

Making Prometheus even more open

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Quite the pitch

What does “Open” mean?

- Open Source
- Open Features
- Open Documents
- Open Standards
- Open Testing
- Open Ratings
- Open Meetings



Open Source



Open Features

Service discovery moratorium lifted

- Six new service discovery mechanisms
 - DigitalOcean
 - Scaleway
 - Hetzner
 - Eureka
 - Docker
 - Docker Swarm

TLS & Basic Authentication

- TLS & basic auth support on server side
- TLS & basic auth being added to more and more exporters
- New exporter toolkit to ease Go exporter creation & sync

PromQL

- `last_over_time()`, `topk_over_time()`
- `sum(http_requests_total{method="GET"} @ 1609746000)`
- Negative offsets
 - `--enable-feature=promql-negative-offset`
- Human durations, e.g. 1h30m

Remote Write receiver

- Prometheus can receive metrics from Remote Write
- Writing from one Prometheus server to another
- Enable new use cases, like Prometheus

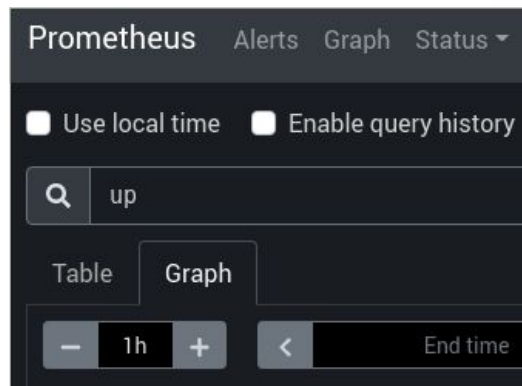
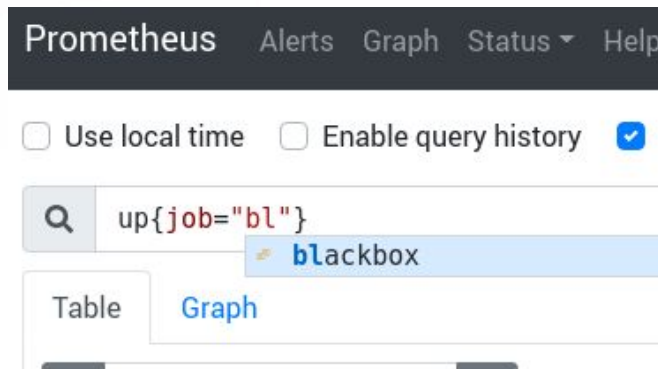
Exemplars

`http_request_seconds{le="5.0"} 9036.32 # {trace_id="K005S4vxi0o"} 0.67`

- Attach external data to metrics (trace ID)
- Easily jump from metrics to traces
- Support in Prometheus, Cortex, Thanos, and Grafana
- Trace & span ID format taken from W3C tracing specs

UI

- Prometheus has switched to the React UI by default
- New fully-featured editor, with labels autocomplete, snippets
- Dark theme



Future work

- Historically, Prometheus has been conservative even with features marked EXPERIMENTAL
 - We treated them as stable
- Revisiting a lot of old assumptions, and enabling more use cases
- Make our code more modular, easier to re-use
- Lots of work on Agents and data pipelines; support all deployment and operating models in upstream <https://github.com/prometheus>
- Mixins out of the box



Open Documents

Design docs

- [Prometheus Agent](#)
- [Configuration handling in exporters and Prometheus 3.x](#)
- [Improved joins in PromQL across different label names](#)

Logical evolution of mailing list discussions



Open Standards

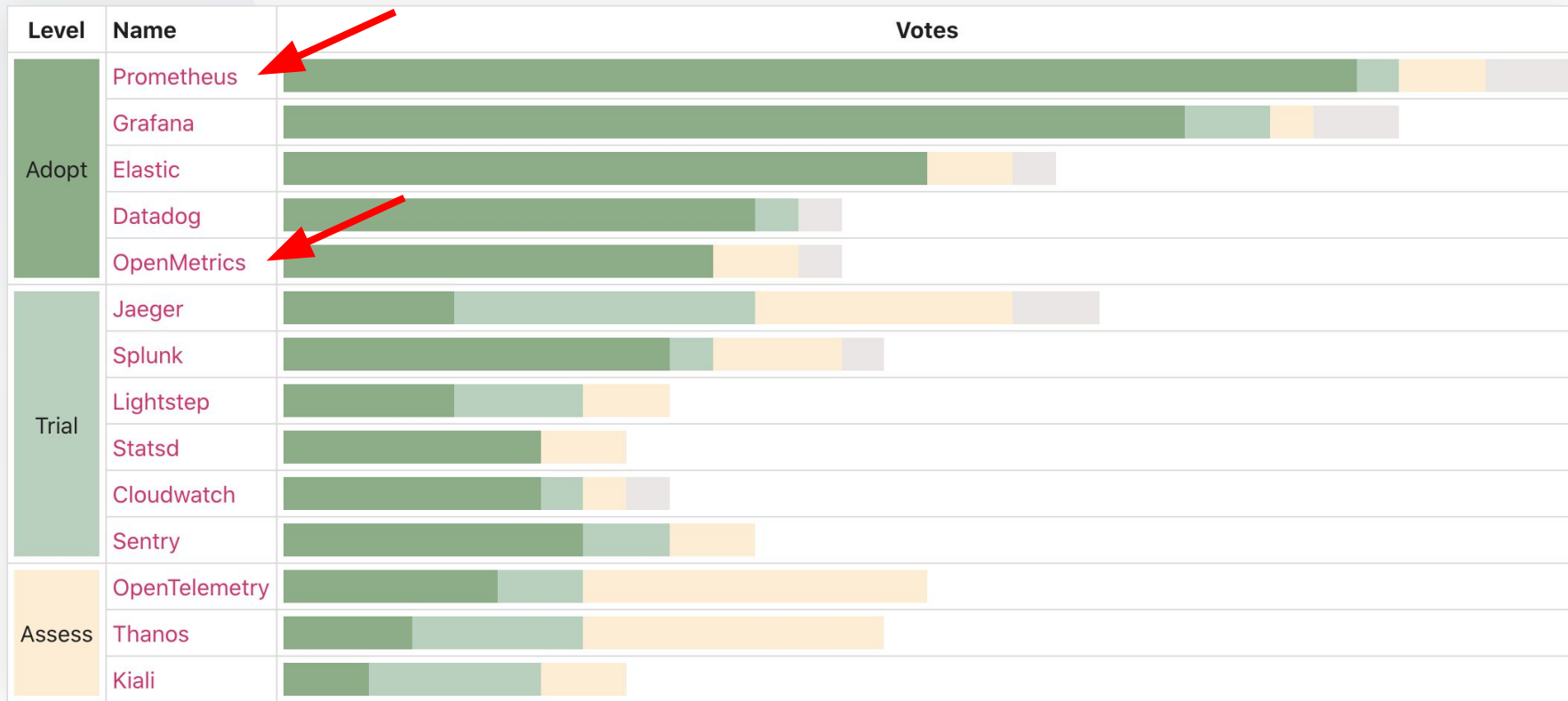
Standards

- Released
 - [OpenMetrics 1.0](#)
 - [Prometheus Remote Write 0.1](#)
- Being considered
 - PromQL
 - TSDB



Open Testing

CNCF End User Survey on Observability





"support the Prometheus query language, PromQL"

Jun 2020



OpenTelemetry

Working towards full compatibility

Mar 2021



New Relic

"PromQL-style syntax"

Jul 2020



influxdata

"Creating the PromQL Transpiler for Flux"

Jun 2019



"AWS Introduces ... Amazon Managed Service for Prometheus"

Jan 2021



WAVEFRONT
by **vmware**

"added support for PromQL"

Sept 2020



Timescale

"Promscale supports ... PromQL"

Oct 2020

Open Testing

- Released
 - [PromQL Compliance](#)
 - [Remote Write Compliance](#)
 - [OpenMetrics Compliance](#)
- Coming
 - Remote Read Compliance
- Considered
 - TSDB & data correctness
 - Maybe baseline performance



Open Ratings

Open Ratings

- Official compatibility testing, backed by CNCF legal
- Results published on prometheus.io
- Versioned result sets, e.g. “PromQL 2021-04 compliant”
 - Potentially “Prometheus compatible” as umbrella mark
- Results valid for 2-3 minor version releases, ~12-18 weeks
- Passing implementations get a logo to show compliance

Details might be out by the time this video is published



Open Meetings

Share your thoughts!

- All dev summits recorded and open to join
 - [Prometheus dev summit, rolling document](#)
 - [Prometheus Community Meeting](#)
 - [Prometheus Storage Working Group](#)
 - [Prometheus Contributor Office Hours](#)
- [All public meetings in one calendar](#)
- [Prometheus Monitoring YouTube Channel](#)

Thank You!

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