

FOUR PILLARS OF OBSERVABILITY

2. LOGS

4. SIGNALS

1. METRICS

3. TRACES

AIM

MIHAIL MIHAYLOV



DevOps engineer @ ReceiptBank

Kubernetes and Prometheus enthusiast

Fantasy and Sci-Fi books reader

CS:GO and Starcraft2 geek



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AIM

- Develop structure
- Walk the way
- Share gathered tips
- Engage everybody
- Seamless transitions

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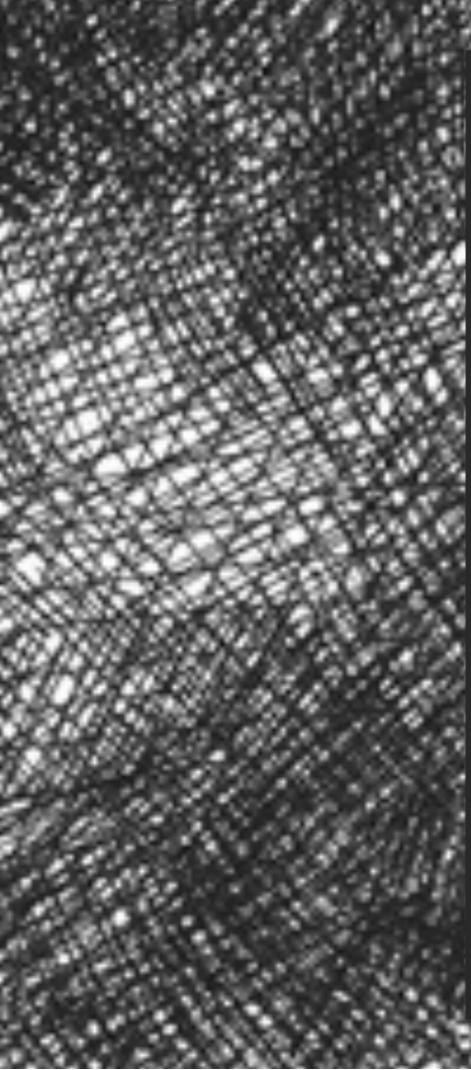
4. SIGNALS

1. METRICS

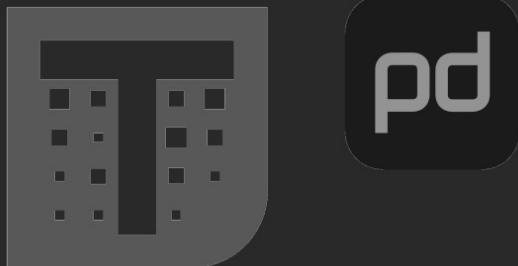
3. TRACES

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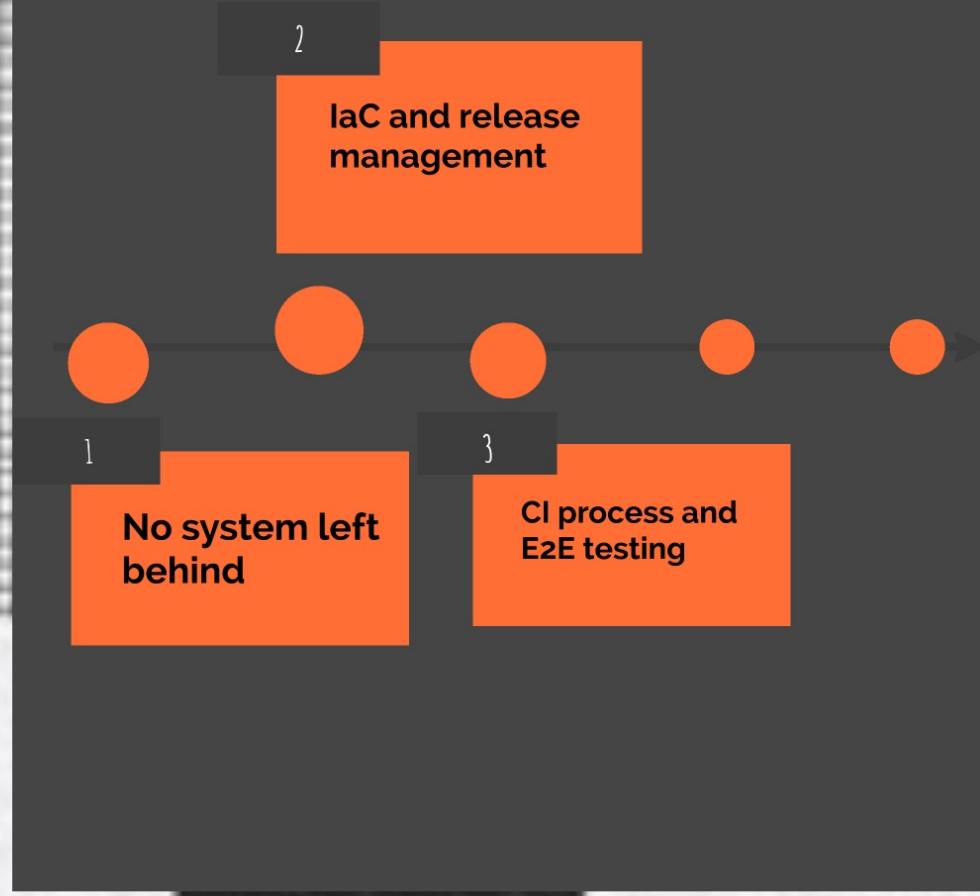
MONITORING



OPENMETRICS



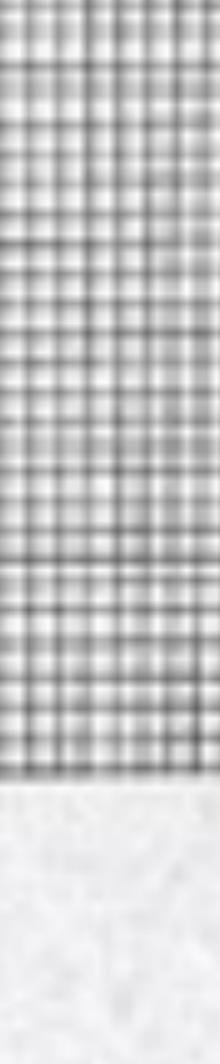
PROGRESS
TIMELINE



RED METHOD

USE METHOD

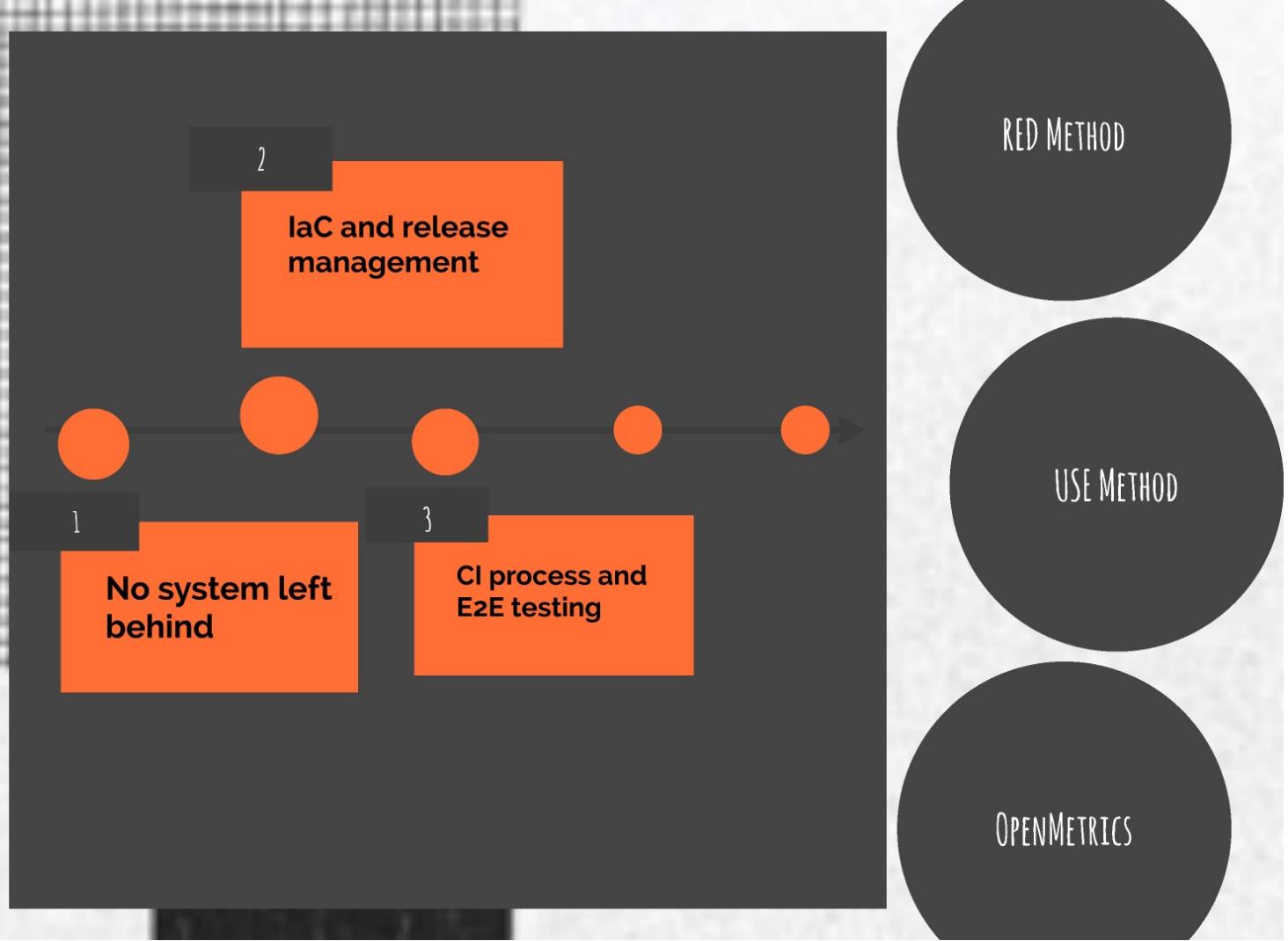
OPENMETRICS



1

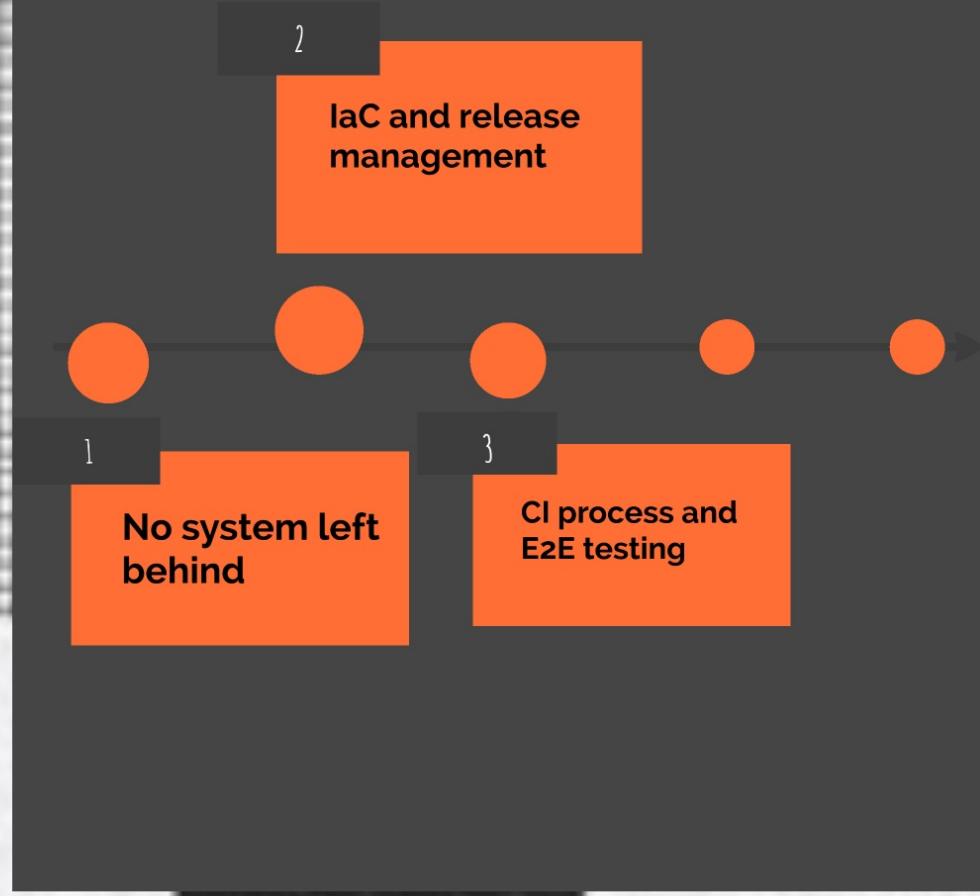


**No system left
behind**



2

IaC and release management



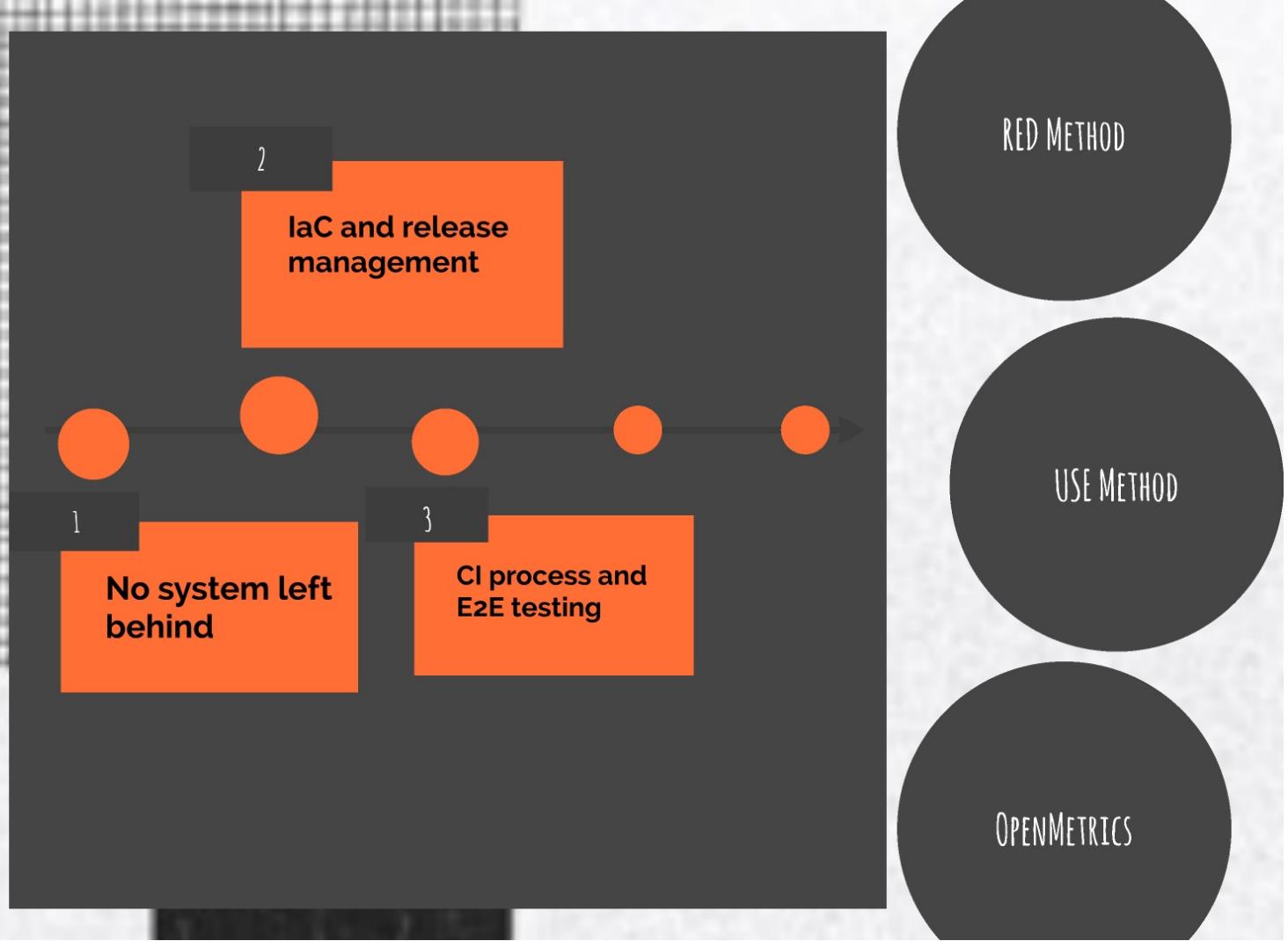
RED METHOD

USE METHOD

OPENMETRICS

}

CI process and E2E testing



RED METHOD (REQUEST)

- **Rate** - the number of requests, per second, your services are serving.
- **Errors** - the number of failed requests per second.
- **Duration** - The amount of time each request takes expressed as a time interval.

EXAMPLE



USE METHOD (RESOURCES)

Utilisation: The average time that the resource was busy servicing work

Saturation: The degree to which the resource has extra work which it can't service, often queued. (Concurrency)

Error: The count of error events

EXAMPLE



... autoscaling...



OPENMETRICS

OPENMETRICS

- An effort to create an open standard for transmitting metrics at scale, with support for both text representation and Protocol Buffers.
- CNCF Sandbox project
- Influenced by the Prometheus exposition format but not for Prometheus only

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COLLECTING LOGS

Source

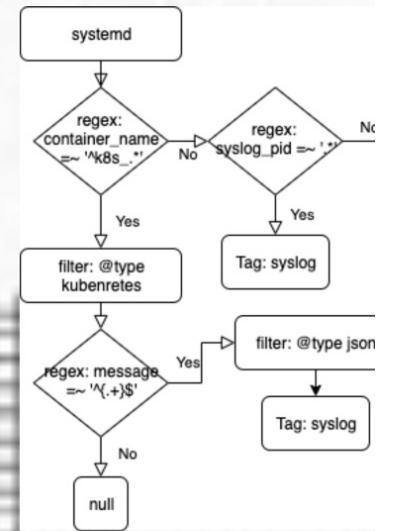
- do not put pos files on ephemeral storage
- be mindful of source plugin restrictions

Filter

- take into account all logs from a source when parsing. Use rewrite_tag_filter plugin

Target

- combine similarly parsed logs in the same index prefixes
- buffering modes - Fluentd choose appropriate mode automatically if there are no <buffer> sections.
- retry_max_times, retry_timeout, total_bytes_limit



Source

- do not put pos files on ephemeral storage
- be mindful of source plugin restrictions

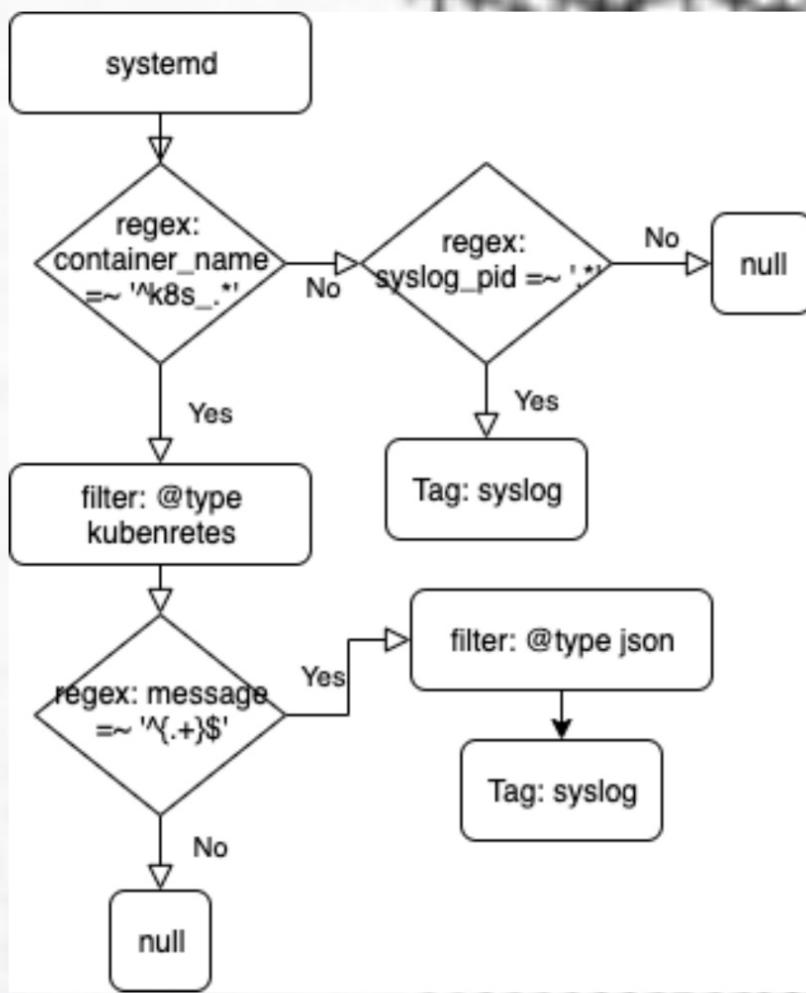
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ELASTICSEARCH

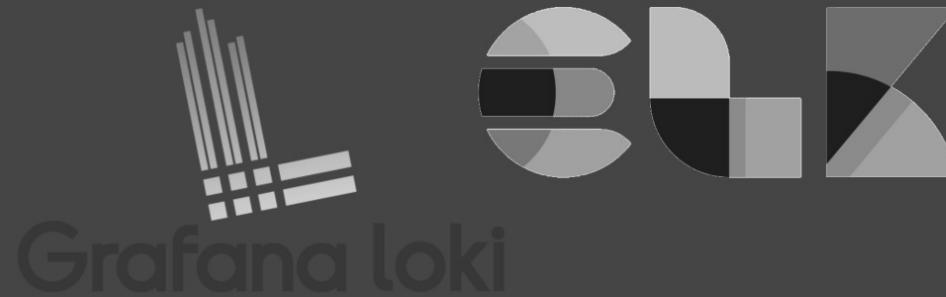
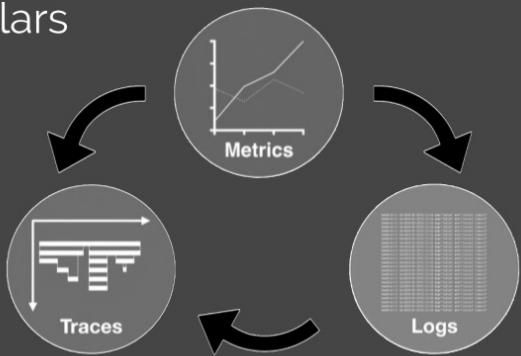
- Upgrade to 7+
- Keep your index count small
(up to 5G)

ELASTICSEARCH

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SEAMLESS TRANSITIONS

Coloration between the pillars



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TRACES

Traces are not events, but group together events that have a common root.



Please demo gods...
make this demo work!

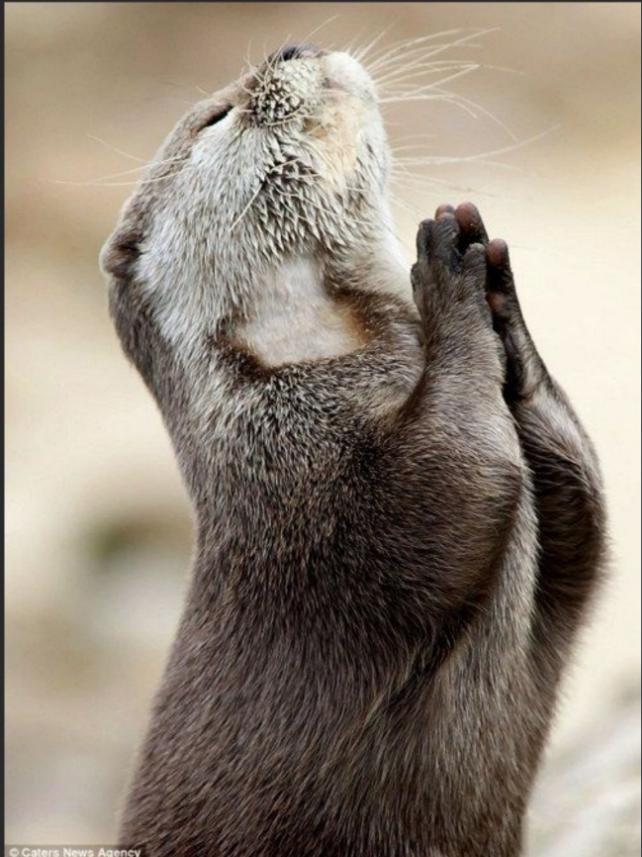
Elastic APM, Datadog APM

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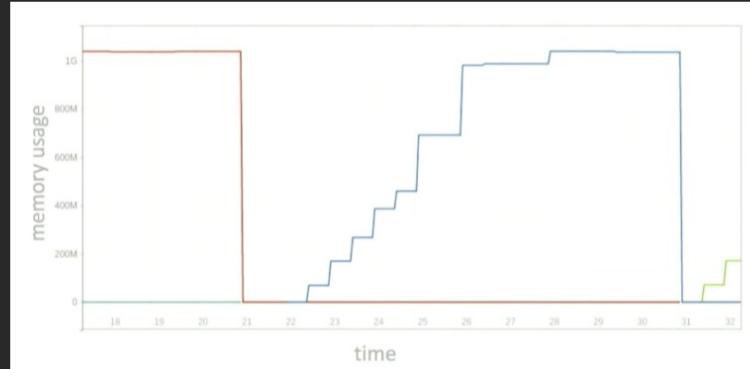
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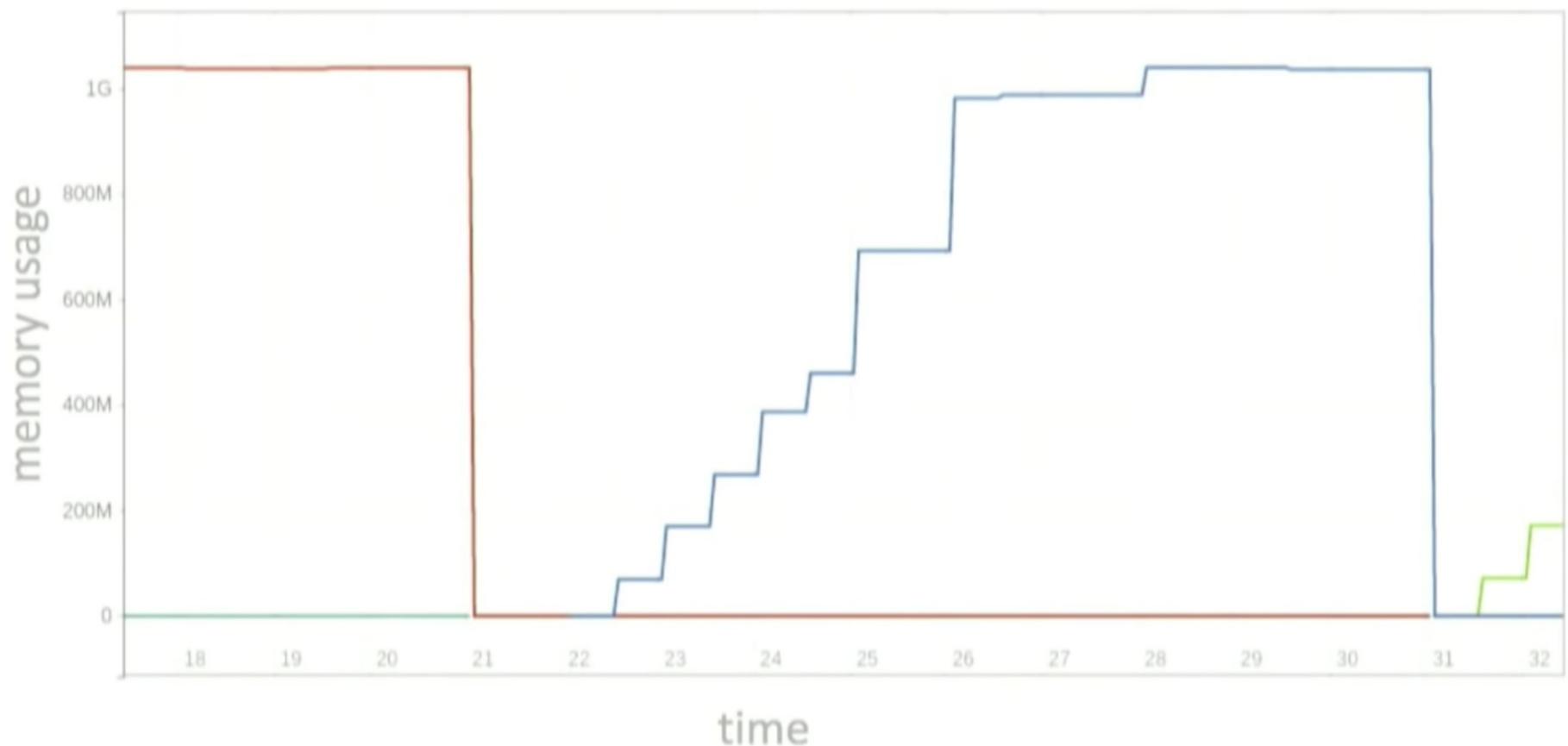
MIHAIL MIHAYLOV

SIGNALS



Memory profile at the point in time when memory was at its highest

<https://github.com/conprof/conprof>



time

Memory profile at the point in time when
memory was at its highest

<https://github.com/conprof/conprof>

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THE END

Questions?

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