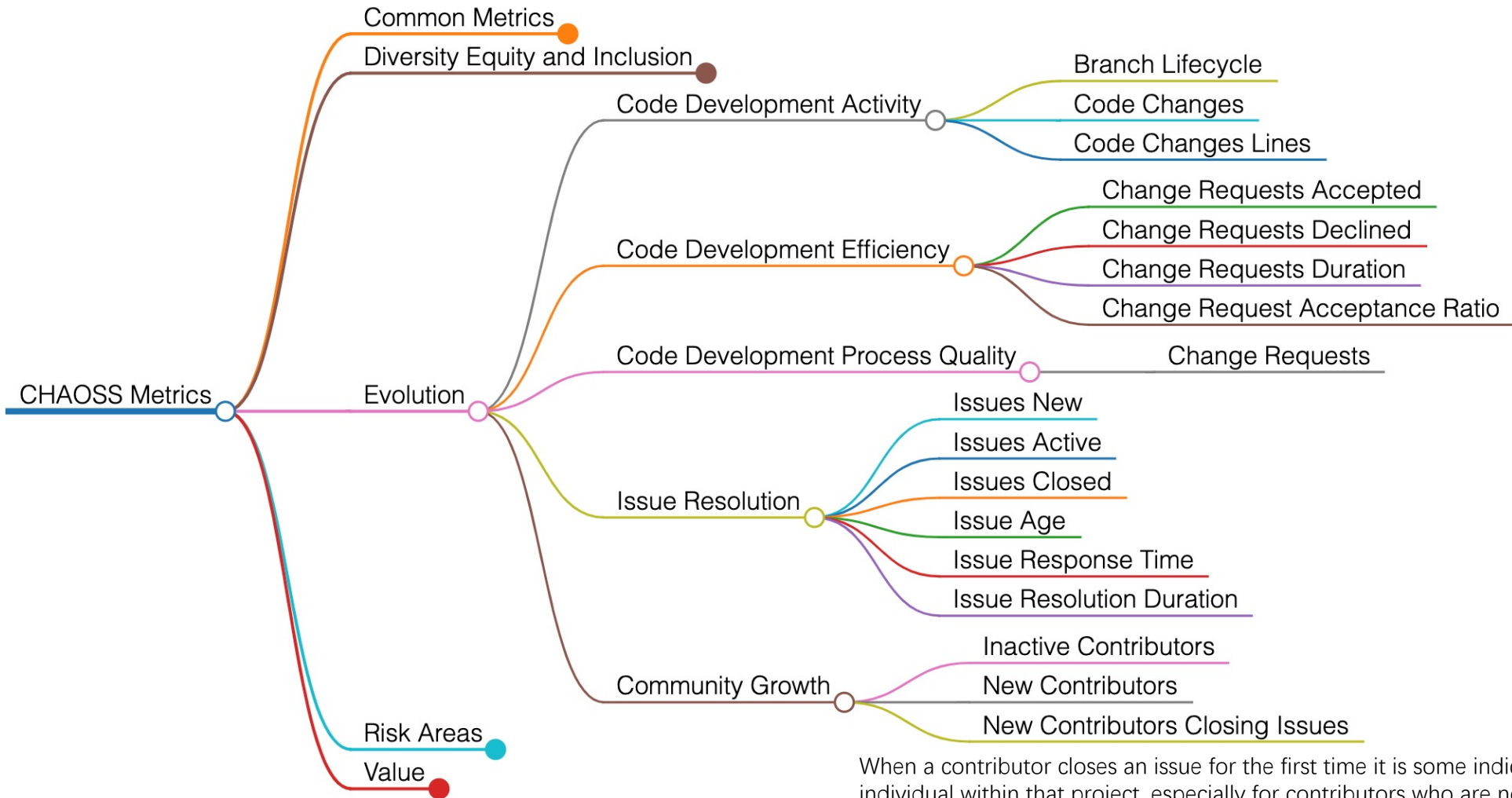


# 02 / Types of Contributions

- The following list can help with identifying contribution types:
  - Writing Code
  - Reviewing Code
  - Bug Triaging
  - Quality Assurance and Testing
  - Security-Related Activities
  - Localization/L10N and Translation
  - Event Organization
  - Documentation Authorship
  - Community Building and Management
  - Teaching and Tutorial Building
  - Troubleshooting and Support
  - Creative Work and Design
  - User Interface, User Experience, and Accessibility
  - Social Media Management
  - User Support and Answering Questions
  - Writing Articles
  - Public Relations - Interviews with Technical Press
  - Speaking at Events
  - Marketing and Campaign Advocacy
  - Website Development
  - Legal Council
  - Financial Management

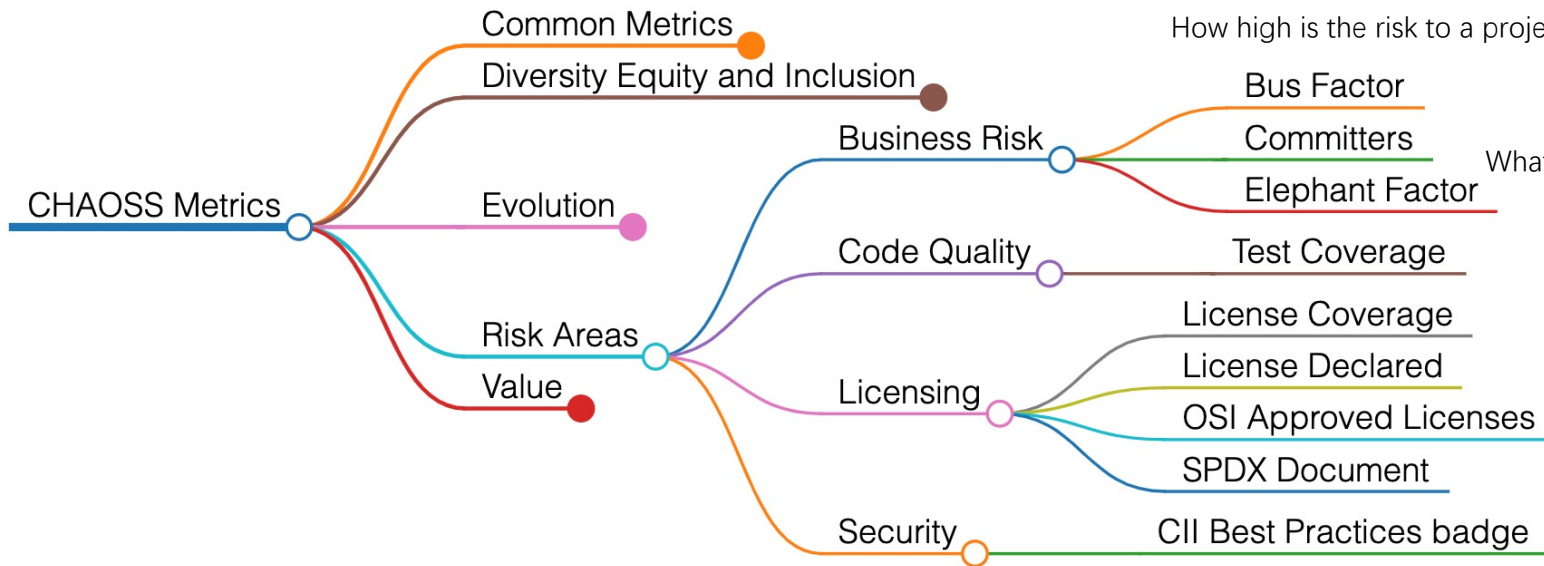
Contributing fork/non-contributing fork

# 02 / Evolution



When a contributor closes an issue for the first time it is some indication of "stickiness" of the individual within that project, especially for contributors who are not also committers.

# 02 / Risk



How high is the risk to a project should the most active people leave ?

What is the distribution of work in the community ?

## The Software Package Data Exchange® (SPDX®)

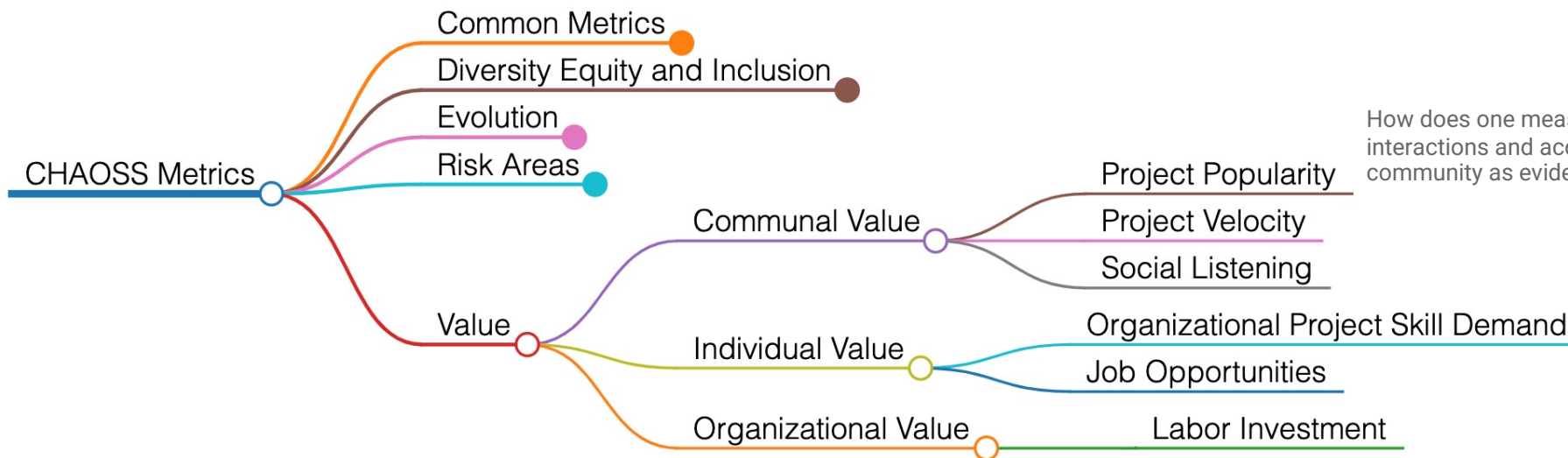
An open standard for communicating software bill of material information, including components, licenses, copyrights, and security references. SPDX reduces redundant work by providing a common format for companies and communities to share important data, thereby streamlining and improving compliance.



# 02 / Value

**Organizational Project Skill Demand** : How many organizations are using this project and could hire me if I become proficient?

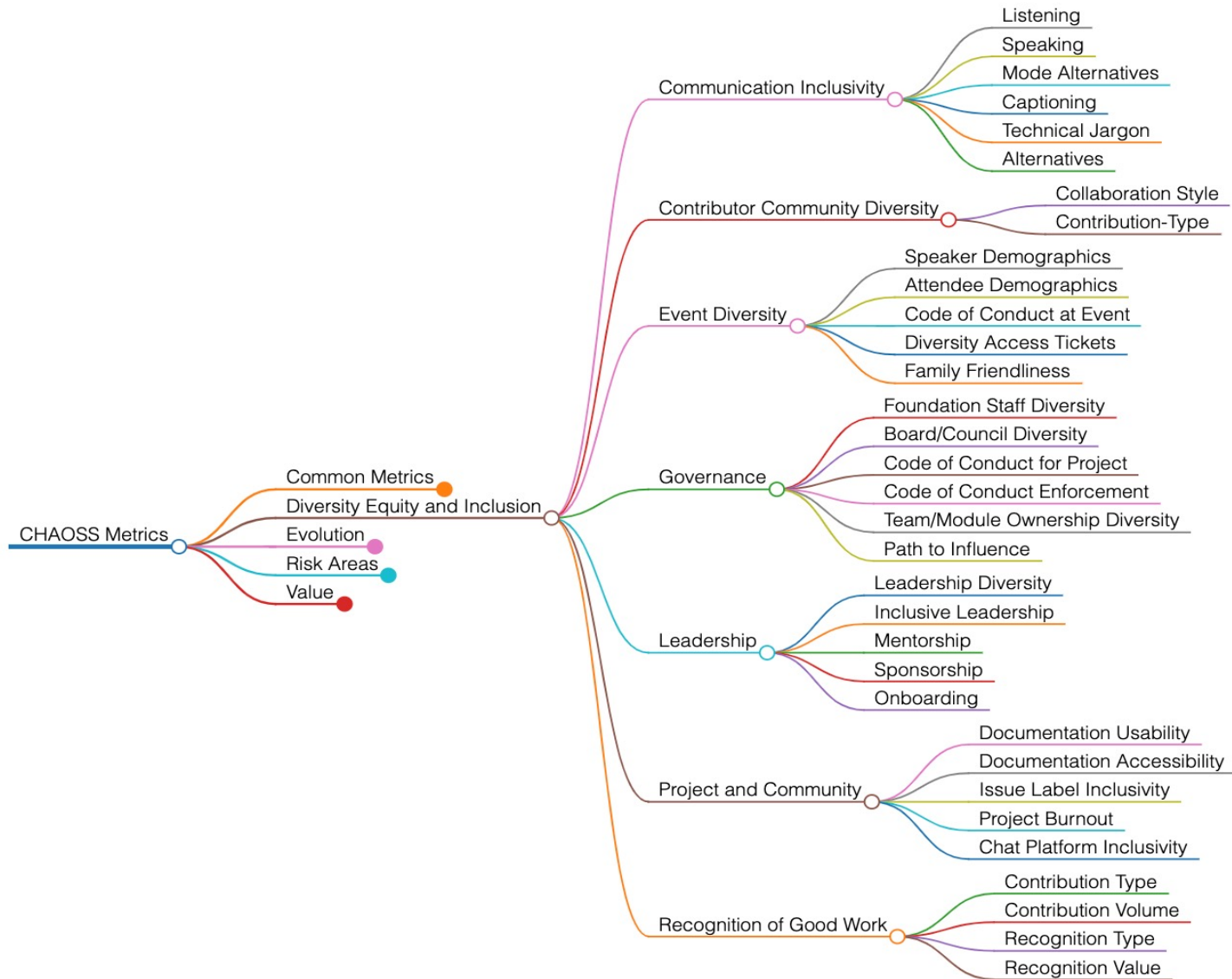
**Job Opportunities** : How many job postings request skills with technologies from a project ?



How does one measure the value of community interactions and accurately gauge “trust” within a community as evident from qualitative sentiment ?



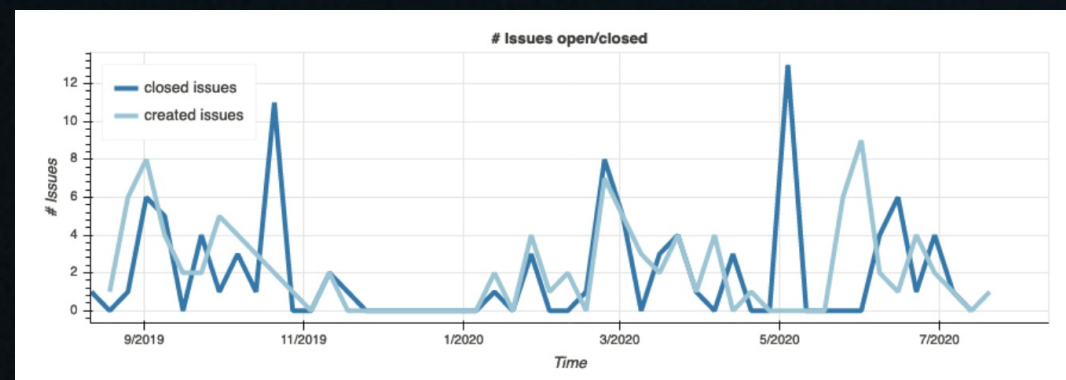
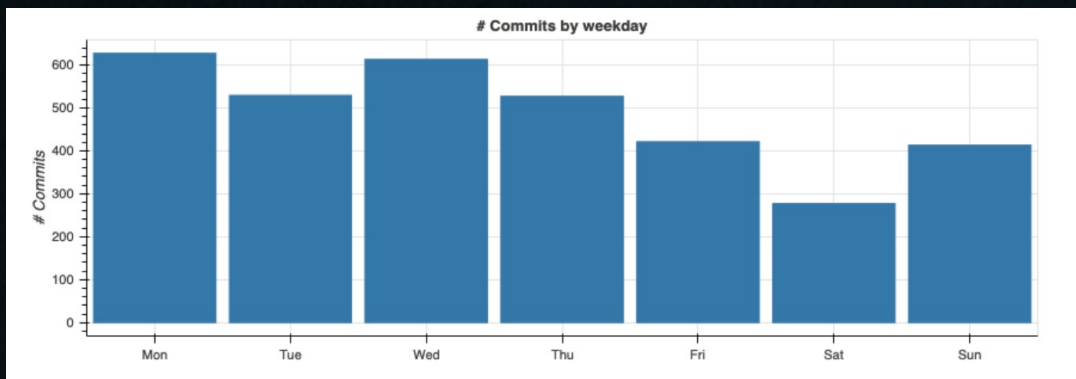
# 02 / Diversity , Equity and Inclusion



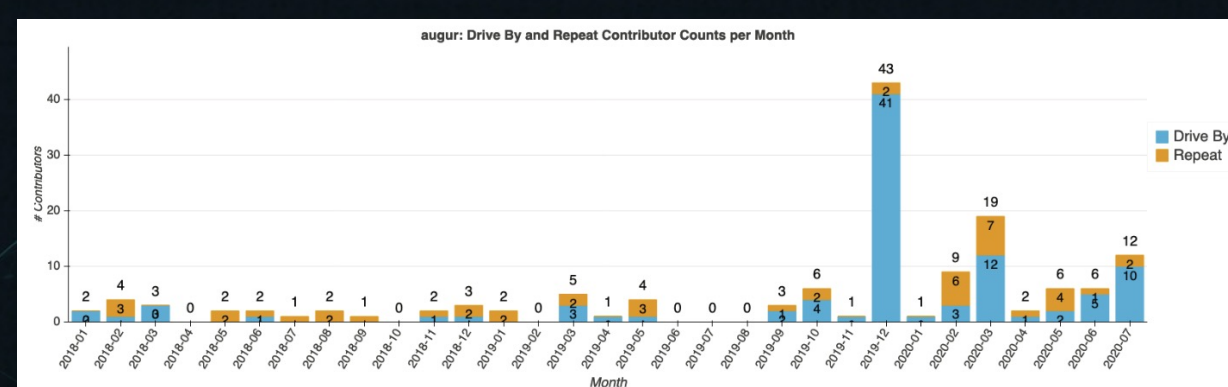
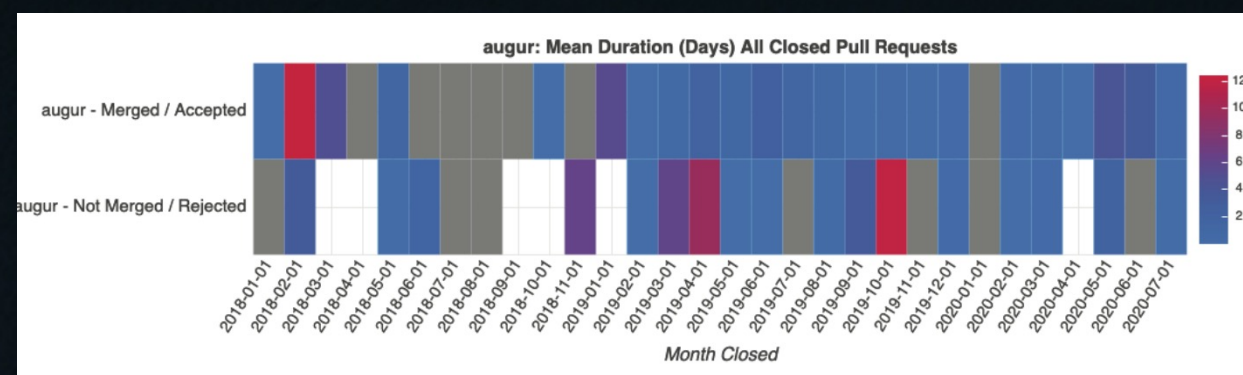


# 02 / Community Report

## Cauldron



## Augur



# 02 / D&I Badging

Level	Badge	Percentage of Requirements Met
Pending		Less than 40%
Passing		Greater than or equal to 40% and less than 60%
Silver		Greater than or equal to 60% and less than 80%
Gold		Greater than or equal to 80%

## Event Diversity

- Attendee Demographics
- Code of Conduct at Event
- Diversity Access Tickets
- Family Friendliness
- Speaker Demographics

Applicant

Moderators

Reviewers

Badging Bot

## [Virtual Event] LFN Developer & Testing Forums 2021 #84

 Closed RachelBraunLF opened this issue on 29 Apr · 39 comments



RachelBraunLF commented on 29 Apr · edited

### Virtual Event Submission

#### Requirements

- Event Name: LFN Developer & Testing Forums 2021
- Link to the Event Website: <https://wiki.lfnetworking.org/x/jla-Ag>
- Provide verification that you are an event organizer: [rbraun@linuxfoundation.org](mailto:rbraun@linuxfoundation.org)



mollydb commented on 1 May

I could not find information relating to attendee demographics (though I found other reports) and also could not access the CFP.



RachelBraunLF commented on 3 May

@djmitche CoC / "Support At Event" -- since this is a virtual event, "at event" is a bit of a misnomer, but I think the spirit of this checkbox is that there's an immediate response, rather than an email and later follow-up. I think this could be clarified by understanding how [mdolan@linuxfoundation.org](mailto:mdolan@linuxfoundation.org) would respond quickly, and what kind of response). Or perhaps

- If we as event organizers received a compliance violation, we would address it immediately [events@lfnetworking.org](mailto:events@lfnetworking.org) - this email alias respond immediately. There is also a spec addressed there, as well.

@mollydb Attendee demographics are include



badging-bot bot commented on 29 Apr · edited by mollydb

### Checklist for @mollydb

Thank you for becoming a part of this Event Badging review.

Make sure you have looked into the following documents:

- [Reviewer guide](#)
- [Reviewer role](#)
- [Submission guidelines](#) (In order to get familiar with applicant actions)

In order to avoid receiving excessive notifications from this repository, set your subscription status to `Not Watching`.

### Event Review Checklist

#### > Initial checks

- Event is about Open Source technologies and systems.
- Event information is publicly available on a website.
- The Event Code of Conduct is publicly available.
- The applicant is the organizer of the event.

Make sure all the initial checks are marked before proceeding with Metric based checks

#### > Metric based checks



badging-bot bot commented 3 days ago



#### Markdown Badge Link:

```
![Assigned badge: gold](https://img.shields.io/badge/D%26I-Gold-yellow?style=flat-square&labelColor=583586&link=)
```

#### HTML Badge Link:

```
<img src='https://img.shields.io/badge/D%26I-Gold-yellow?style=flat-square&labelColor=583586&link=https://github.com' data-bbox=
```

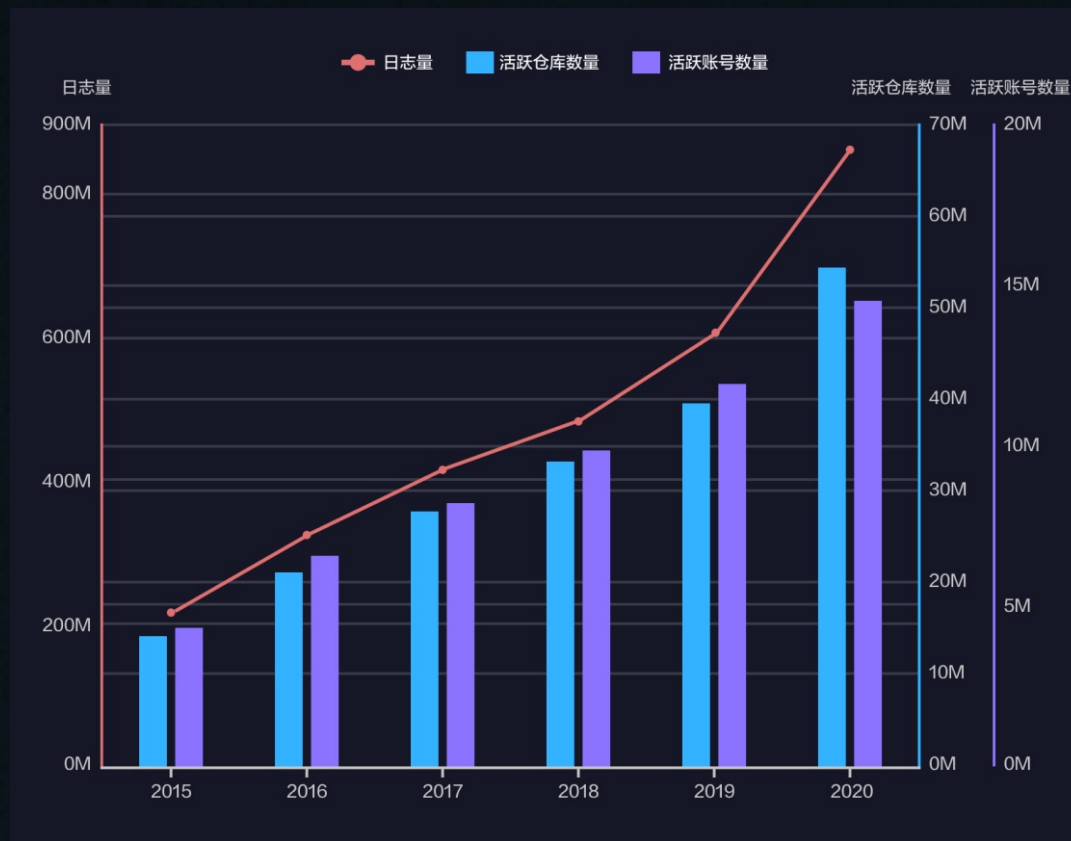


# 社区数字化分析报告：以GitHub数据分析为例

# 03 / GitHub 2020 Insight Report

从总体数据来看，2020 年全年，GitHub **全域事件日志**数量总计约 **8.6 亿条**，较 2019 年 **6.1 亿条** 增长约 **42.6%**，是近五年来增长最快的一年。

2020 年 GitHub 全域**活跃项目数量**约 **5,421 万个**，**活跃开发者账号**约 **1,454 万个**，分别较 2019 年增长了 **36.4%** 与 **21.8%**。



GitHub 2015 -2020 年事件日志量、活跃仓库数量、活跃账号数量总体情况

$$\begin{aligned} A_{u\_d} = & C_{issue\_comment} + 2C_{open\_issue} \\ & + 3C_{open\_pr} + 4C_{review\_comment} \\ & + 2C_{pr\_merged} + C_{watch} \\ & + 2C_{fork} \end{aligned}$$

其中，Pull request merged 的计数由分段函数决定：

$$C_{pr\_merged} = \begin{cases} 0.8 + 0.002 \times loc & loc < 100 \\ 1 & 100 \leq loc < 300 \\ 2.5 - 0.005 \times loc & 300 \leq loc < 400 \\ 0.5 & loc \geq 400 \end{cases}$$

$$A_r = \sum (A_{u\_d} / day\_count)$$

# 03 / 开发者工作时间和时区分布分析

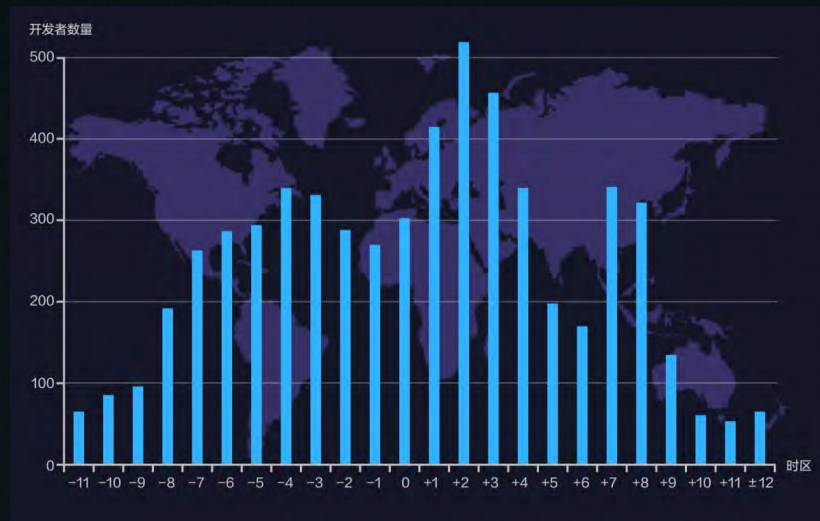
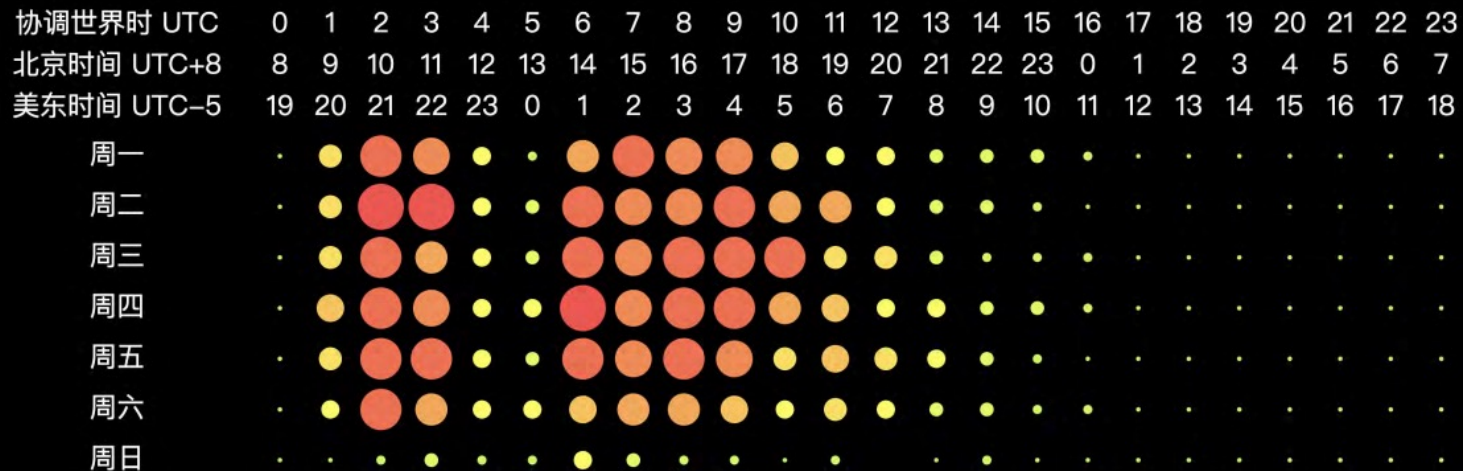


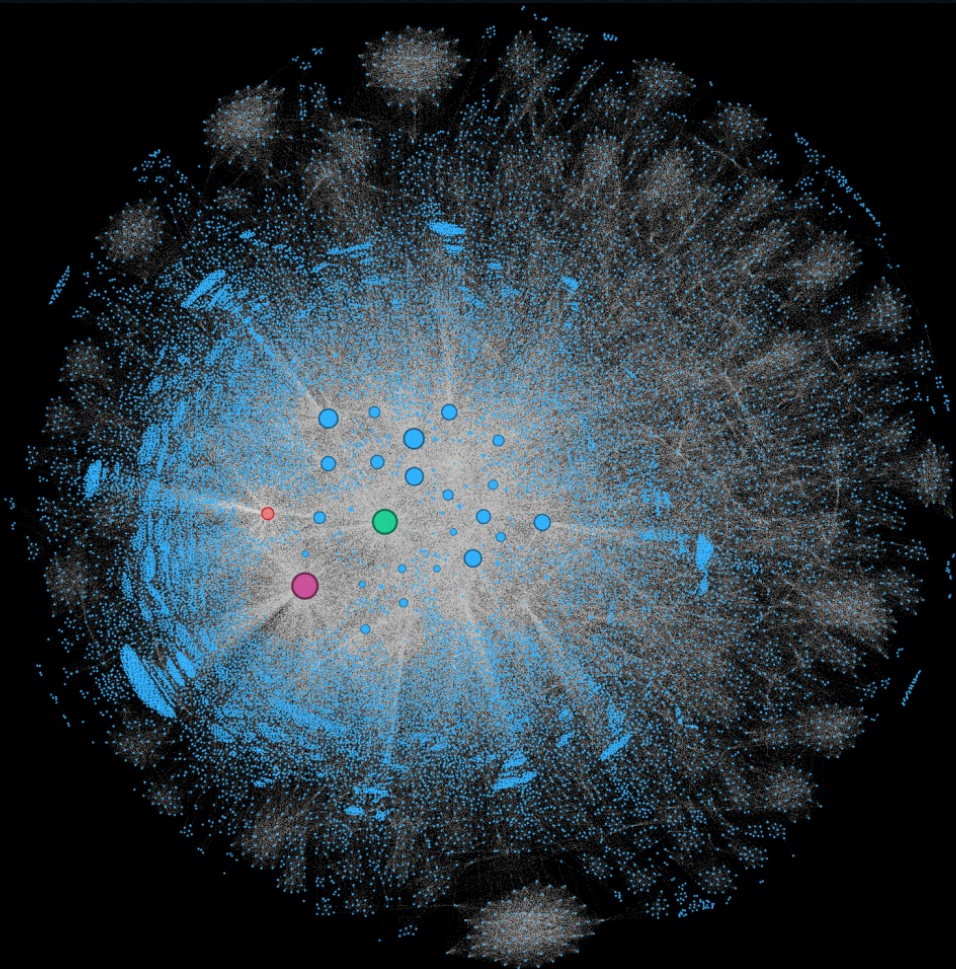
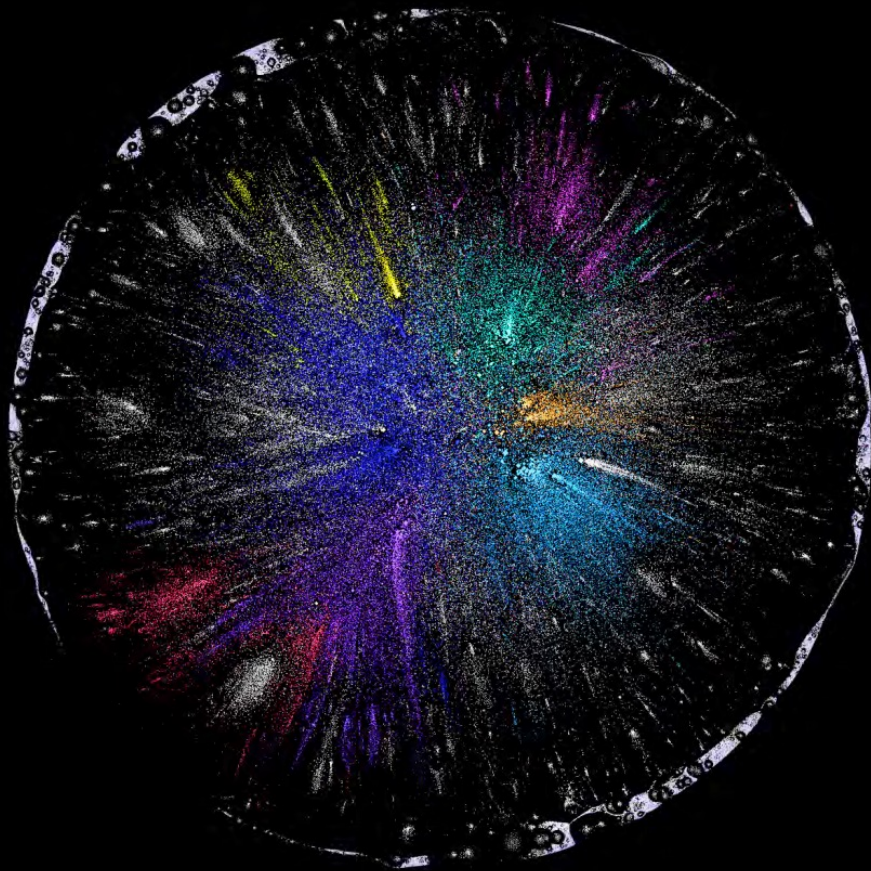
图 4.1 CNCF 下云原生领域开发者时区分布

- 开发者所属时区**估算**方法：获取其事件最多的连续12个小时，令其事件为开发者本地时间的9时至12时，则可大致确定该开发者所属时区。
- 该方法不可用于单开发者时区的精确估计，但在统计维度上有意义。



# 03 / 网络分析

- 系统/工具
- TS/前端
- AI
- 云原生
- PHP
- 生物信息
- 微软
- 硬件





- 前瞻 ( Foresighted ) : 影响力强 , 全球化高
- 引领 ( Leading ) : 影响力强 , 全球化低
- 行动 ( Acting ) : 影响力弱 , 全球化高
- 进入 ( Incubating ) : 影响力弱、全球化低

# 03 / Star of the Month

1月 : microsoft/playwright

2月 : wuhan2020/wuhan2020

3月 : CSSEGISandData/COVID-19

4月 : labuladong/fucking-algorithm

5月 : bradtraversy/design-resources-for-developers

6月 : electronicarts/CnC\_Remastered\_Collection

7月 : JaidedAI/EasyOCR

8月 : geekxh/hello-algorithm

9月 : cli/cli

10月 : kamranahmedse/developer-roadmap

11月 : ytdl-org/youtube-dl

12月 : beurtschipper/Depix



更多视角

A faint, glowing network globe in the background, consisting of a grid of interconnected nodes and lines, rendered in a light blue/cyan color.

# 04 / 开源软件最佳实践视角

## Summary of Best Practices Criteria "passing" level

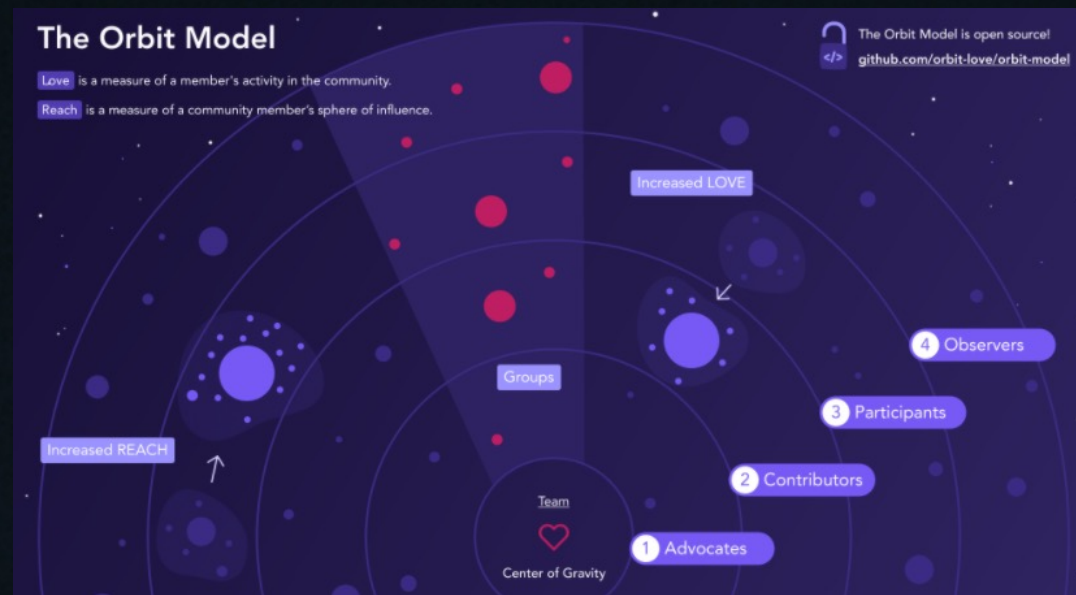
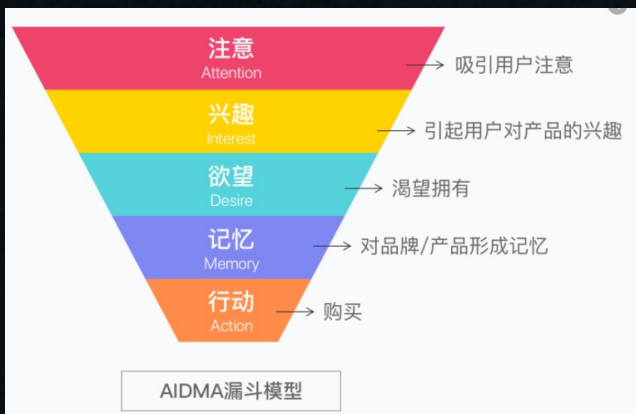


- Have a stable website
- Explicitly specify a FLOSS license
- Support HTTPS on the project sites
- Have a build that works, using standard open-source tools
- Have an automated test suite that covers most of the code/functionality, and officially require new tests for new code
- Automate running the tests on all changes, and apply dynamic checks
- Allow bug reports to be submitted, archived and tracked
- Have a developer who understands secure software and common vulnerability errors

# 04 / 开源社区参与角色视角



- 营销领域的漏斗模型
- 开发者关系团队同样需要关注社区角色跳跃



- **Love** is a member's level of engagement and activity in the community.
- **Reach** is a measure of a community member's sphere of influence.
- **Gravity** is the attractive force of a community that acts to retain existing members and attract new ones.
  - $Gravity = Sum(Love * Reach)$  for each member
- **Orbit levels** are a practical tool for member segmentation and used to design different programs for each level of the community.





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# THANK YOU

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