Grafana Labs

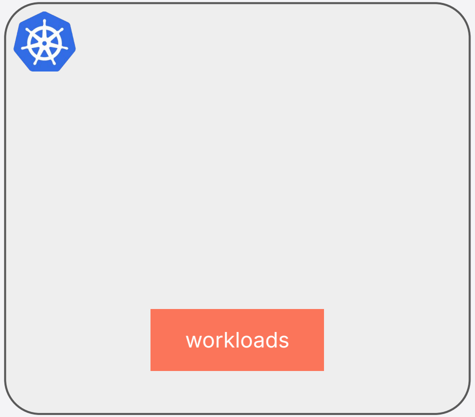
Paranoid Observability

Success Stories and Misfortunes observing an Observability Stack

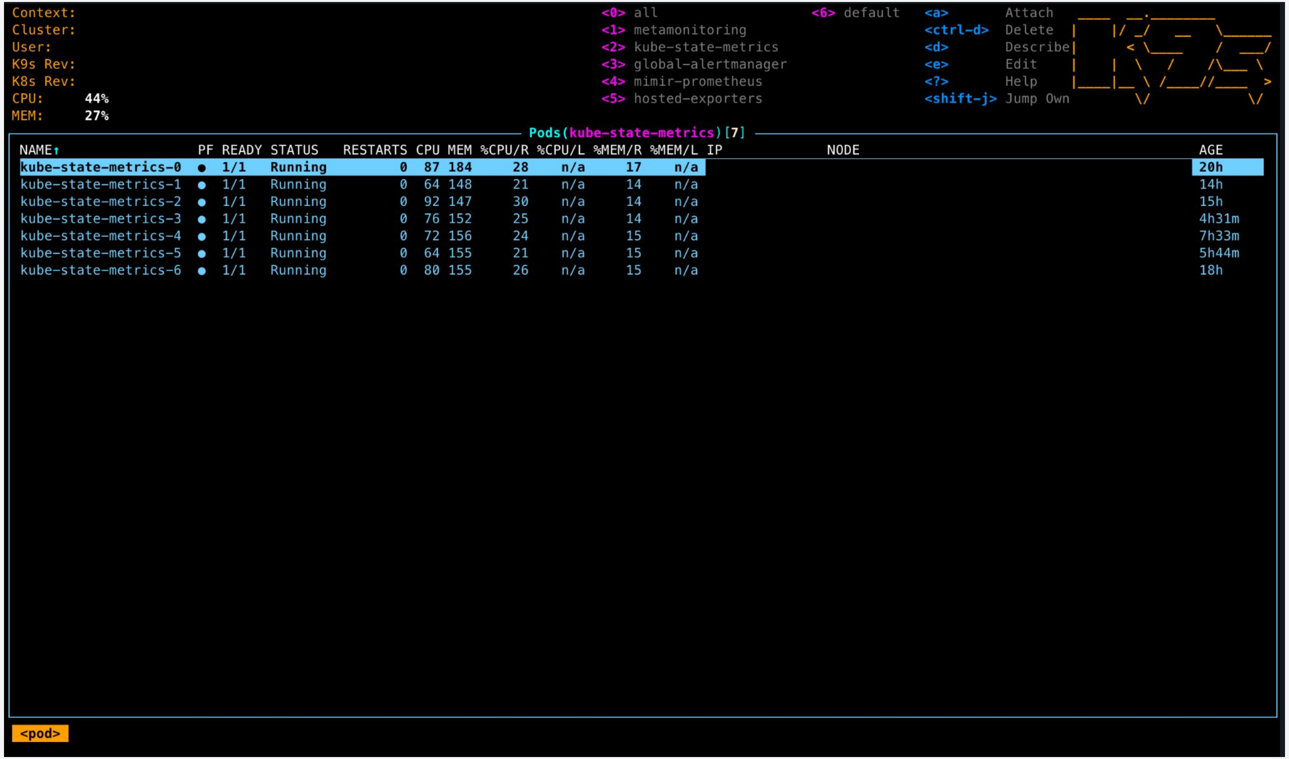
Erik Sommer
Sr. Software Engineer

What you can expect

- How we use our own Tools for testing and our own observability
- What we do to be safe doing this
- Smaller mishaps along the way

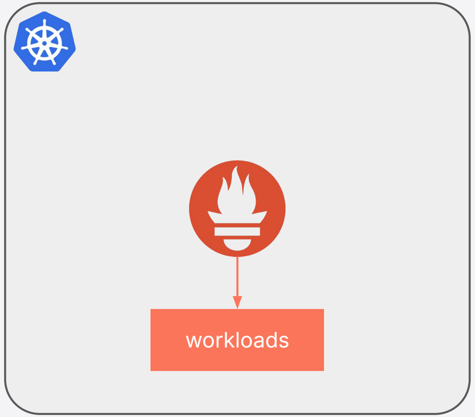


Just Kubernetes



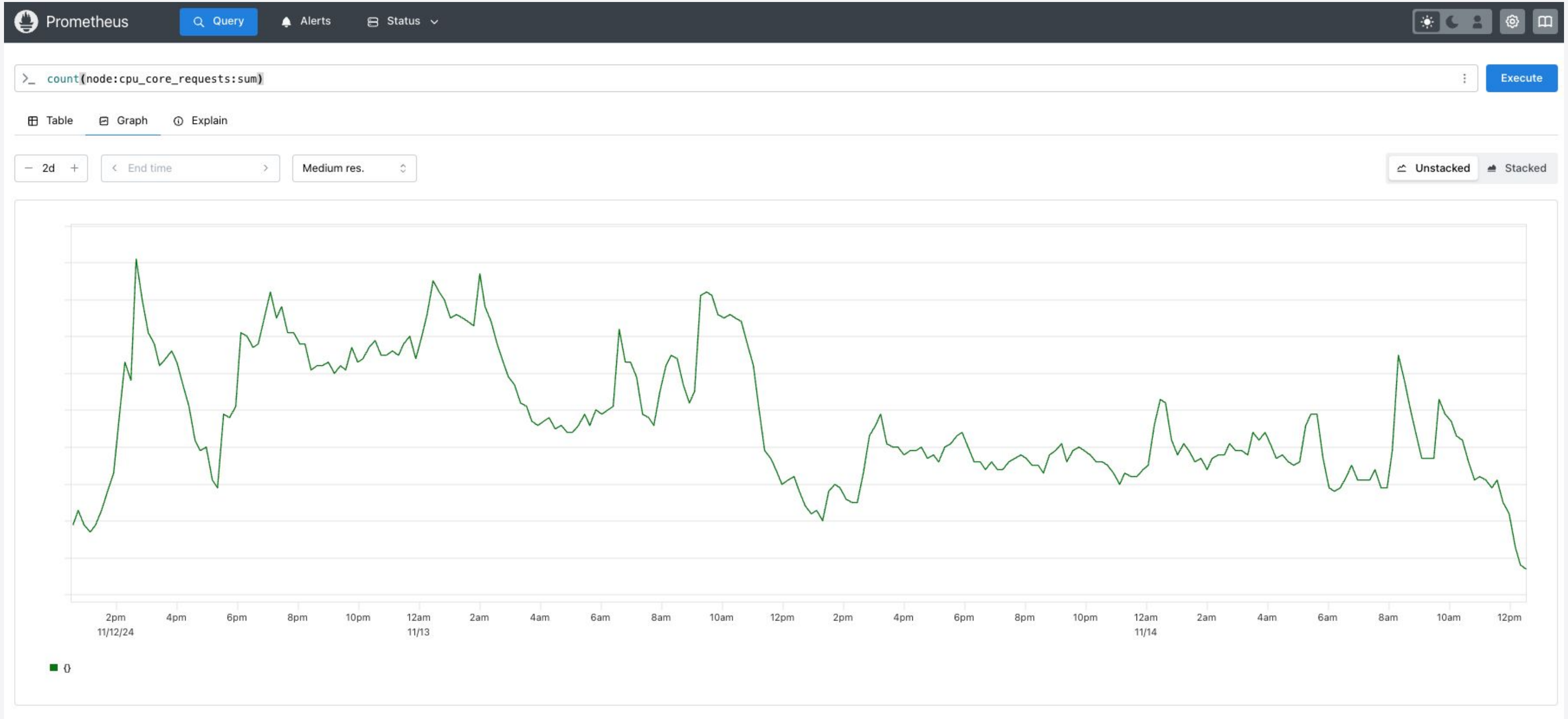
```
Context:                                                                 <0> all                   <6> default   <a>       Attach   ____  __.________
Cluster:                                                                 <1> metamonitoring                      <ctrl-d>  Delete  |    |/ _/   __   \______
User:                                                                    <2> kube-state-metrics                  <d>       Describe|      < \____    /  ___/
K9s Rev:                                                                 <3> global-alertmanager                 <e>       Edit    |    |  \   /    /\___ \
K8s Rev:                                                                 <4> mimir-prometheus                    <?>       Help    |____|__ \ /____//____  >
CPU:     44%                                                             <5> hosted-exporters                    <shift-j> Jump Own        \/            \/
MEM:     27%
                                                              Pods(kube-state-metrics)[7]
 NAME↑                 PF READY STATUS   RESTARTS CPU MEM %CPU/R %CPU/L %MEM/R %MEM/L IP             NODE                                          AGE
 kube-state-metrics-0   ●  1/1   Running         0  87 184     28    n/a     17    n/a                                                             20h
 kube-state-metrics-1   ●  1/1   Running         0  64 148     21    n/a     14    n/a                                                             14h
 kube-state-metrics-2   ●  1/1   Running         0  92 147     30    n/a     14    n/a                                                             15h
 kube-state-metrics-3   ●  1/1   Running         0  76 152     25    n/a     14    n/a                                                             4h31m
 kube-state-metrics-4   ●  1/1   Running         0  72 156     24    n/a     15    n/a                                                             7h33m
 kube-state-metrics-5   ●  1/1   Running         0  64 155     21    n/a     15    n/a                                                             5h44m
 kube-state-metrics-6   ●  1/1   Running         0  80 155     26    n/a     15    n/a                                                             18h

 <pod>
```



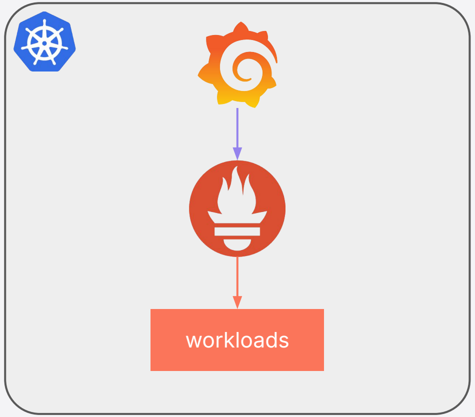
We need to see something

→ Scrape and Write Metrics



```
count(node:cpu_core_requests:sum)
```

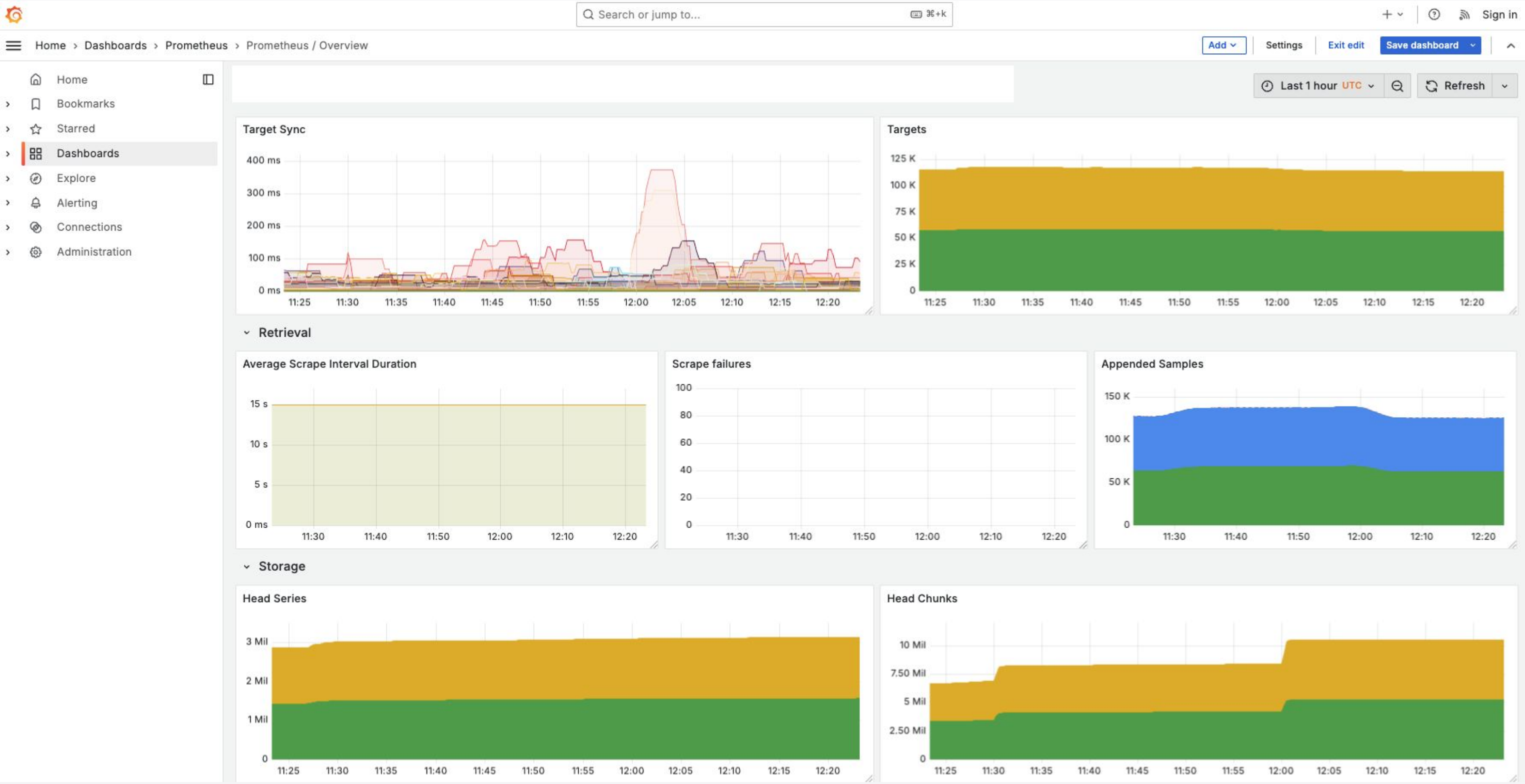
🟩 {}

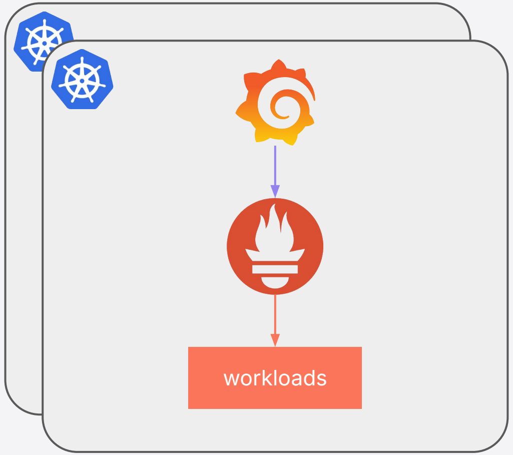


A dashboard would be nice

⟶ Scrape and Write Metrics

⟶ Query Metrics

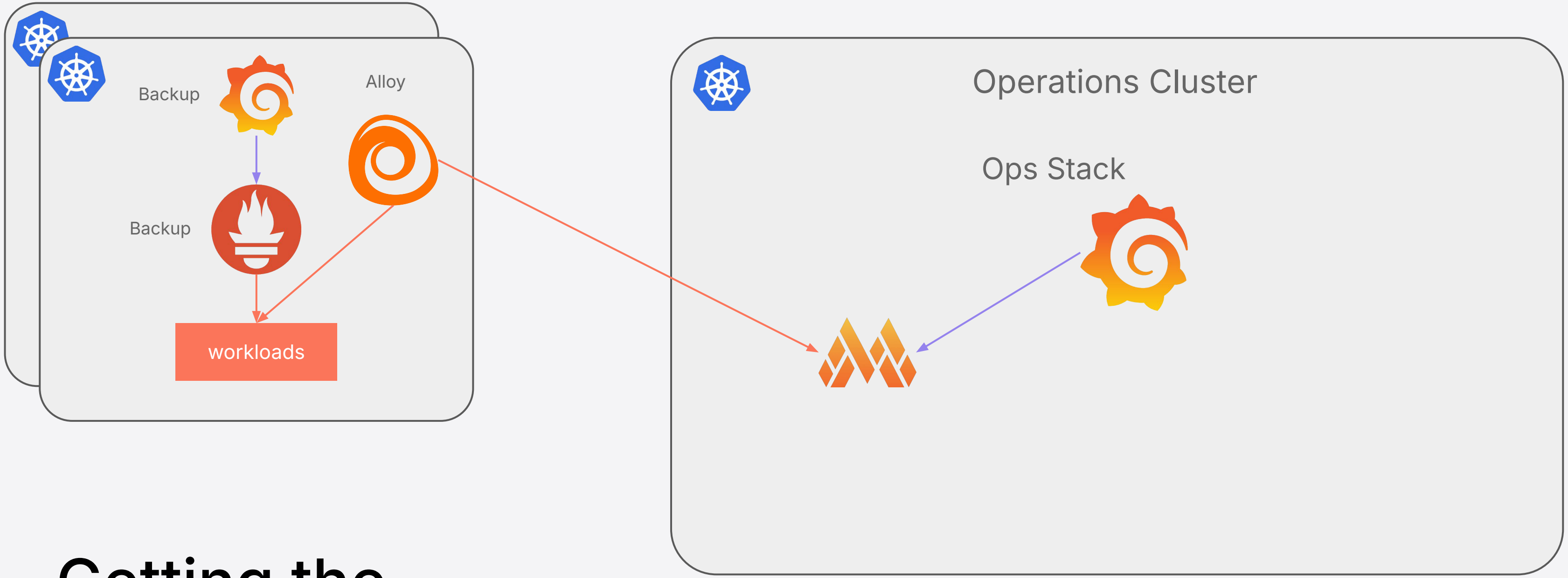

Search or jump to...
⌘+k
Sign in
Home › Dashboards › Prometheus › Prometheus / Overview
Add
Settings
Exit edit
Save dashboard
Home
Bookmarks
Starred
Dashboards
Explore
Alerting
Connections
Administration
Last 1 hour UTC
Refresh
Target Sync
400 ms
300 ms
200 ms
100 ms
0 ms
11:25
11:30
11:35
11:40
11:45
11:50
11:55
12:00
12:05
12:10
12:15
12:20
Targets
125 K
100 K
75 K
50 K
25 K
0
Retrieval
Average Scrape Interval Duration
15 s
10 s
5 s
0 ms
Scrape failures
100
80
60
40
20
0
Appended Samples
150 K
100 K
50 K
0
Storage
Head Series
3 Mil
2 Mil
1 Mil
0
Head Chunks
10 Mil
7.50 Mil
5 Mil
2.50 Mil
0



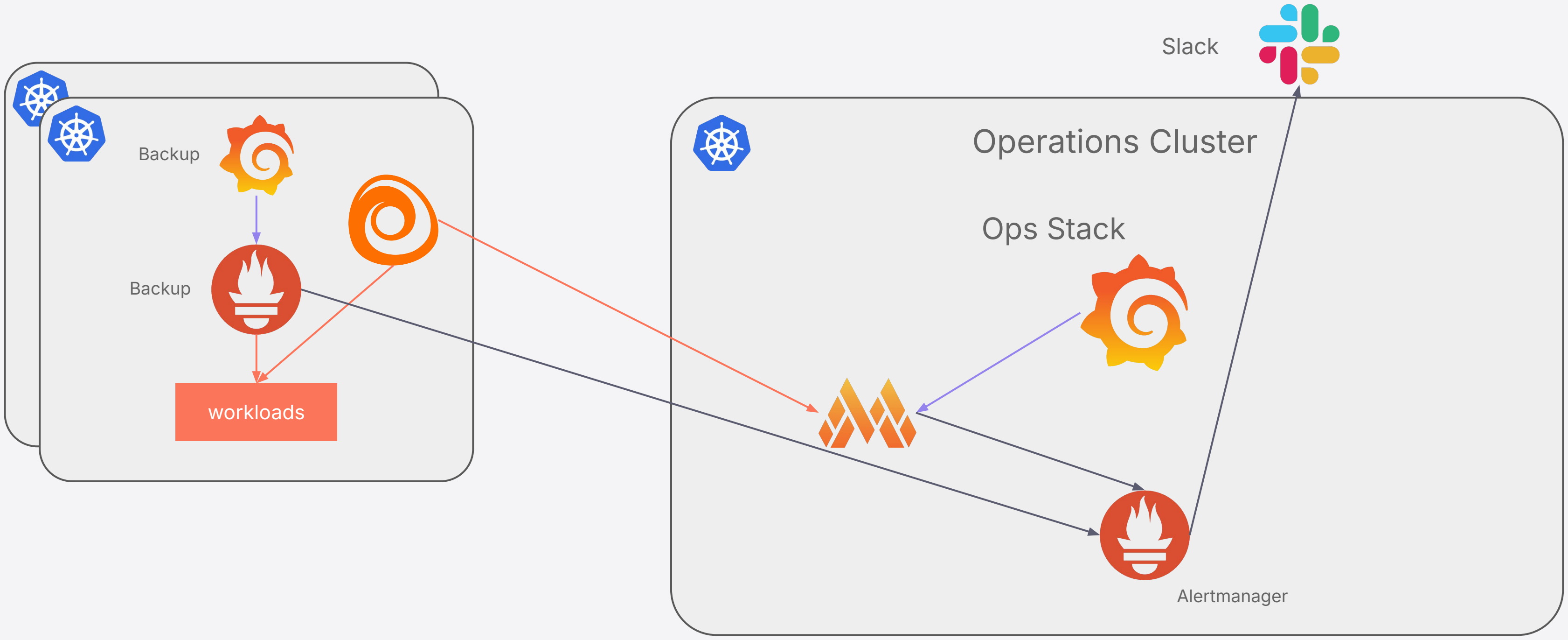
Going Global

→ Scrape and Write Metrics

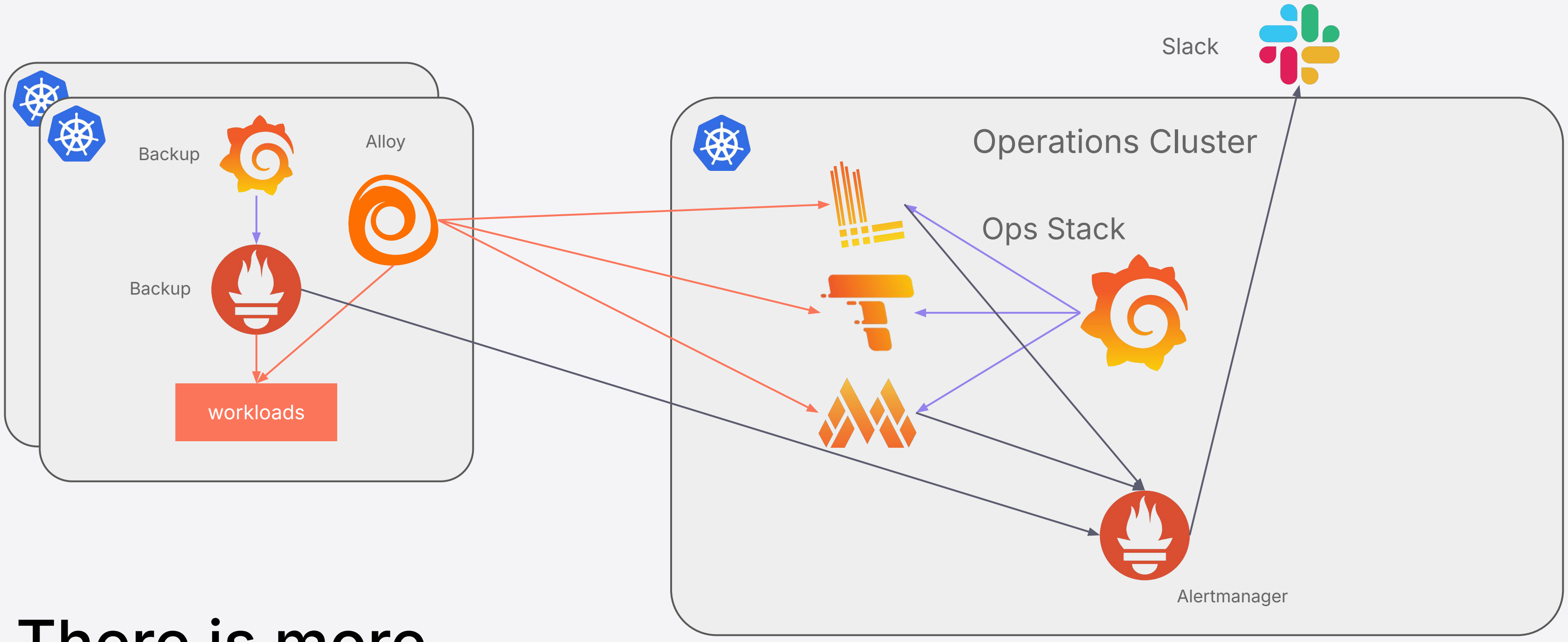
→ Query Metrics



Getting the global picture

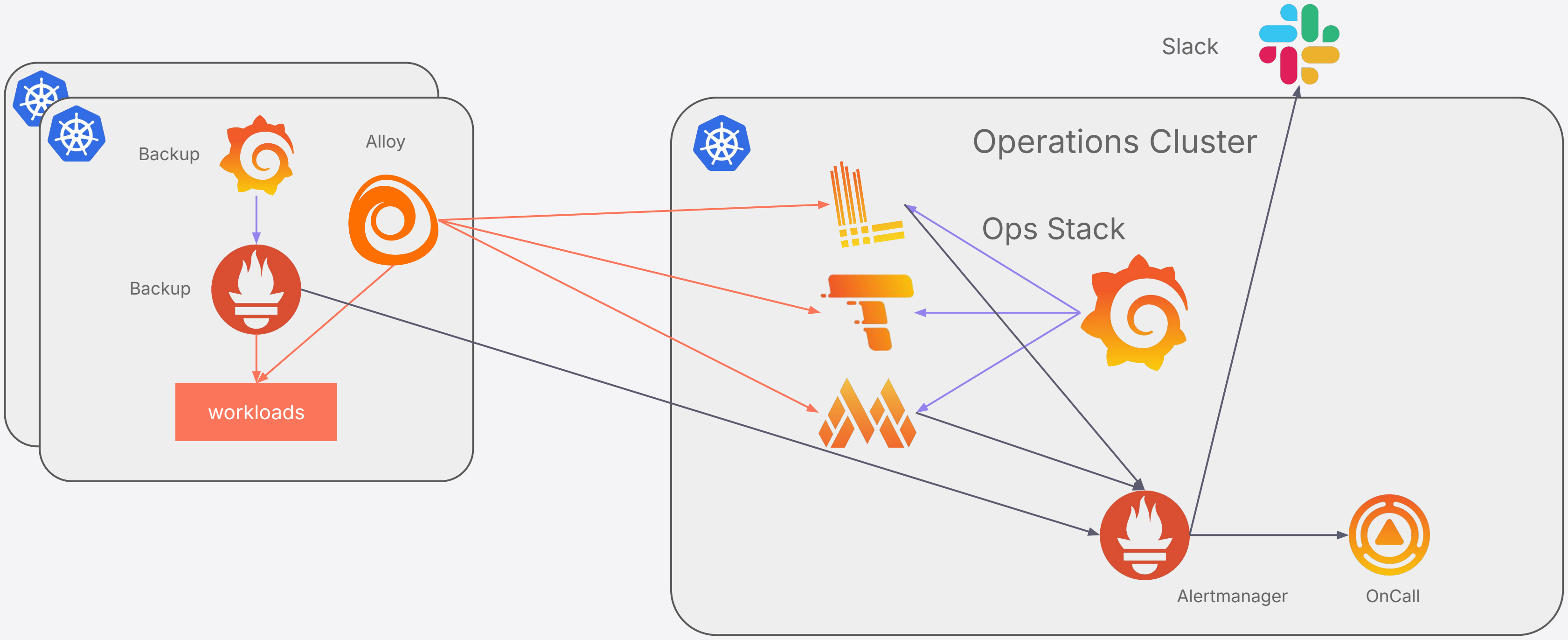


Time for alerts



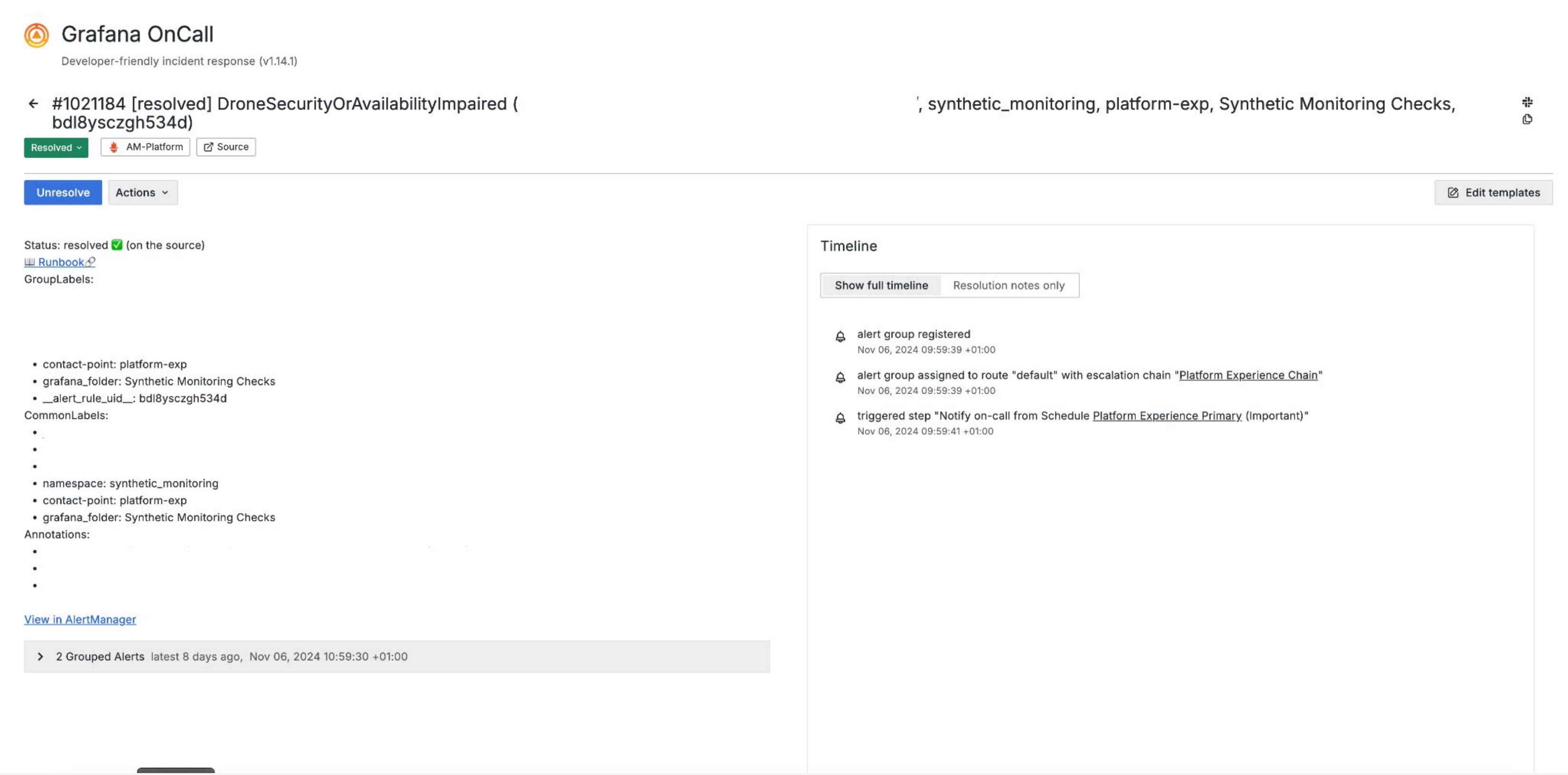
There is more than metrics

→ Scrape and Write Metrics
→ Query Metrics
→ Alerts



Wakeup!

- Scrape and Write Metrics
- Query Metrics
- Alerts



Grafana OnCall

Developer-friendly incident response (v1.14.1)

#1021184 [resolved] DroneSecurityOrAvailabilityImpaired ([redacted]', synthetic_monitoring, platform-exp, Synthetic Monitoring Checks, bdl8ysczgh534d)

Resolved ⌄ | AM-Platform | Source

Unresolve | Actions ⌄ | Edit templates

Status: resolved ✅ (on the source)
📖 Runbook🔗
GroupLabels:

[redacted]

- contact-point: platform-exp
- grafana_folder: Synthetic Monitoring Checks
- __alert_rule_uid__: bdl8ysczgh534d

CommonLabels:

- [redacted]
- namespace: synthetic_monitoring
- contact-point: platform-exp
- grafana_folder: Synthetic Monitoring Checks

Annotations:

- [redacted]

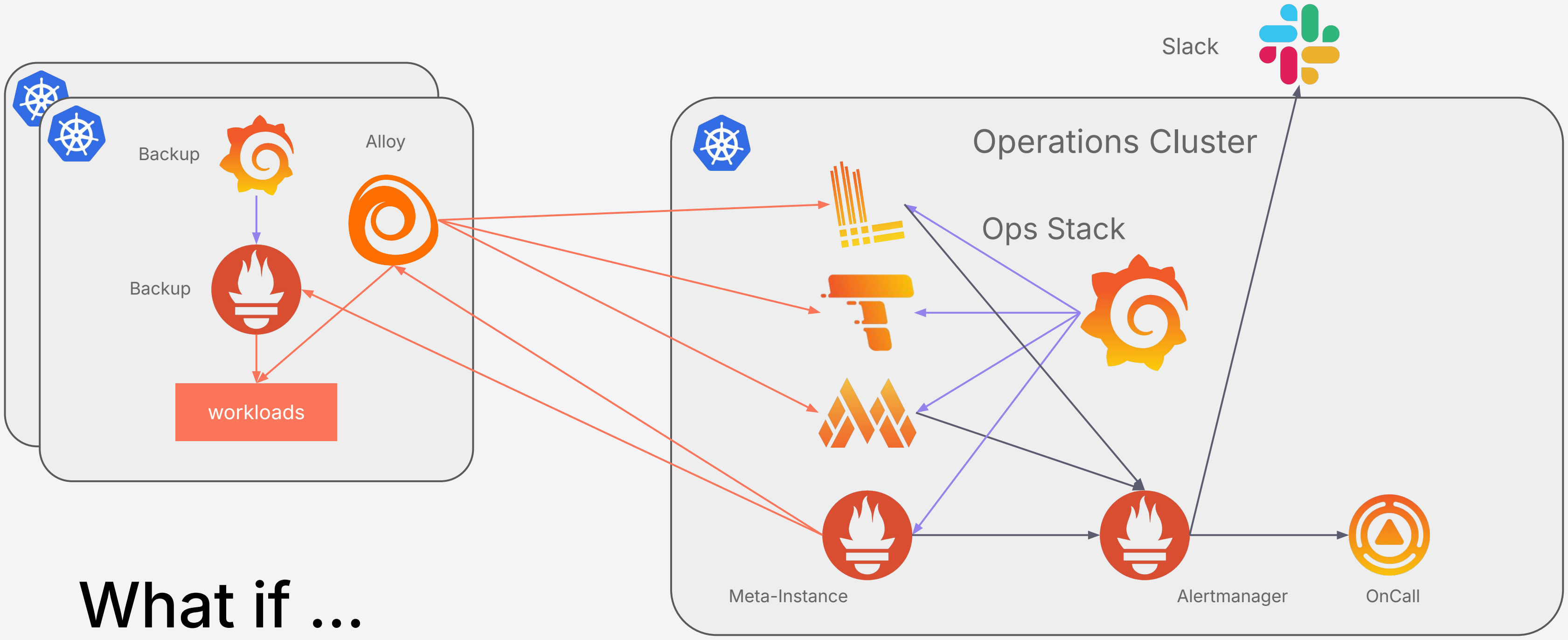
View in AlertManager

› 2 Grouped Alerts latest 8 days ago, Nov 06, 2024 10:59:30 +01:00

Timeline

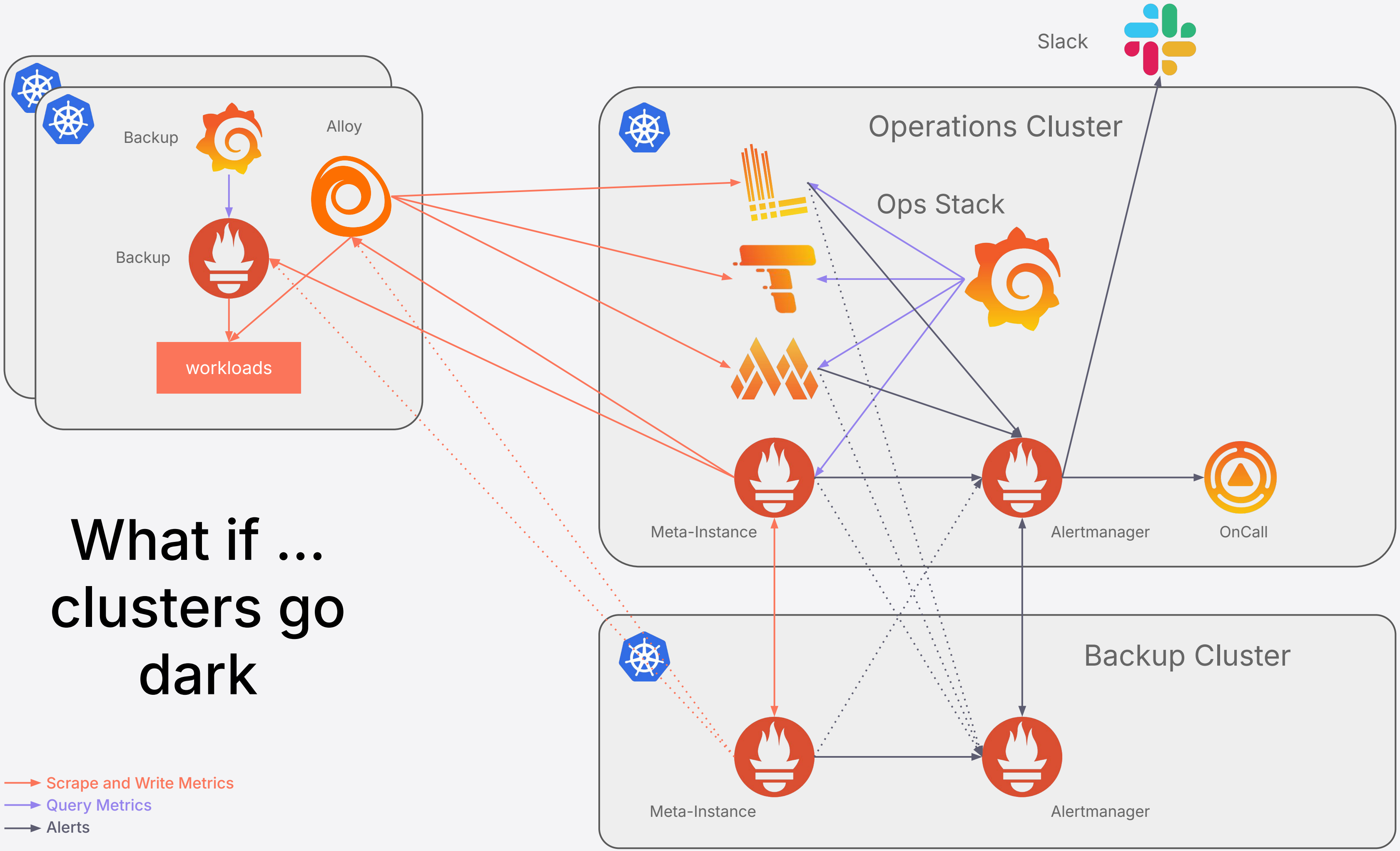
Show full timeline | Resolution notes only

- alert group registered
  Nov 06, 2024 09:59:39 +01:00
- alert group assigned to route "default" with escalation chain "Platform Experience Chain"
  Nov 06, 2024 09:59:39 +01:00
- triggered step "Notify on-call from Schedule Platform Experience Primary (Important)"
  Nov 06, 2024 09:59:41 +01:00

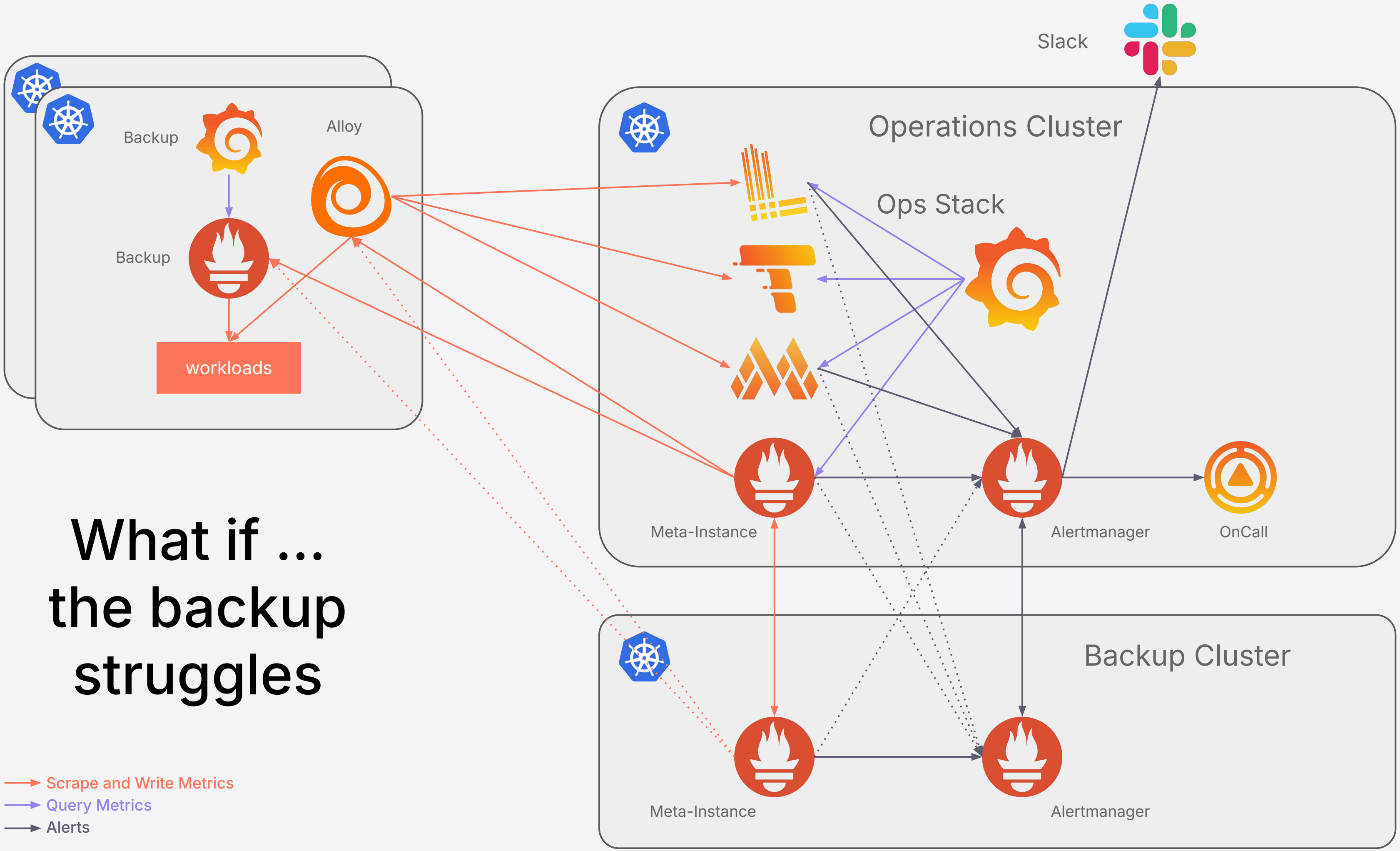


What if …
There are no scrapes

→ Scrape and Write Metrics
→ Query Metrics
→ Alerts

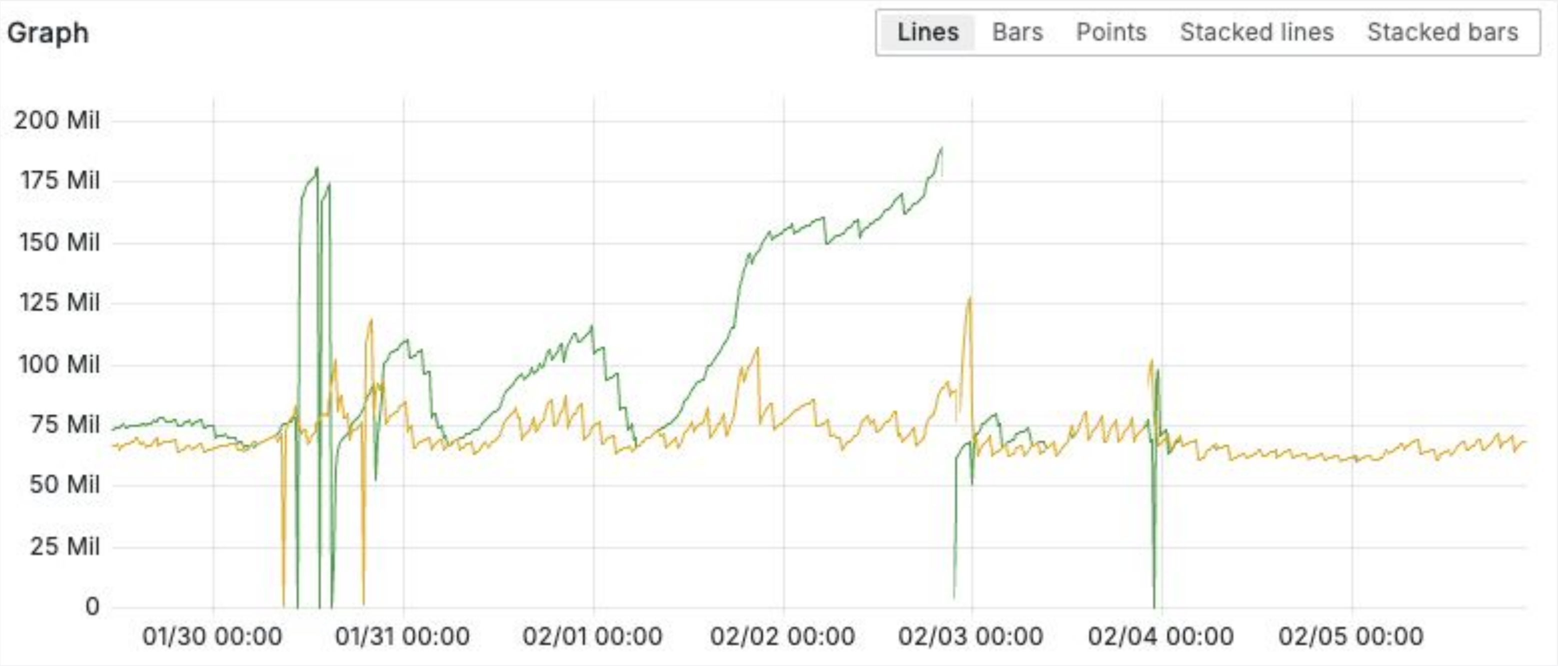


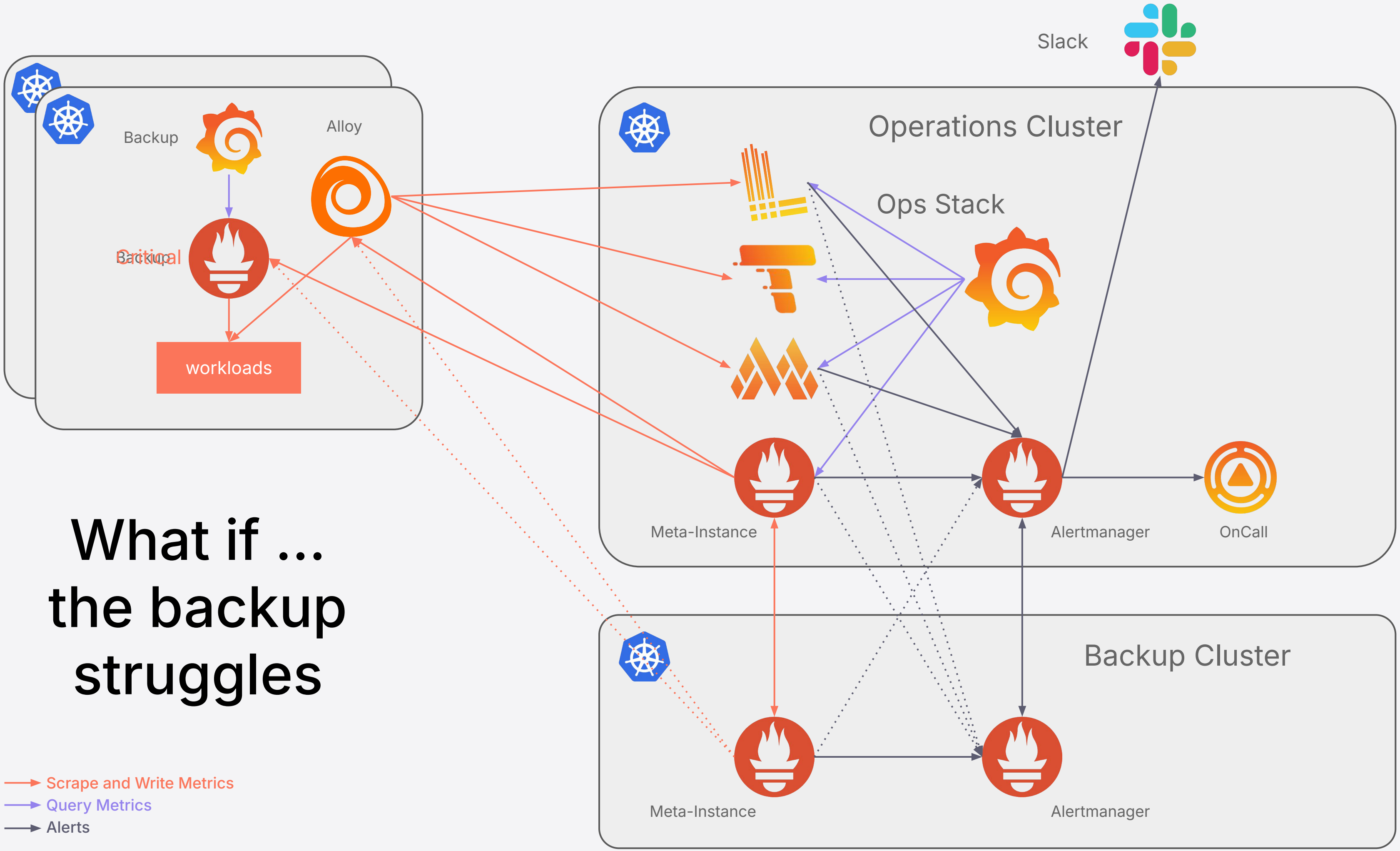
What if ... clusters go dark



What if ... the backup struggles

→ Scrape and Write Metrics
→ Query Metrics
→ Alerts


Graph
Lines
Bars
Points
Stacked lines
Stacked bars
200 Mil
175 Mil
150 Mil
125 Mil
100 Mil
75 Mil
50 Mil
25 Mil
0
01/30 00:00
01/31 00:00
02/01 00:00
02/02 00:00
02/03 00:00
02/04 00:00
02/05 00:00

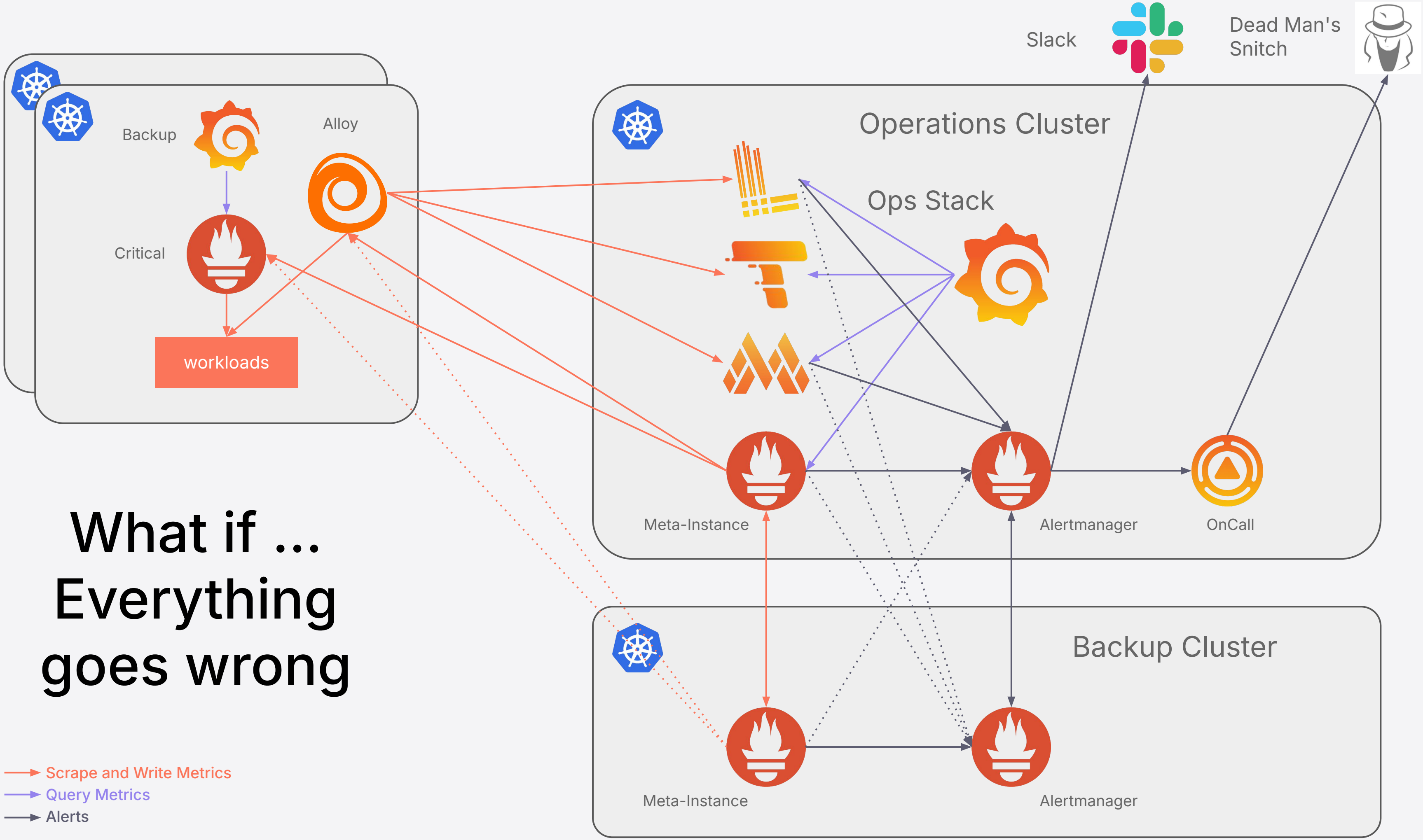


What if ... the backup struggles

→ Scrape and Write Metrics

→ Query Metrics

→ Alerts



What if ... Everything goes wrong

→ Scrape and Write Metrics
→ Query Metrics
→ Alerts

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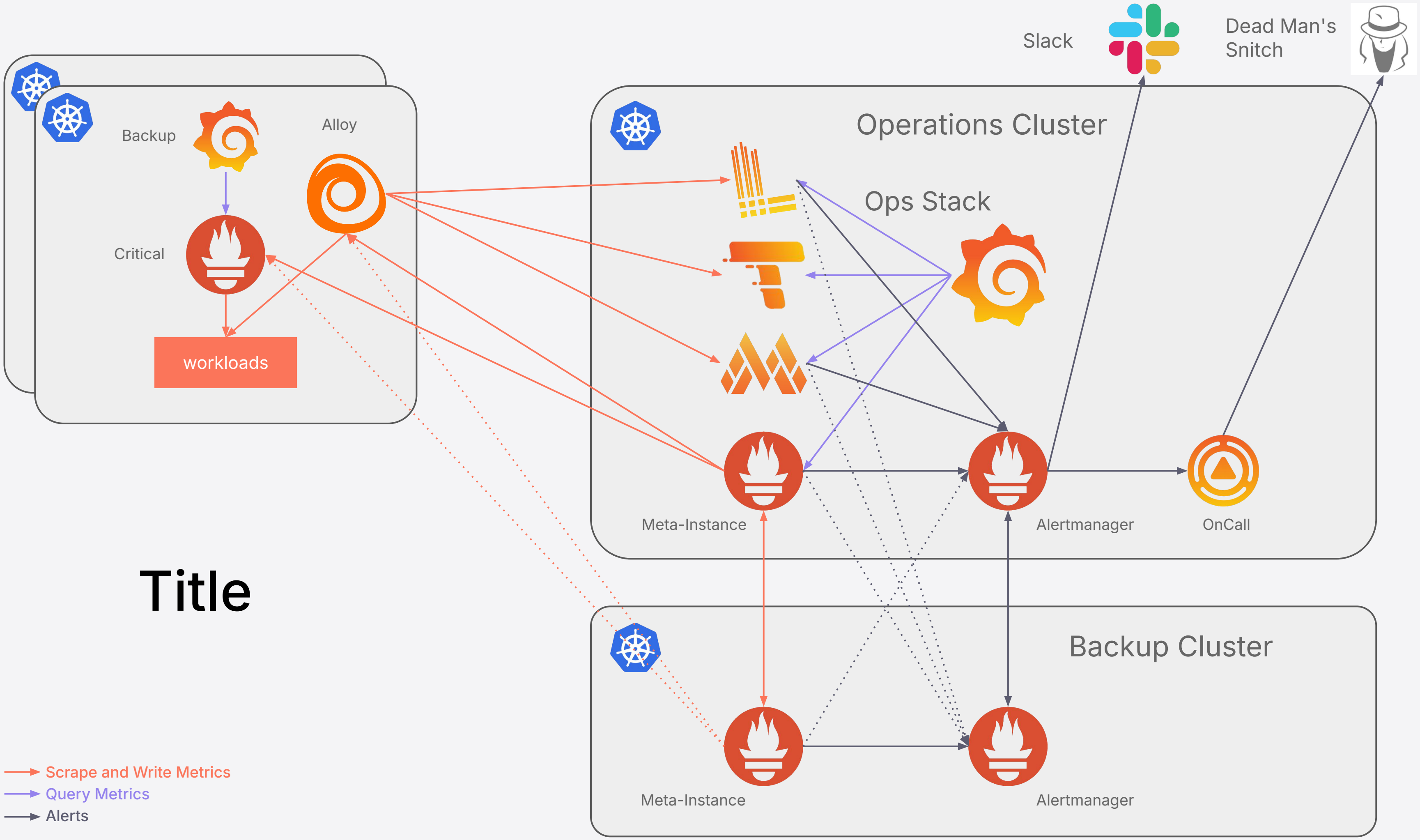
Thank you

Slides: https://github.com/the-it/talks

Grafana Labs

Title



Scrape and Write Metrics

Query Metrics

Alerts