Observing Cloud Resources

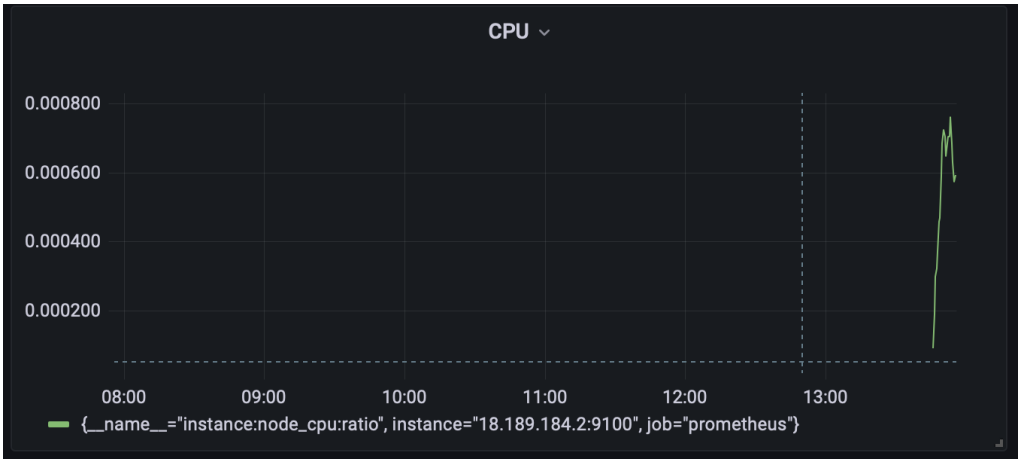
SRE Project Template

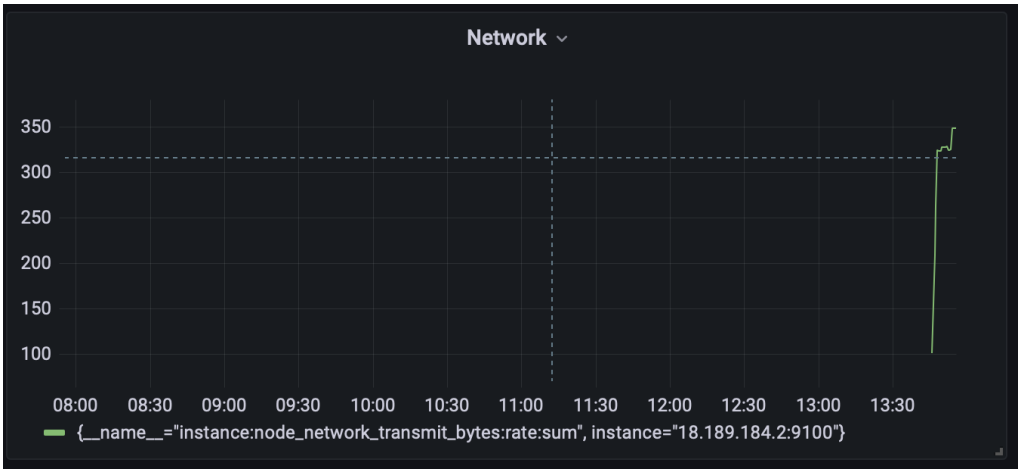
Categorize Responsibilities

Prometheus and Grafana Screenshots
Provide a screenshot of the Prometheus node_exporter service running on the EC2 instance. Use the following command to show that the system is running: `sudo systemctl status node_exporter`

```
ubuntu@ip-10-100-10-189:~$ sudo systemctl status node_exporter
● node_exporter.service - Node Exporter
   Loaded: loaded (/etc/systemd/system/node_exporter.service; enabled; vendor preset: enabled)
   Active: active (running) since Sun 2022-07-31 10:50:36 UTC; 44s ago
 Main PID: 20221 (node_exporter)
    Tasks: 4 (limit: 1109)
   CGroup: /system.slice/node_exporter.service
           └─20221 /usr/local/bin/node_exporter

Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.305Z caller=node_exporter.go:115 collector=the
Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.305Z caller=node_exporter.go:115 collector=tim
Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.305Z caller=node_exporter.go:115 collector=tim
Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.305Z caller=node_exporter.go:115 collector=udp
Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.305Z caller=node_exporter.go:115 collector=una
Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.305Z caller=node_exporter.go:115 collector=vms
Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.305Z caller=node_exporter.go:115 collector=xfs
Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.305Z caller=node_exporter.go:115 collector=zfs
Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.306Z caller=node_exporter.go:199 msg="Listenin
Jul 31 10:50:36 ip-10-100-10-189 node_exporter[20221]: level=info ts=2022-07-31T10:50:36.309Z caller=tls_config.go:191 msg="TLS is disa
lines 1-18/18 (END)
```

Host Metric (CPU, RAM, Disk, Network)	Dashboard
CPU	

Memory	
Disc I/O	
Network	

Responsibilities

1. The development team wants to release an emergency hotfix to production. Identify two roles of the SRE team who would be involved in this and why.

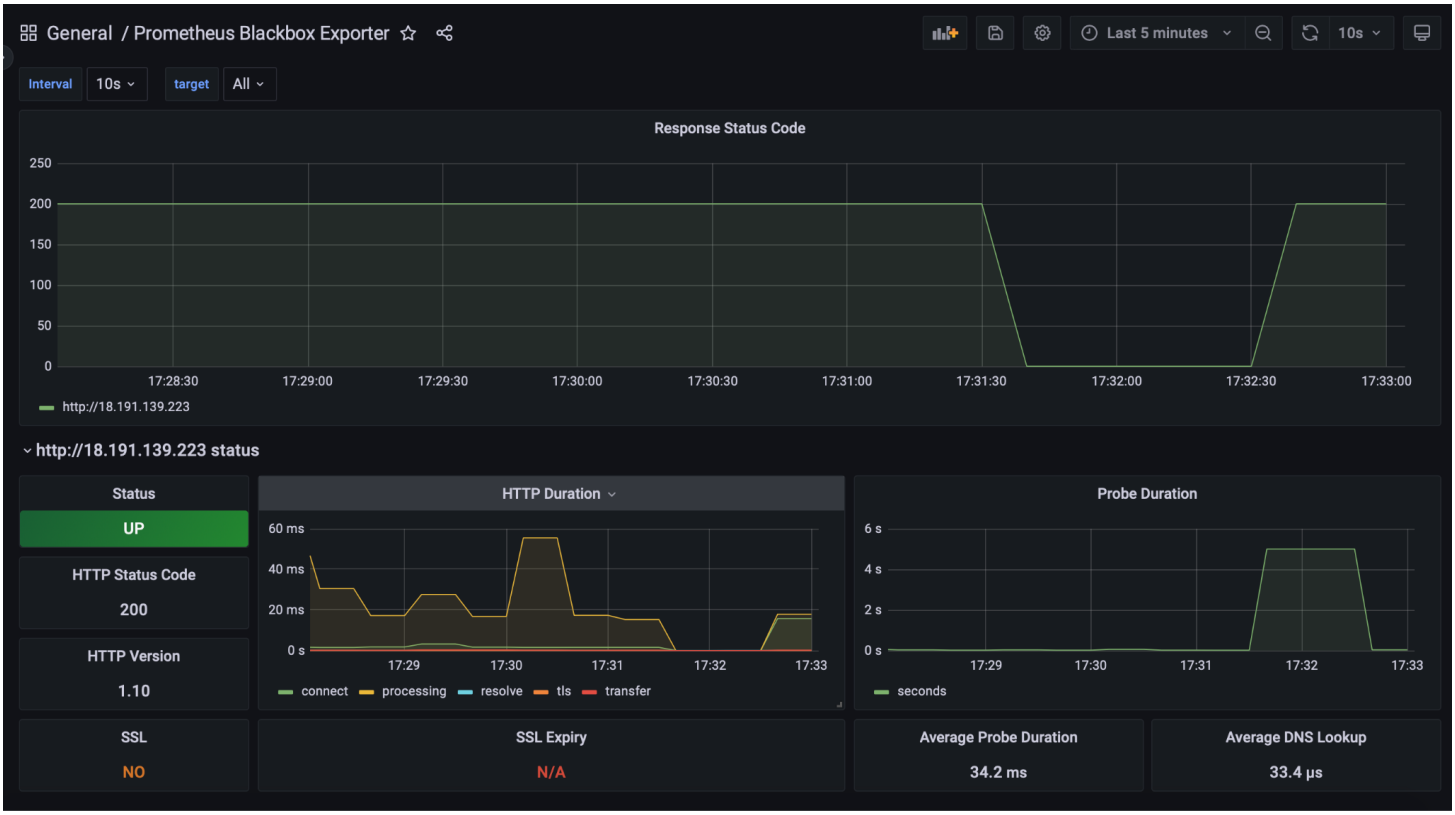
- *SRE Release Manager. He will execute the code release and ensure that all dependencies are met*
- *SRE Monitoring Engineer. He will monitor the release for incidents after it was rolled out*

2. The development team is in the early stages of planning to build a new product. Identify two roles of the SRE team that should be invited to the meeting and why.
SRE Team Lead and SRE System Architect will both contribute to the product design. SRE Team Lead will focus more on team workflows whereas SRE System Architect will take care of the technical details
3. The emergency hotfix from question 1 was applied and is causing major issues in production. Which SRE role would primarily be involved in mitigating these issues?
- *SRE Release Manager should rollback the changes*

Team Formation and Workflow Identification

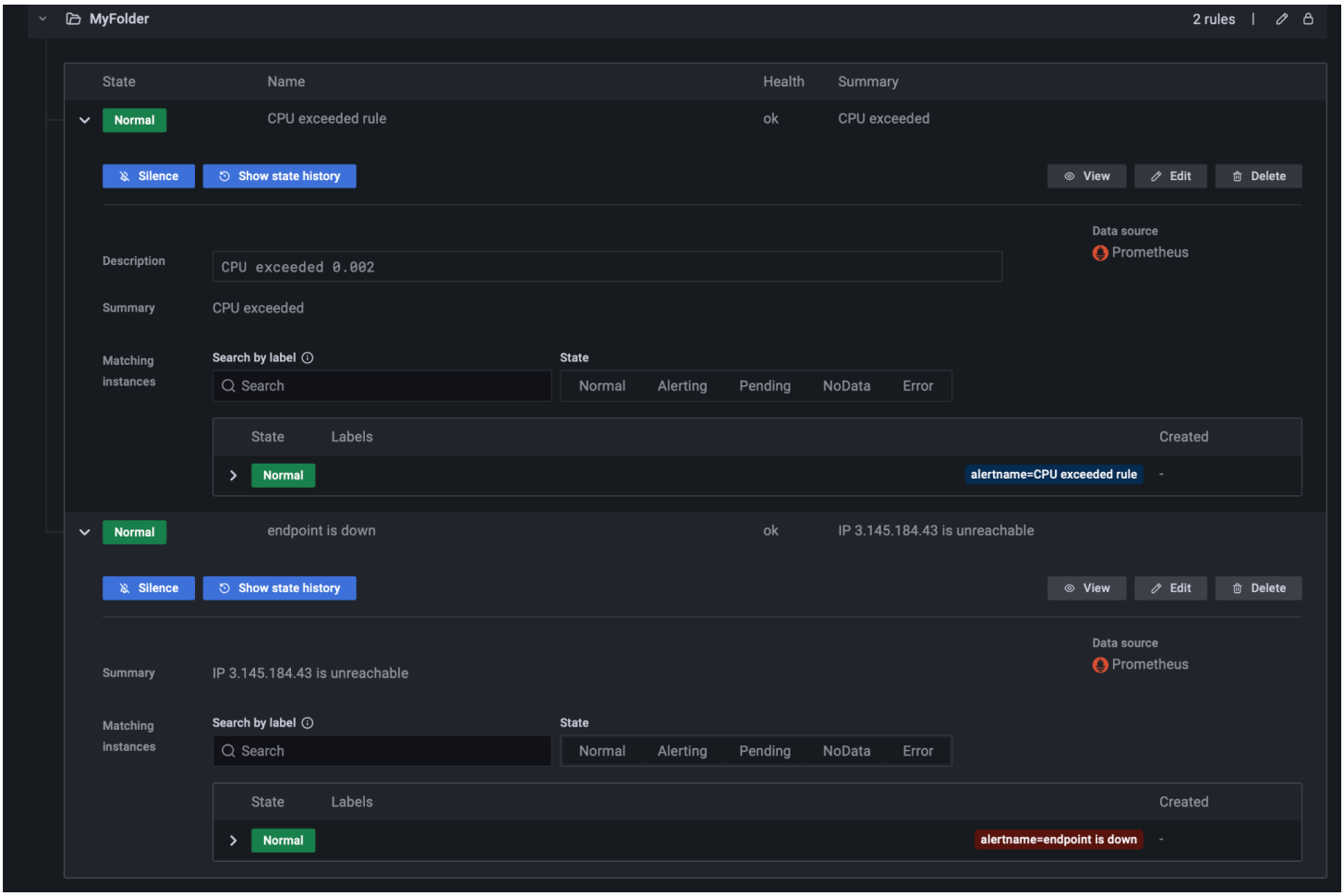
API Monitoring and Notifications

Display the status of an API endpoint: Provide a screenshot of the Grafana dashboard that will show at which point the API is unhealthy (non-200 HTTP code), and when it becomes healthy again (200 HTTP code).

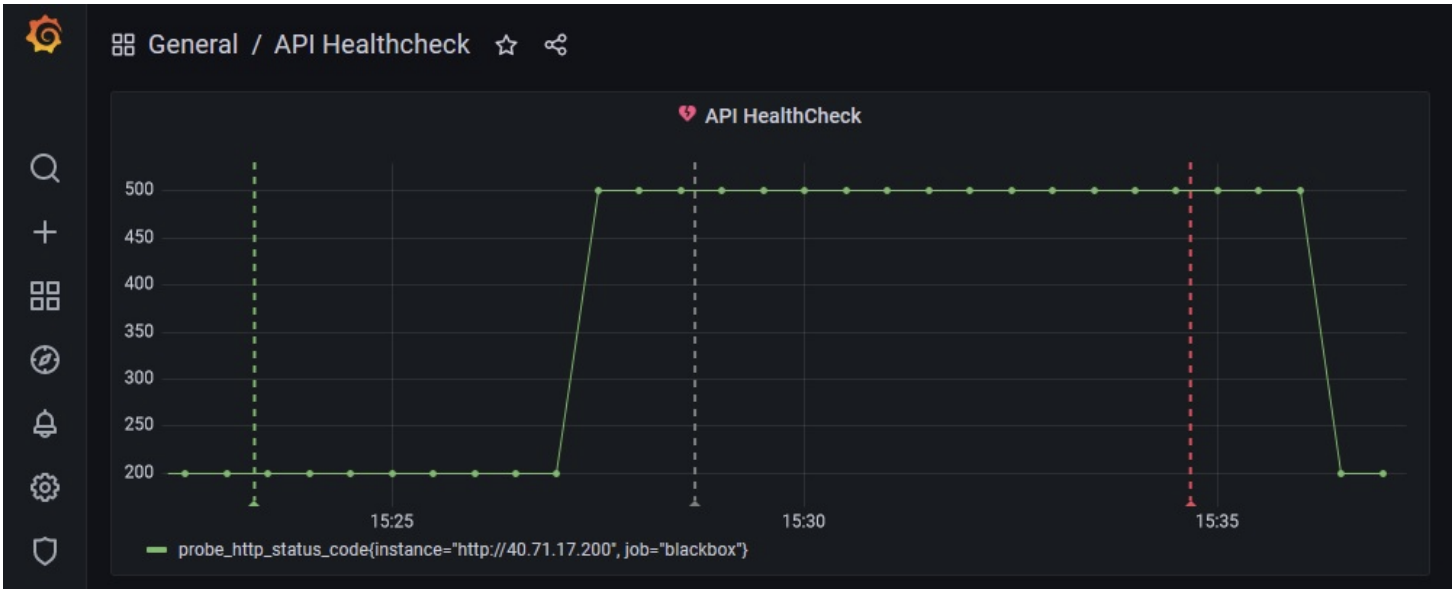


Create a notification channel: Provide a screenshot of the Grafana notification which shows the summary of the issue and when it occurred.

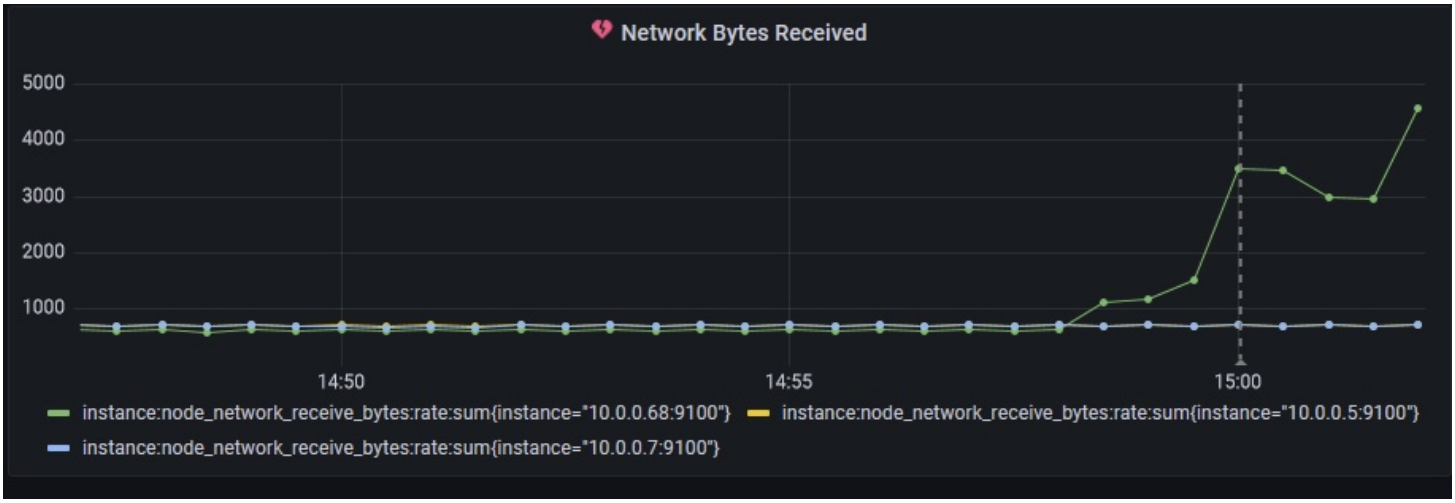
Configure alert rules: Provide a screenshot of the alert rules list in Grafana.


MyFolder
2 rules
State
Name
Health
Summary
Normal
CPU exceeded rule
ok
CPU exceeded
Silence
Show state history
View
Edit
Delete
Data source
Prometheus
Description
CPU exceeded 0.002
Summary
CPU exceeded
Matching instances
Search by label
Search
State
Normal
Alerting
Pending
NoData
Error
State
Labels
Created
Normal
alertname=CPU exceeded rule
-
Normal
endpoint is down
ok
IP 3.145.184.43 is unreachable
Silence
Show state history
View
Edit
Delete
Data source
Prometheus
Summary
IP 3.145.184.43 is unreachable
Matching instances
Search by label
Search
State
Normal
Alerting
Pending
NoData
Error
State
Labels
Created
Normal
alertname=endpoint is down
-

Applying the Concepts

Graph 1

4a. Given the above graph, where does it show that the API endpoint is down? Where on the graph does this show that the API is healthy again?
At 15:27 API is down and at 15:37 it is up again
4b. If there was no SRE team, how would this outage affect customers?
We would detect the issue only after a complaint from customers and it would take longer to react, consequently lowering customer satisfaction with our service
4c. What could be put in place so that the SRE team could know of the outage before the customer does?
Grafana alerts on response status code change

Graph 2



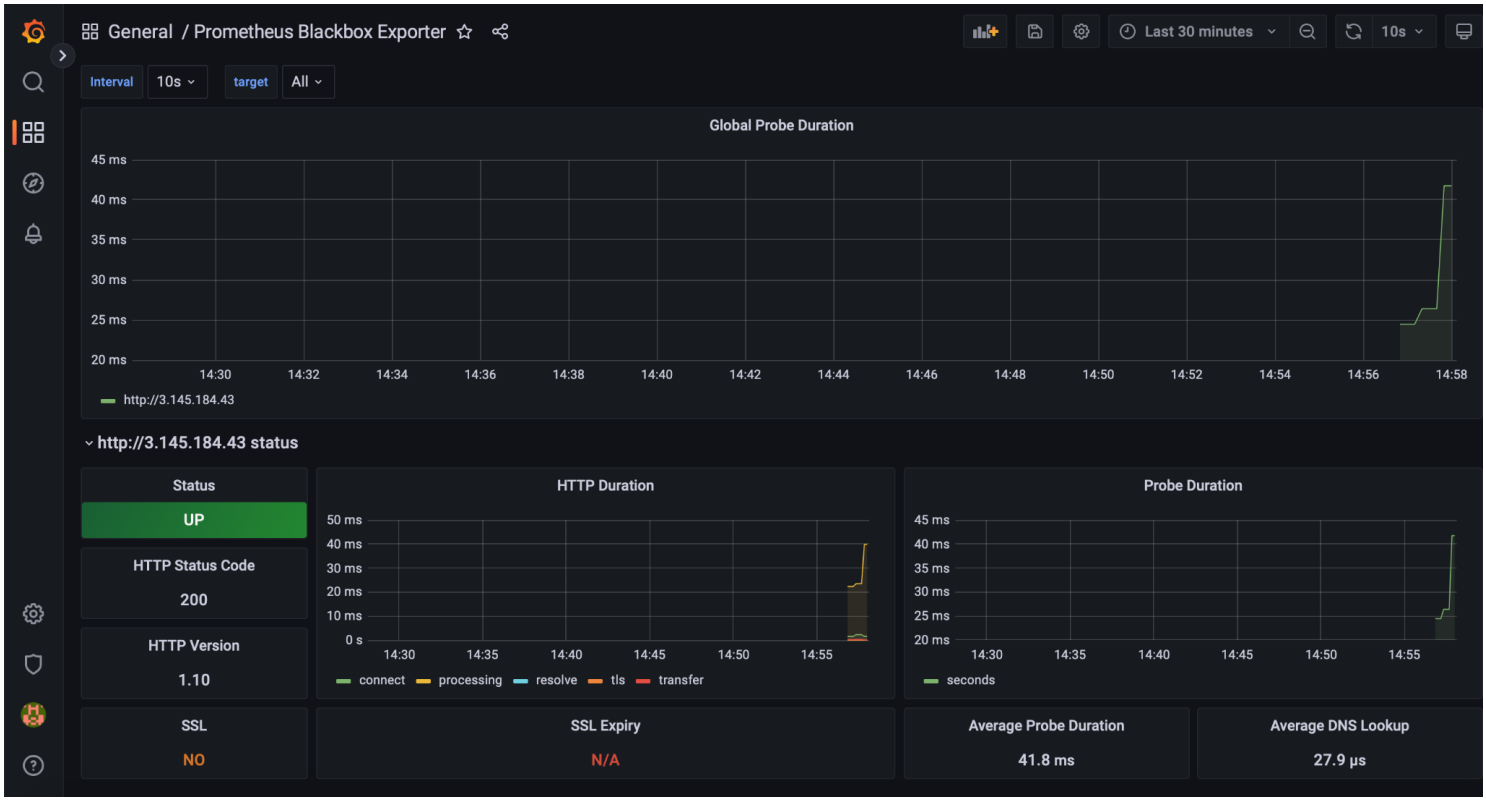
5a. Given the above graph, which instance had the increase in traffic, and approximately how many bytes did it receive (feel free to round)?

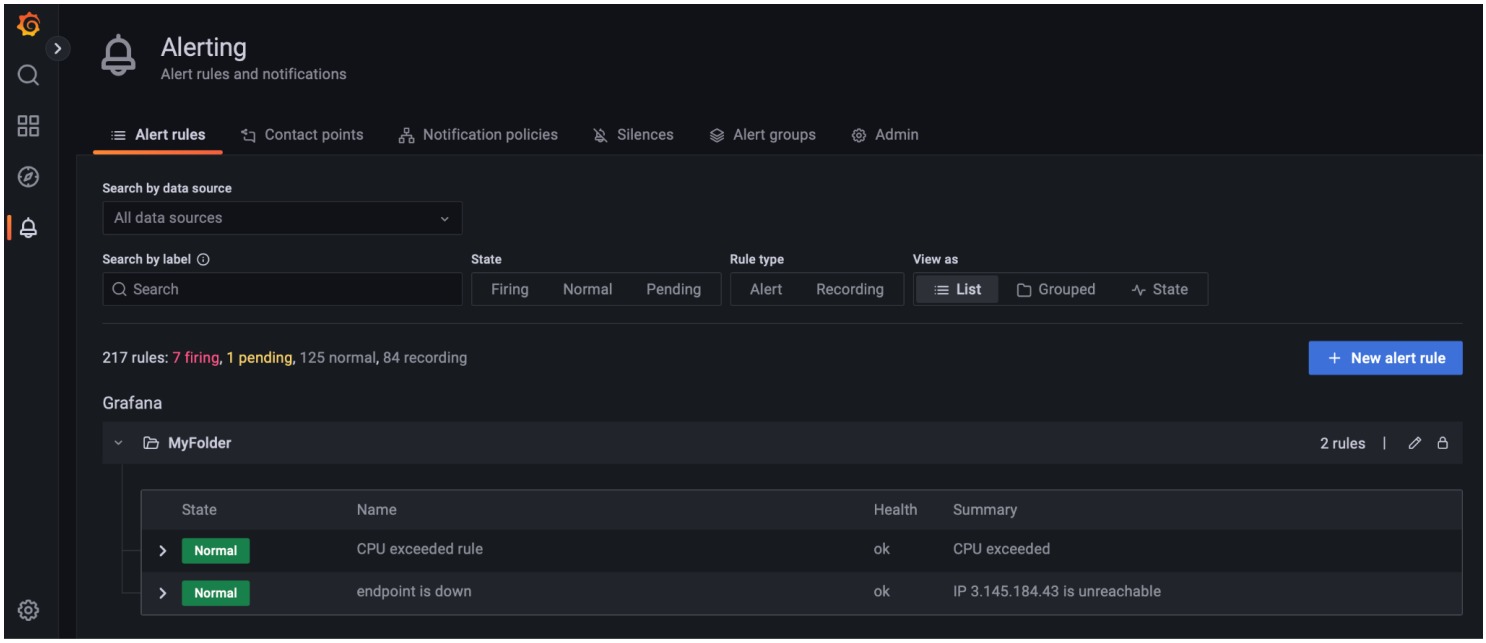
10.0.0.68 has received increased traffic exceeding 4000 bytes within 30 seconds

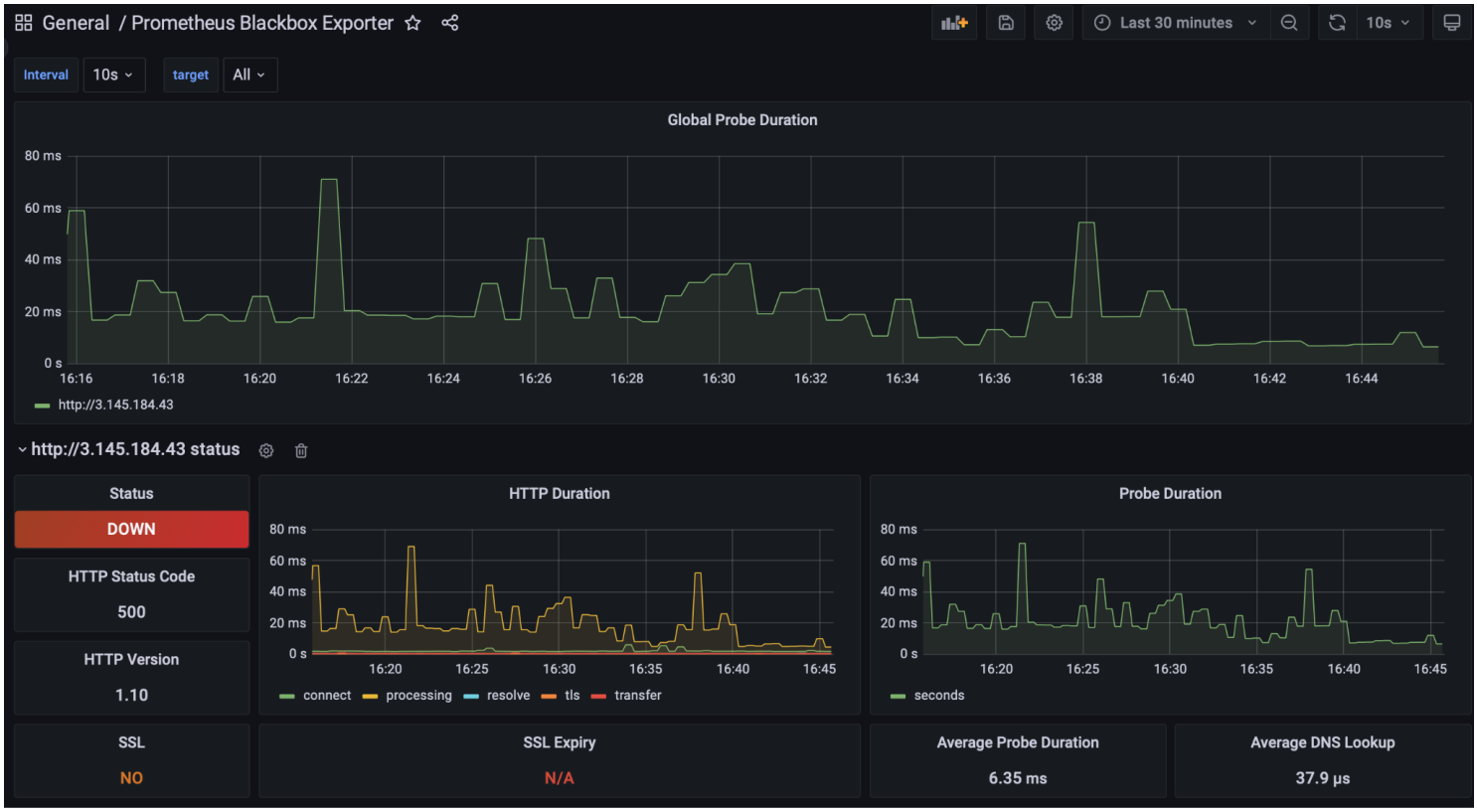
5b. Which team members on the SRE team would be interested in this graph and why?

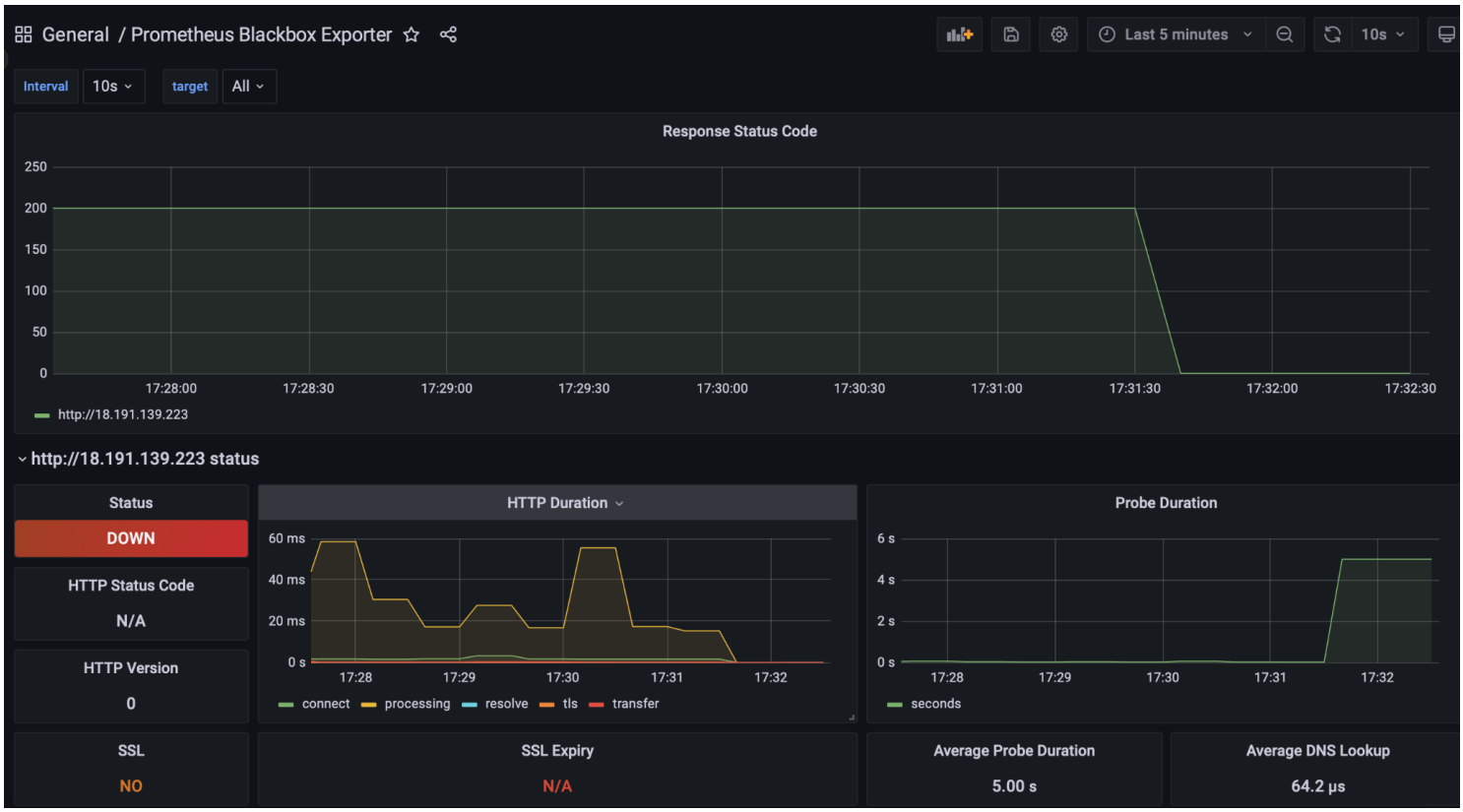
SRE monitoring engineer would be interested so that he could set proper thresholds for alerts
SRE release manager would be interested in case he needs to rollback some buggy releases

Uncategorised screenshots






General / Prometheus Blackbox Exporter
Last 30 minutes
10s
Interval
10s
target
All
Global Probe Duration
80 ms
60 ms
40 ms
20 ms
0 s
16:16 16:18 16:20 16:22 16:24 16:26 16:28 16:30 16:32 16:34 16:36 16:38 16:40 16:42 16:44
http://3.145.184.43
http://3.145.184.43 status
Status
DOWN
HTTP Status Code
500
HTTP Version
1.10
HTTP Duration
80 ms
60 ms
40 ms
20 ms
0 s
16:20 16:25 16:30 16:35 16:40 16:45
connect processing resolve tls transfer
Probe Duration
80 ms
60 ms
40 ms
20 ms
0 s
16:20 16:25 16:30 16:35 16:40 16:45
seconds
SSL
NO
SSL Expiry
N/A
Average Probe Duration
6.35 ms
Average DNS Lookup
37.9 µs


General / Prometheus Blackbox Exporter
Last 5 minutes
10s
Interval
10s
target
All
Response Status Code
250
200
150
100
50
0
17:28:00 17:28:30 17:29:00 17:29:30 17:30:00 17:30:30 17:31:00 17:31:30 17:32:00 17:32:30
http://18.191.139.223
http://18.191.139.223 status
Status
DOWN
HTTP Status Code
N/A
HTTP Version
0
HTTP Duration
60 ms
40 ms
20 ms
0 s
17:28 17:29 17:30 17:31 17:32
connect processing resolve tls transfer
Probe Duration
6 s
4 s
2 s
0 s
17:28 17:29 17:30 17:31 17:32
seconds
SSL
NO
SSL Expiry
N/A
Average Probe Duration
5.00 s
Average DNS Lookup
64.2 µs