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Observability TAG Updates

Enhancing Kubernetes Observability and Query Language Standardization

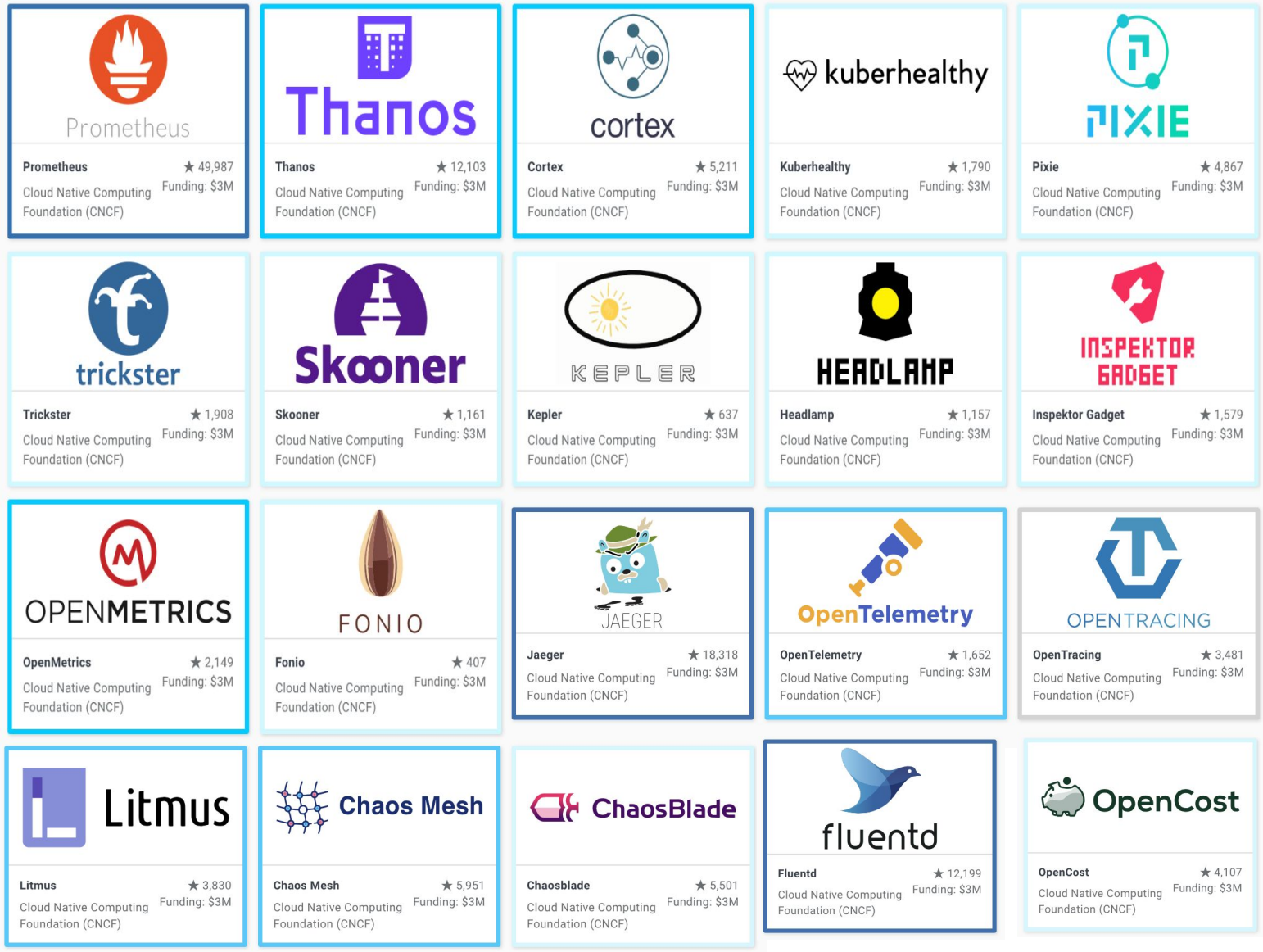
Alolita Sharma, TAG co-chair
Ken Finnigan, TAG member

TAG Observability

What is the Observability TAG?

- Foster, review, and grow the ecosystem of open source observability
- Identify and report gaps in the CNCF's observability project portfolio
- Share patterns and current good practices
- Educate and inform users without bias
- Vendor-neutral venue for relevant thought validation, discussion, and project feedback
- Support the TOC for process improvements and project due diligence for sandbox, incubation, and graduation stages

Observability Projects in CNCF



GRADUATED

3

INCUBATING

6

SANDBOX

10

ARCHIVED

1

Observability Projects in CNCF

Measuring Project Health

- Health metrics
  i. Contributor growth
  ii. Maintainer diversity
  iii. Project velocity
  iv. User adoption
- Are core technologies at risk? Jaeger, Cortex
- Gaps in CNCF project landscape - missing core observability functionality such as tracing store, logging store, UI/visualization, cost tracking, standardized querying

TAG Activities

Success! O11y Speaker Series

- **Jonah Kowall (Nov 2022)**
  - “Unifying Observability”
- **Ryan Perry (Jan 2023)**
  - “OpenTelemetry Profiling”
- **Vijay Samuel (Feb 2023)**
  - “Why and How eBay Pivoted to OpenTelemetry”
- **Ryan Wright (May 2023)**
  - “Quine.io, Open Source Streaming Graphs, Kubernetes Observability”
- **Filip Petrovski (Aug 2023)**
  - “Thanos Performance Enhancements”
- **Matt Ray (Sep 2023)**
  - “OpenCost”

Success! O11y Project Updates

- **Sandbox candidate projects**
  - kube-burner - Sep 2023
    - https://github.com/cncf/sandbox/issues/57
  - logging-operator - Sep 2023
    - https://github.com/cncf/sandbox/issues/42
- **Sandbox to Incubating projects**
  - OpenCost - Oct 2023
  - Pixie - Feb 2023

TAG Work in Progress

- Query Language Standardization workgroup
- Observe-K8s workgroup
- Collaboration with other TAGs - AI workgroup with TAG Runtime, Landscape graph with TAG Security
- Observability Whitepaper draft now available for review
  - Focus Areas for this whitepaper include
    - Are your development, pre-prod and prod environments observable
    - What data signals do you find most useful in these environments
    - Are you using metrics, logging, profiling, tracing, real-time events, exceptions

WG - Observe k8s update

- Highlights and Accomplishments
  - Observability Demo: https://github.com/observe-k8s/Observe-k8s-demo
    - GCP GKE Deployment Steps
    - AWS EKS Deployment Steps
- CNCF Slack channel: #wg-observe-k8s
- Workgroup meets every two weeks
- Help wanted
  - Present documented use cases for observability on a GitHub pages website

WG - Query Standardization Kickoff!

- Highlights and Accomplishments
  - DSL Designer Survey results from Google Monarch, Microsoft KQL-M, Opensearch PPL, Prometheus PromQL and KX Q
  - Presentations from Microsoft, AWS, KX Systems
  - Discussions with the SQL standards working group
- CNCF Slack channel: #obs-query-standard-wg
- Workgroup meets twice a month on 2nd and 4th Tuesdays
- Hoping to wrap up data collection by Q2 2024 then start spec discussions
- Help Wanted:
  - Need help documenting use cases and query language semantics

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Future

Observability Trends

- Profiling - Cilium graduating, profiling/eBPF continuing to gain adoption
- Data Collection
  - OpenTelemetry has added profiling, semantic conventions, Elastic Common Schema convergence into OTLP for logging
- Cost Optimization
  - Telemetry data instrumentation in cloud-native infrastructure (K8s, Databases, Storage, Networking) for real-time analysis
  - Data Management
- AI observability
  - More data and more models
- O11y UIs
  - Standardization
  - Alerts and Dashboards as Code

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Get Involved

How to get involved

- Participate in TAG discussions
- Knowledge share topics of interest related to observability
- 2 calls a month (1st and 3rd Tuesdays): TAG Observability Meeting notes
- TAG repository: https://github.com/cncf/tag-observability
- CNCF Slack channel: #tag-observability
- Mailing list: cncf-tag-observability@lists.cncf.io

"Help Wanted" Initiatives!

Ontology: Kubernetes Resources	cncf/tag-observability/issues/147
Help us launch a local in-person meetup program	cncf/tag-observability/issues/40
Observability Canon Curation	cncf/tag-observability/issues/49
Proposed Working Group: Artificial Intelligence, co-hosted by Observability + Runtime TAGs	cncf/toc/issues/1048
Observability Landscape curation and Project outreach	cncf/tag-observability/issues/43
Collaborate w/ TAG Security (STAG) on CVE, NIST, and package subgraph modules	cncf/landscape-graph/issues/89
So much more. Help Wanted!	cncf/tag-observability/issues?q=is%3Aopen+is%3Aissue+label%3A%22help+wanted%22

Thank you

A big shout-out to everyone who has contributed in the Observability TAG discussions, workgroups and talks this year!

In no particular order, folks who have participated include -

Ken Finnigan, Matt Young, Alolita Sharma, Bartek Plotka, Vijay Samuel, Chris Larsen, Yuri Shukro, Nočnica Mellifera, Anton Koldaev, Tony Odubela, Henrik Rexed, Ricardo Rocha, Matt Ray, Raul Sevilla, Vishnu Challa, Mark Sagi-Kazar, Prathamesh Sonpatki, Sai Sindhur Malleni, Sandor Guba, William Rizzo, Yash Verma, Daniel Krook, Christopher Hanson, Filip Petrovski, Dotan Horovits, Ryan West, Alexandre Campelo, Christian Lacsina, Oliver Edelmann, Ivan Santos, Dewald de Jager, Eric Adams, Adam LeWinter, Siim Kallas, Allan Konar, Rynn Mancuso, Jerry Lozano, Pankaj Thakkar, João Marçal, Perry Correll, Daniel Golant, Pranshu Srivastava, Michelle Nguyen, Zain Asgar, Perry Correll, Itay Katz, Mukul Maheshwari, Ryan Perry

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