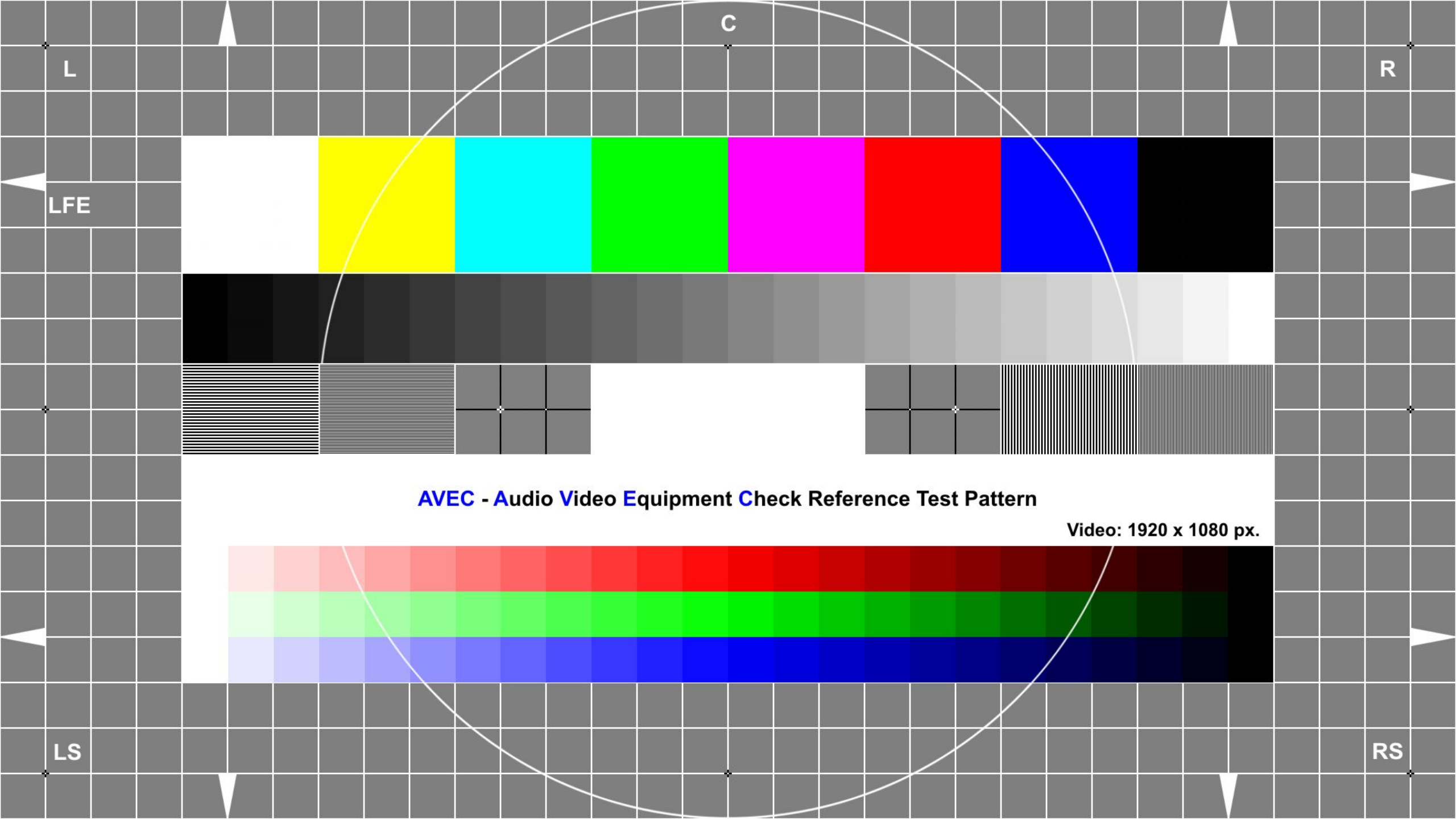
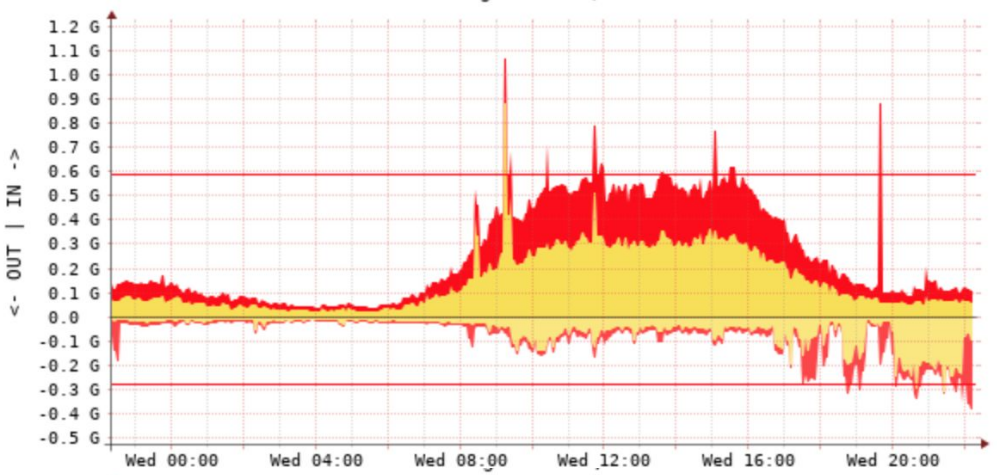

C
L
R
LFE
AVEC - Audio Video Equipment Check Reference Test Pattern
Video: 1920 x 1080 px.
LS
RS

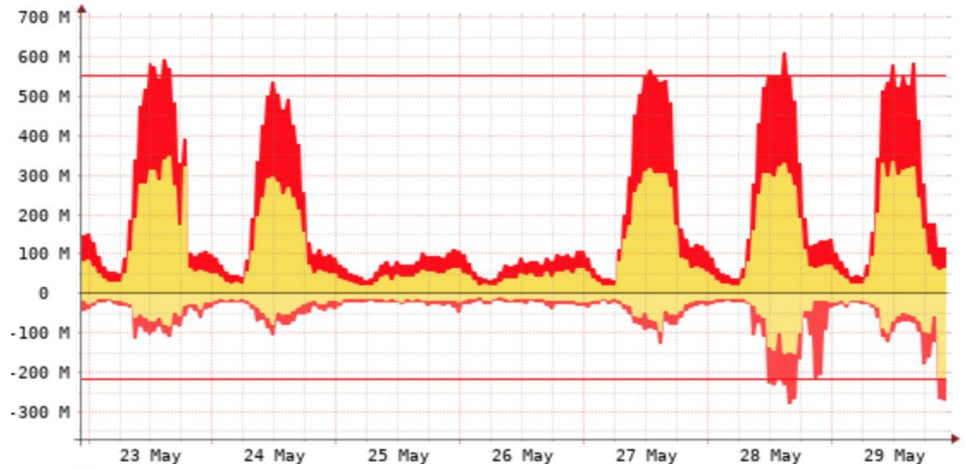
Beyond Monitoring

Software?

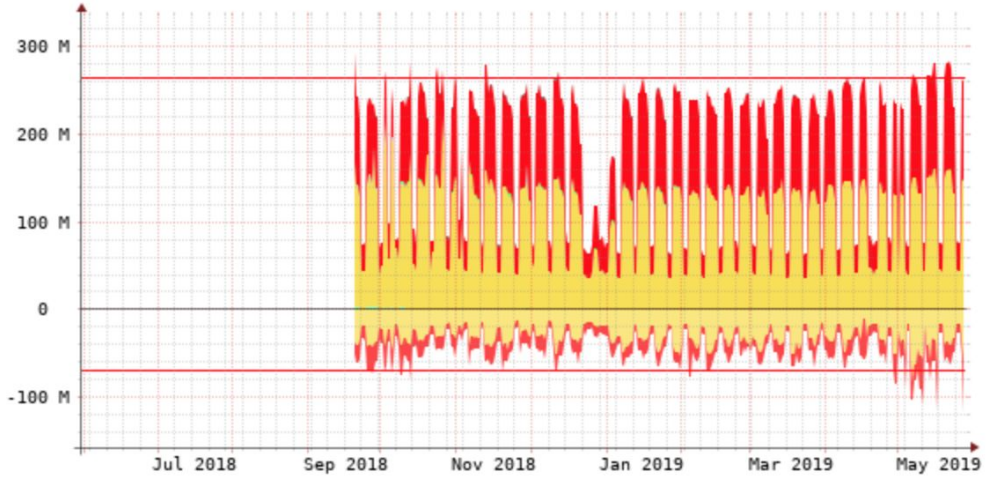
<your tool here>



24h: Peak ~1.1G



1W: Peak >600M



1Y: Peak ~250M

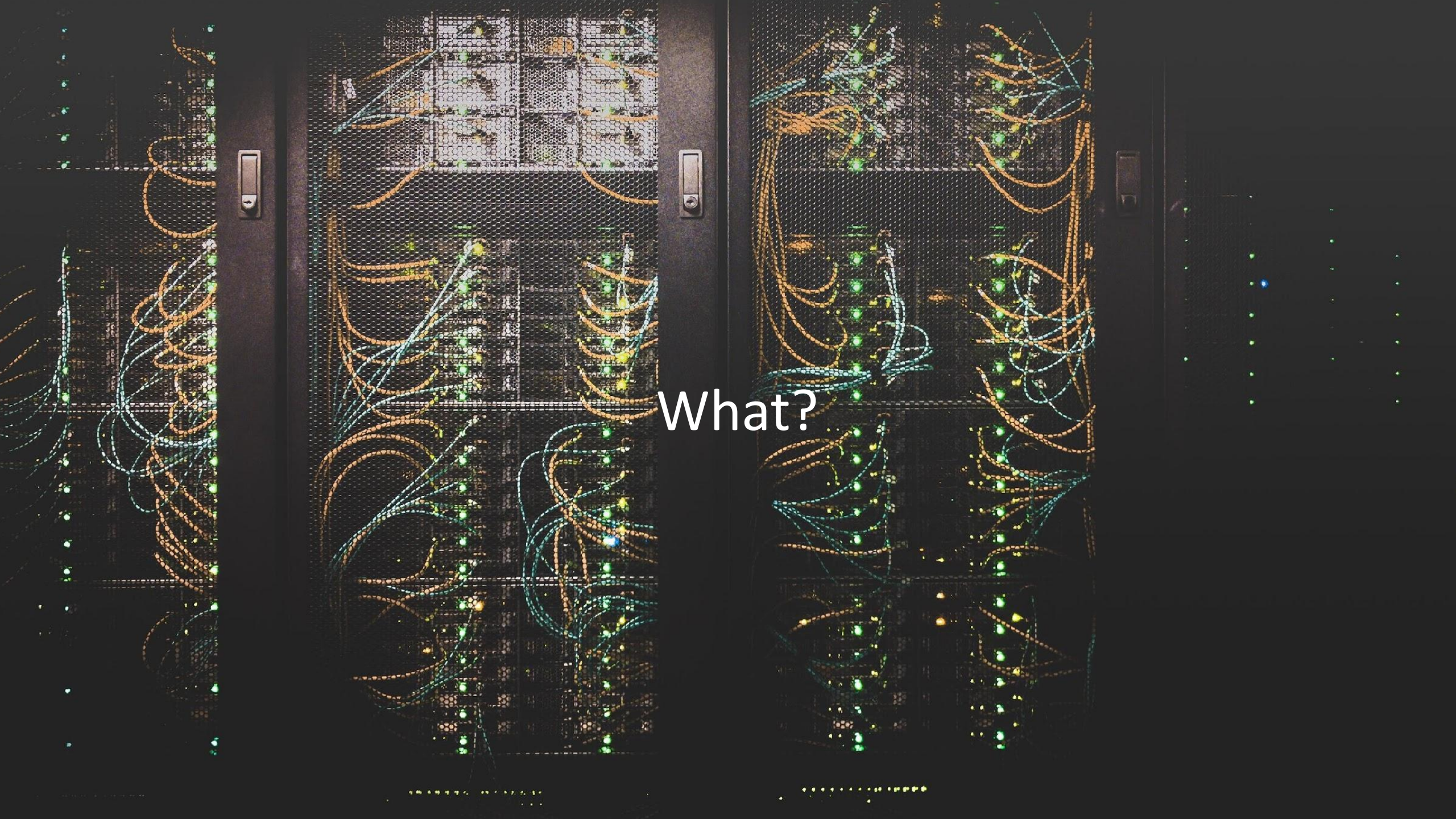

What?

Image by Stefan Schweihofer from Pixbay

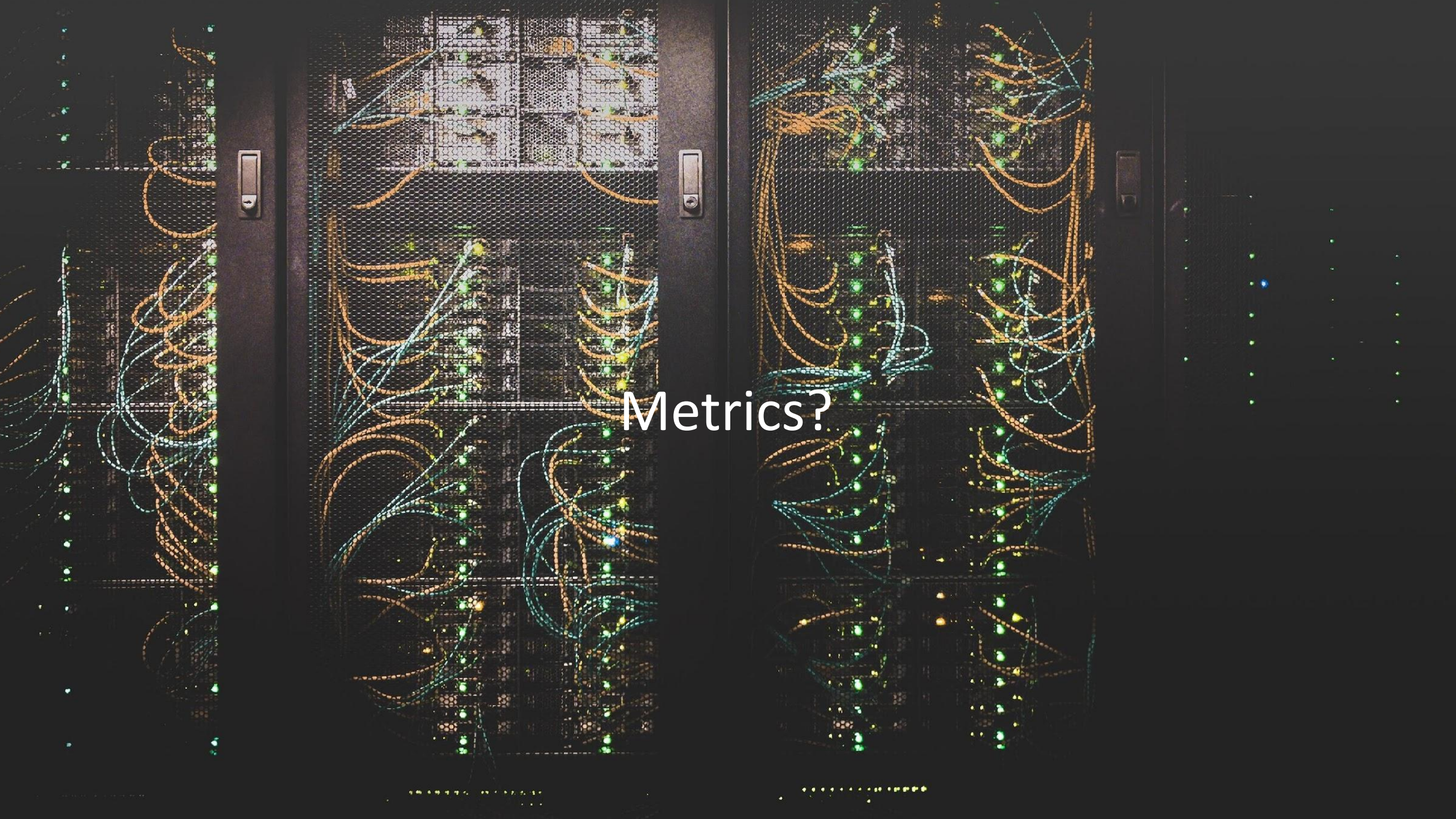

Metrics?

Image Thomas Breher from Pixbay

disk_free == 0

$$\frac{\text{disk\_used}}{\text{disk\_available}} > 0.99$$

disk_free < 1 GByte

predict_linear(disk_free[1h], 1h) <= 0

< ENGINE FIRE, SEVERE DAMAGE OR SEPARATION >

Condition: **Fire is detected in the related engine; severe damage which may be associated with airframe vibration and/or abnormal engine indications has occurred; or the engine has separated.**

AUTOTHROTTLE (if engaged) . . . . . .DISENGAGE

[Allows thrust levers to remain where manually positioned.]

THRUST lever . . . . . CLOSE

[Assists in recognition of the affected engine.]

ENGINE START lever . . . . . CUTOFF

ENGINE FIRE WARNING switch . . . . . Pull

To manually unlock the engine fire warning switch, press the override and pull.

If the engine fire warning switch or ENG OVERHEAT light remains illuminated:

ENGINE FIRE WARNING switch . . . . . Rotate L or R

Rotate to the stop and hold for one second.

If after 30 seconds the engine fire warning switch or ENG OVERHEAT light remains illuminated:

ENGINE FIRE WARNING switch . . . . . .Rotate to remaining bottle

Rotate to the opposite stop and hold for one second.

If high airframe vibration occurs and continues after engine is shut down:

Without delay, reduce airspeed and descend to a safe altitude which results in an acceptable vibration level. If high vibration returns and further airspeed reduction and descent are not practicable, increasing airspeed may reduce vibration.

Continued on next page

HIGH ENGINE VIBRATION

Condition: **VIB levels are in excess of 4.0 units accompanied by airframe vibrations.**

If not in icing conditions:

AUTOTHROTTLE (if engaged) . . . . . .DISENGAGE

[Allows thrust lever to remain where manually positioned.]

THRUST lever . . . . . RETARD

Retard to maintain VIB below 4 units.

Note: If the VIB indication does not decrease when the thrust lever is retarded, check other engine indications. If other engine indications are normal, no further action is needed.

■■■■

If in icing conditions:

During descent or holding accomplish the following on one engine at a time at approximately 15 minute intervals:

ENGINE START switch . . . . . FLT

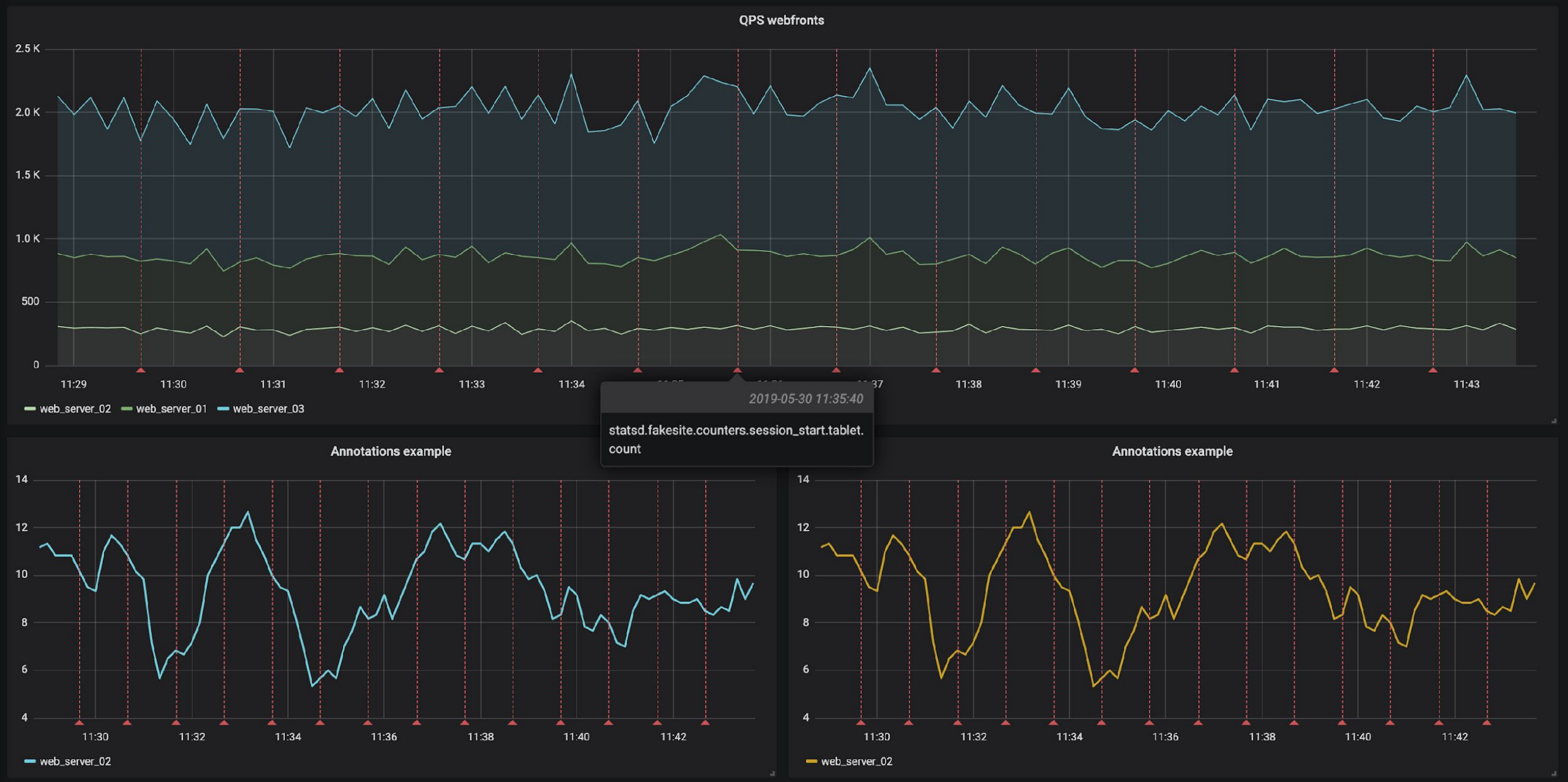
Thrust . . . . . .Adjust

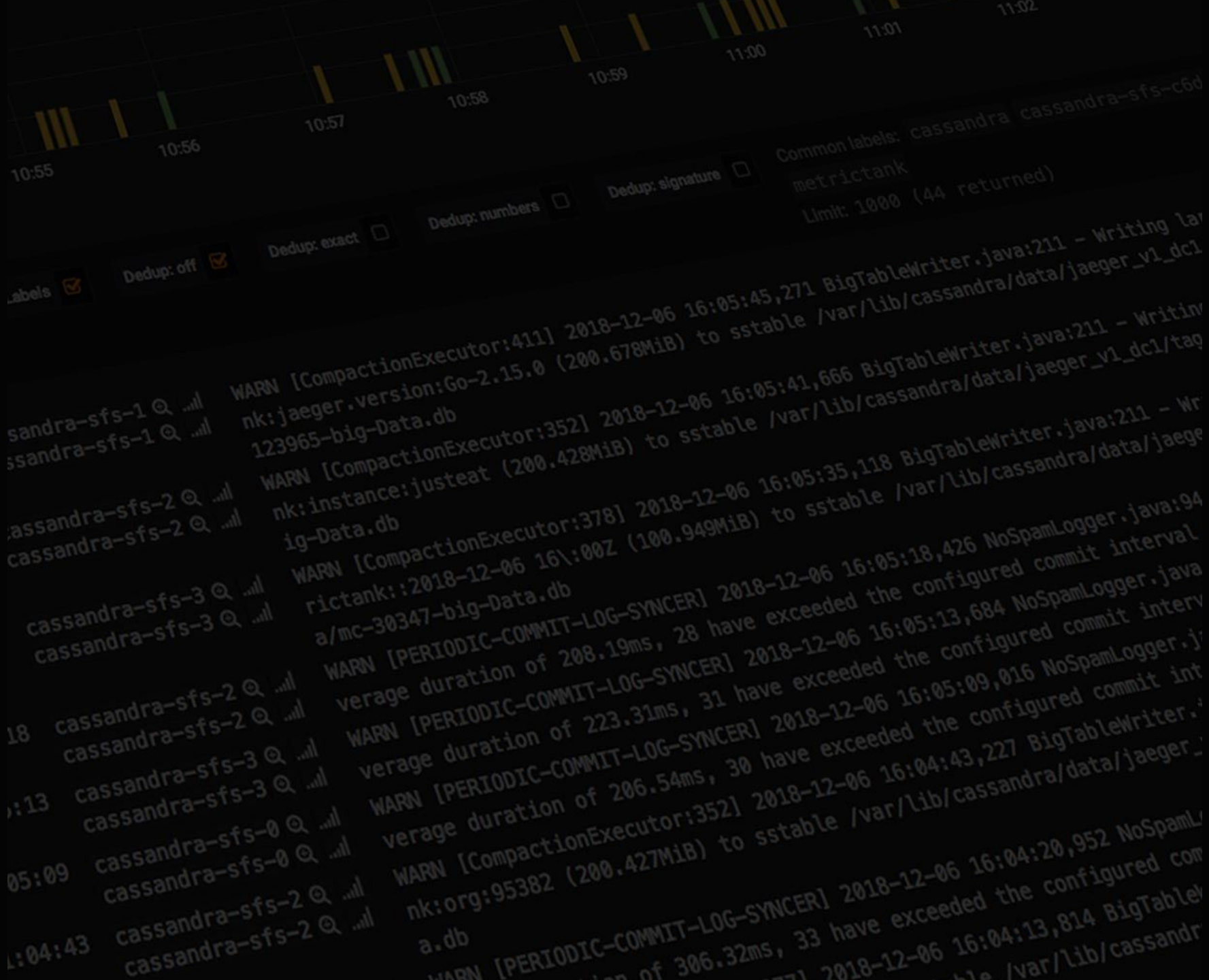
Adjust thrust to 45% N1. After approximately five seconds, advance thrust lever slowly to a minimum of 80% N1.

If vibration does not decrease:

Accomplish the procedure for "If not in icing conditions."

■■■■


QPS webfronts
2.5 K
2.0 K
1.5 K
1.0 K
500
0
11:29
11:30
11:31
11:32
11:33
11:34
11:38
11:39
11:40
11:41
11:42
11:43
web_server_02
web_server_01
web_server_03
2019-05-30 11:35:40
statsd.fakesite.counters.session_start.tablet.
count
Annotations example
14
12
10
8
6
4
11:30
11:32
11:34
11:36
11:38
11:40
11:42
web_server_02
Annotations example
14
12
10
8
6
4
11:30
11:32
11:34
11:36
11:38
11:40
11:42
web_server_02


10:55
10:56
10:57
10:58
10:59
11:00
11:01
11:02
Labels
Dedup: off
Dedup: exact
Dedup: numbers
Dedup: signature
Common labels: cassandra cassandra-sfs-c6d
metrictank
Limit: 1000 (44 returned)
sandra-sfs-1 WARN [CompactionExecutor:411] 2018-12-06 16:05:45,271 BigTableWriter.java:211 - Writing la
ssandra-sfs-1 nk:jaeger.version:Go-2.15.0 (200.678MiB) to sstable /var/lib/cassandra/data/jaeger_v1_dc1
123965-big-Data.db
assandra-sfs-2 WARN [CompactionExecutor:352] 2018-12-06 16:05:41,666 BigTableWriter.java:211 - Writin
cassandra-sfs-2 nk:instance:justeat (200.428MiB) to sstable /var/lib/cassandra/data/jaeger_v1_dc1/taq
ig-Data.db
cassandra-sfs-3 WARN [CompactionExecutor:378] 2018-12-06 16:05:35,118 BigTableWriter.java:211 - Wr
cassandra-sfs-3 rictank::2018-12-06 16\:00Z (100.949MiB) to sstable /var/lib/cassandra/data/jaege
a/mc-30347-big-Data.db
18 cassandra-sfs-2 WARN [PERIODIC-COMMIT-LOG-SYNCER] 2018-12-06 16:05:18,426 NoSpamLogger.java:94
cassandra-sfs-2 verage duration of 208.19ms, 28 have exceeded the configured commit interval
:13 cassandra-sfs-3 WARN [PERIODIC-COMMIT-LOG-SYNCER] 2018-12-06 16:05:13,684 NoSpamLogger.java
cassandra-sfs-3 verage duration of 223.31ms, 31 have exceeded the configured commit interv
05:09 cassandra-sfs-0 WARN [PERIODIC-COMMIT-LOG-SYNCER] 2018-12-06 16:05:09,016 NoSpamLogger.j
cassandra-sfs-0 verage duration of 206.54ms, 30 have exceeded the configured commit int
1:04:43 cassandra-sfs-2 WARN [CompactionExecutor:352] 2018-12-06 16:04:43,227 BigTableWriter.
cassandra-sfs-2 nk:org:95382 (200.427MiB) to sstable /var/lib/cassandra/data/jaeger_
a.db
WARN [PERIODIC-COMMIT-LOG-SYNCER] 2018-12-06 16:04:20,952 NoSpamL
of 306.32ms, 33 have exceeded the configured com
2018-12-06 16:04:13,814 BigTableW
/var/lib/cassandr

During the Incident

- Step back and think
- Communicate
- Document everything
- Collaborate


12
28


Rembrandt f.t 1632

Postmortems

Reason **F**or **O**utage

Never Lie to your Customer!

Summary

Before the incident:

- Evaluate every Alarm and its severity
- Write runbooks
- Define communication & collaboration strategy
- Build Dashboards & Logging
- Practice incidents

During the incident:

- Step back and think
- Communicate & Collaborate
- Document every step

After the incident

- Write & review Postmortems
- Write honest RFOs

Further Reading

- https://landing.google.com/sre/
- https://www.fema.gov/national-incident-management-system
- Post Mortems: https://sreweekly.com/
  https://github.com/danluu/post-mortems
- David N. Blank-Edelman‘s Seeking SRE
- https://www.usenix.org/srecon

Questions?

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Thank
You!