

Monitoring “à la carte” TimeMap Flexible Architecture

“you cannot deliver a service if you can’t monitor it”

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Where we started from...



Where
does
It come
from?

Jitter:

- 150ms

Road report: on HWY 101 there are 364 vehicles per minute



it may
Be nice

...

Road report: on HWY 101 there are 364 vehicles per minute



Or...
Lots of
Stop &
Go

RT Applications which need “cruise control” ON are on fast rise!



- **LoLa**

And we have others:

**Ultragrid
MVTP**

...

What do we need to check?



Bandwidth:
3 x 450Mbps

Latency (RTT):

- 15ms
- 25ms
- 37ms

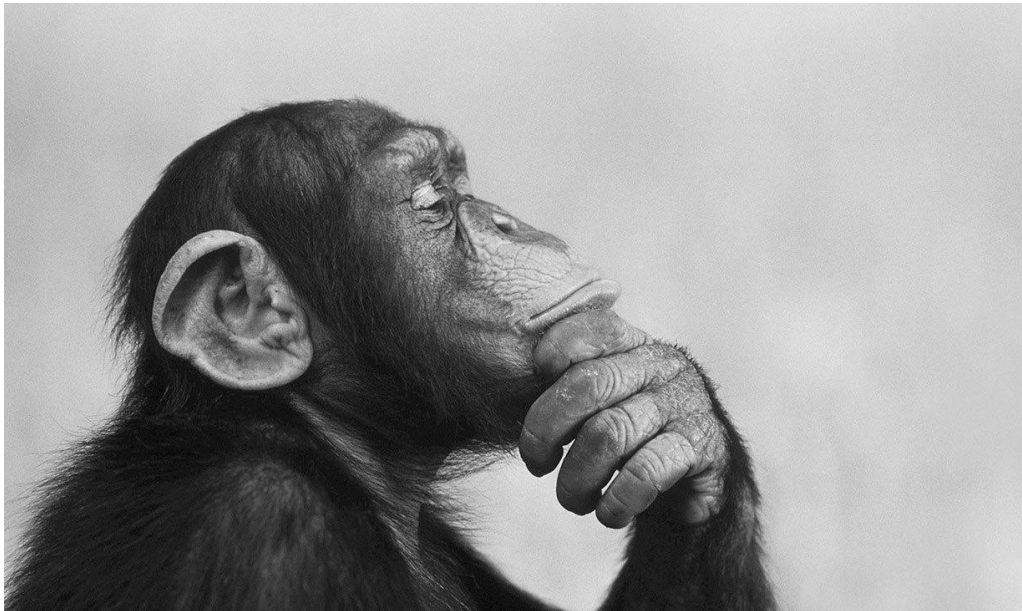
Jitter:

- 1.01ms
- 0.97ms
- 1.10ms

But also clocks' time drift, and other parameters...

Monolithic Monitoring Systems need a lot of development and support

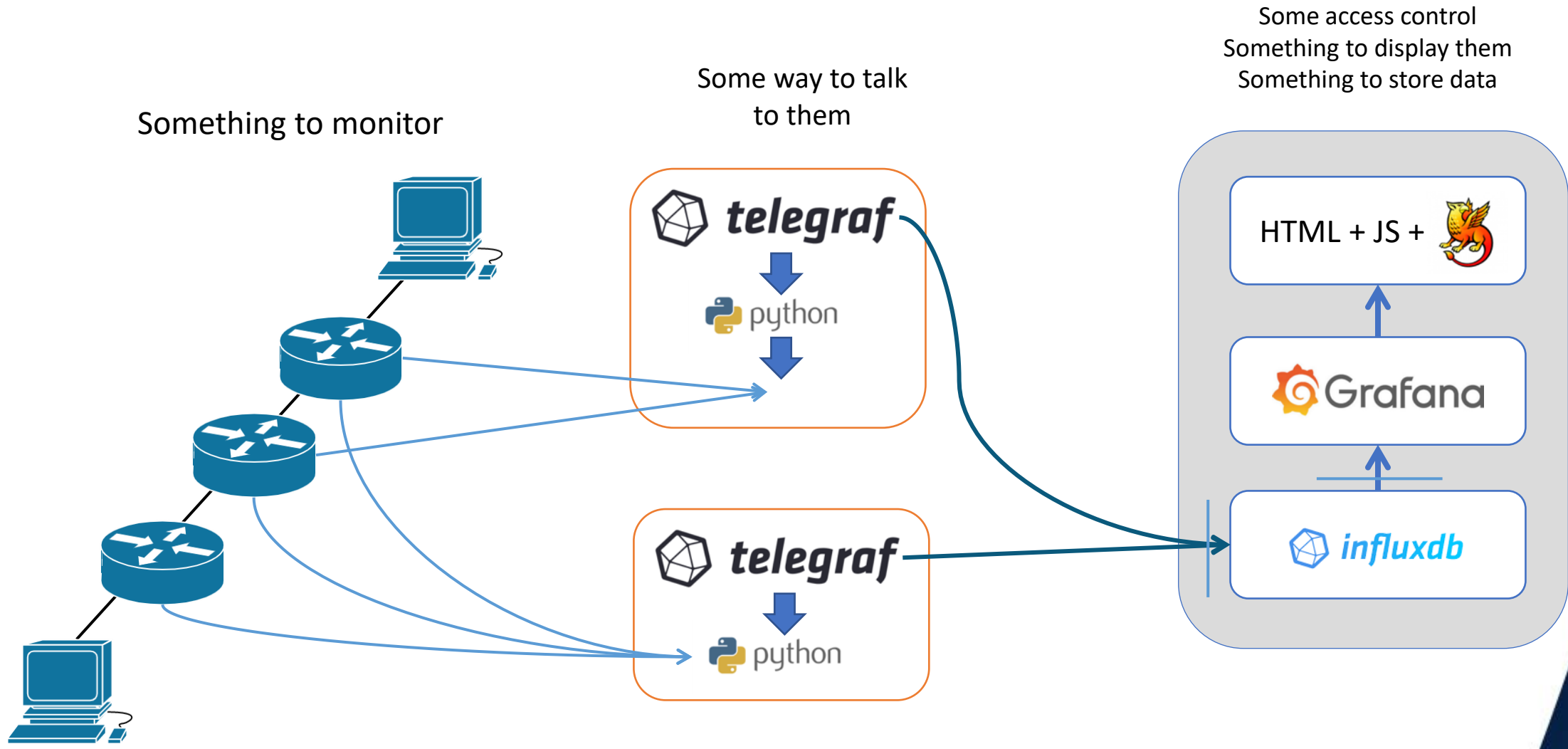
- Shall we change approach?
 - Can we be light, flexible and adaptive?
 - Can we be abstract and generic enough?
 - Can we just have “others” to do most of the maintenance job?



Yes!!

TimeMap!

What is a monitoring system?

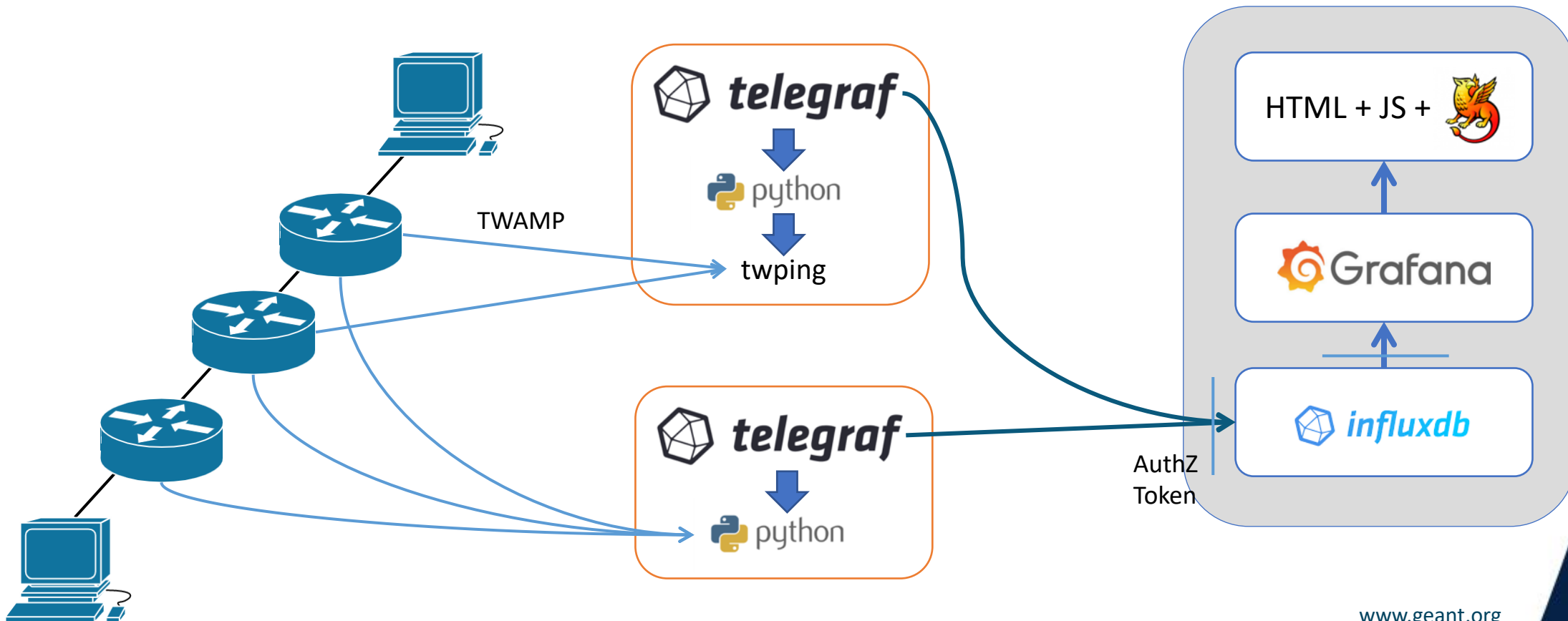


TIMEMAP architecture – the universal core

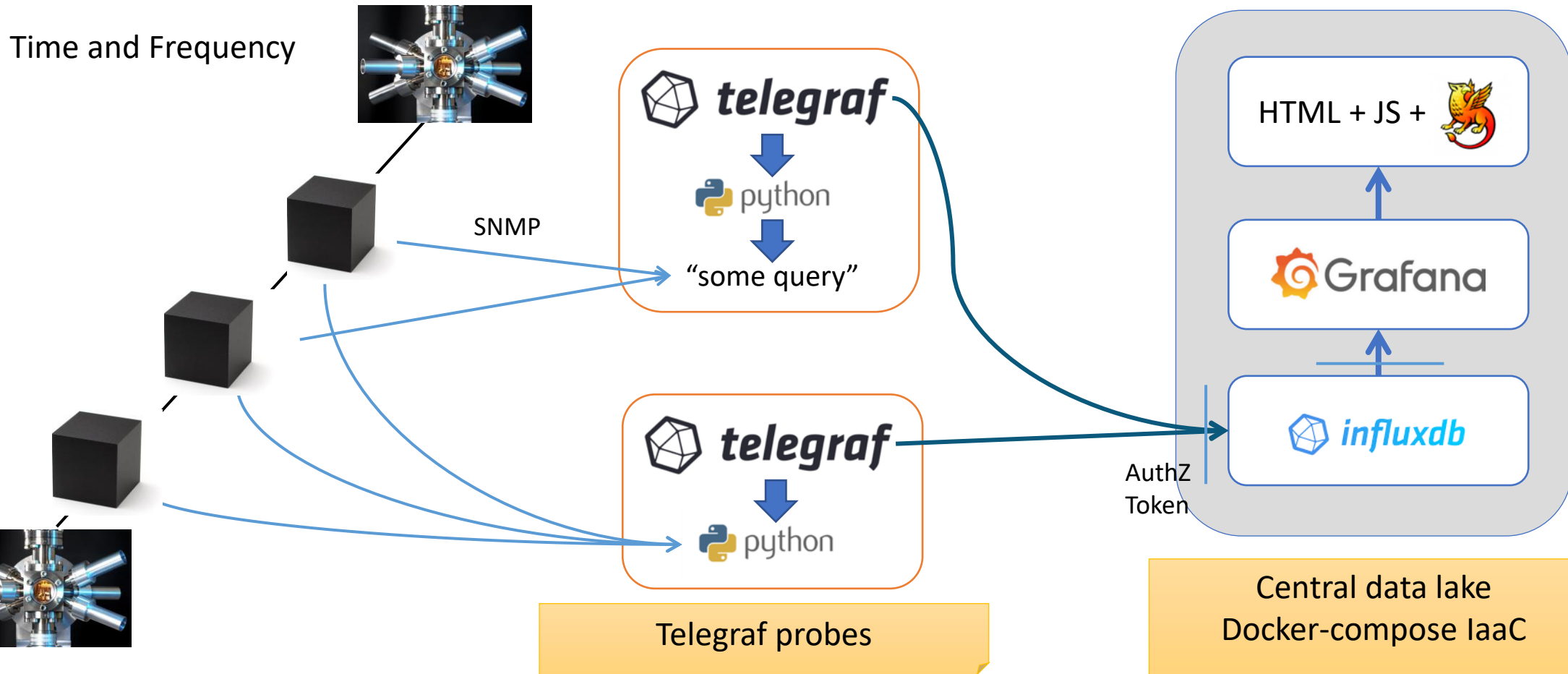
Jitter and latency,...

telegraf probes

Central data lake
Docker-compose IaC

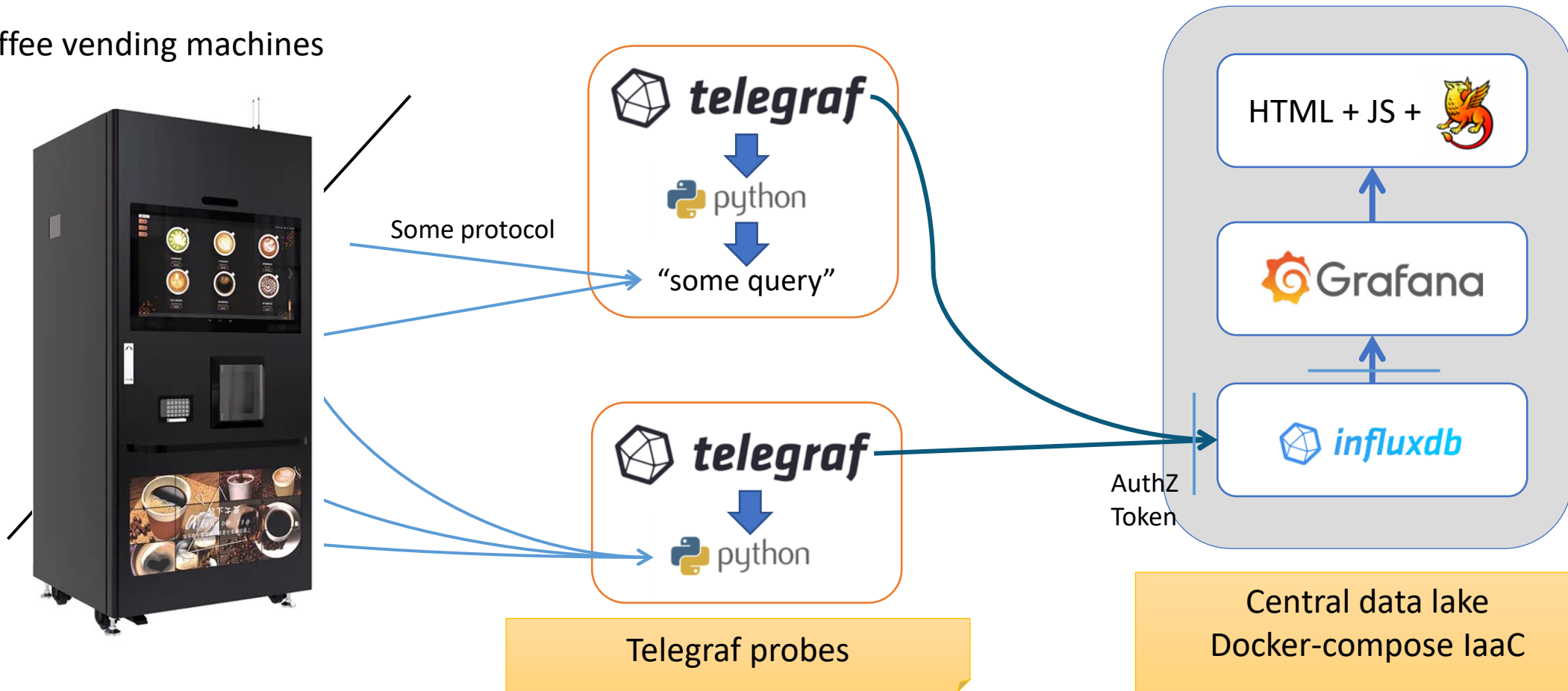


TIMEMAP architecture – the universal core OTFN



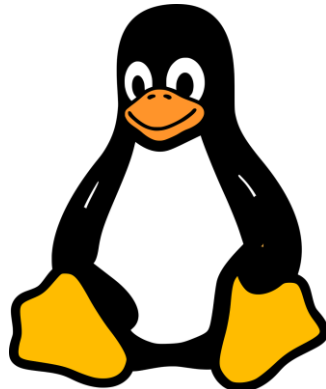
It can monitor whichever device providing data

Coffee vending machines



Timemap (latency-jitter) main features

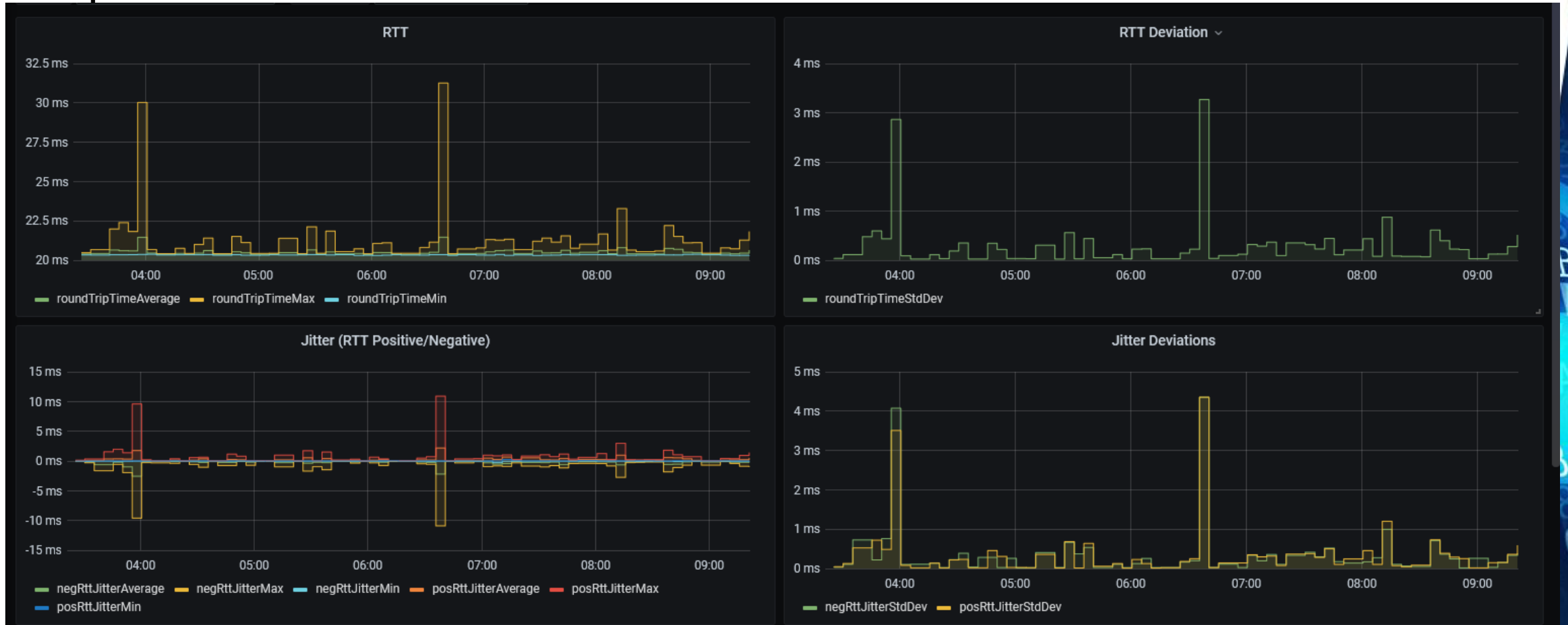
- Latency & Jitter data collection
- Simplicity: almost zero footprint
 - Docker + standard Linux packages, minimal custom code
- Security and flexibility
 - InCommon / eduGAIN federated authentication
 - multi-tenancy in Grafana and InfluxDB
 - R/W authorization token for APIs



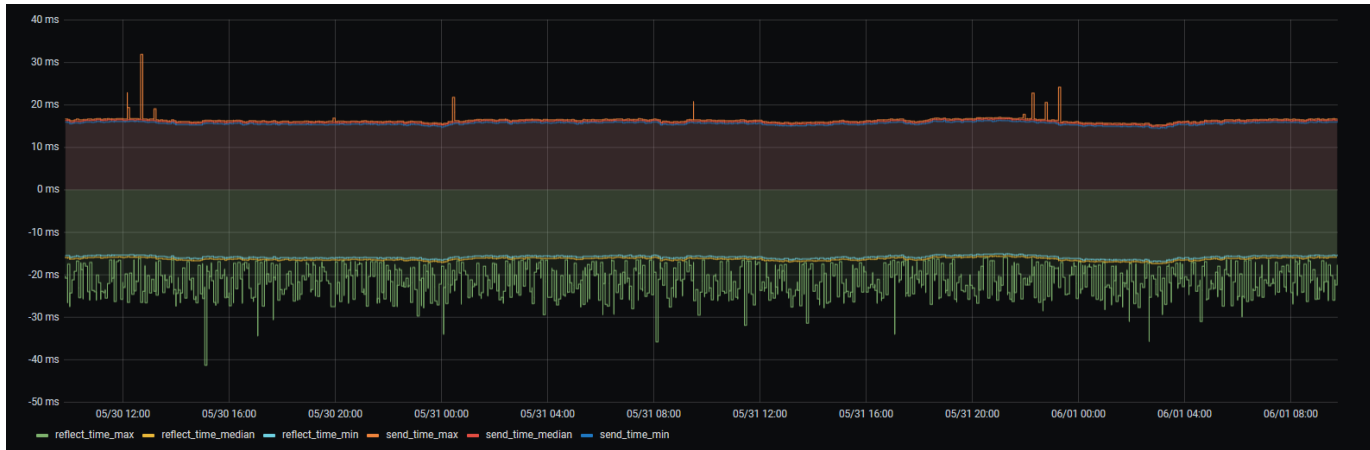
Timemap useful examples – the GeoMap view



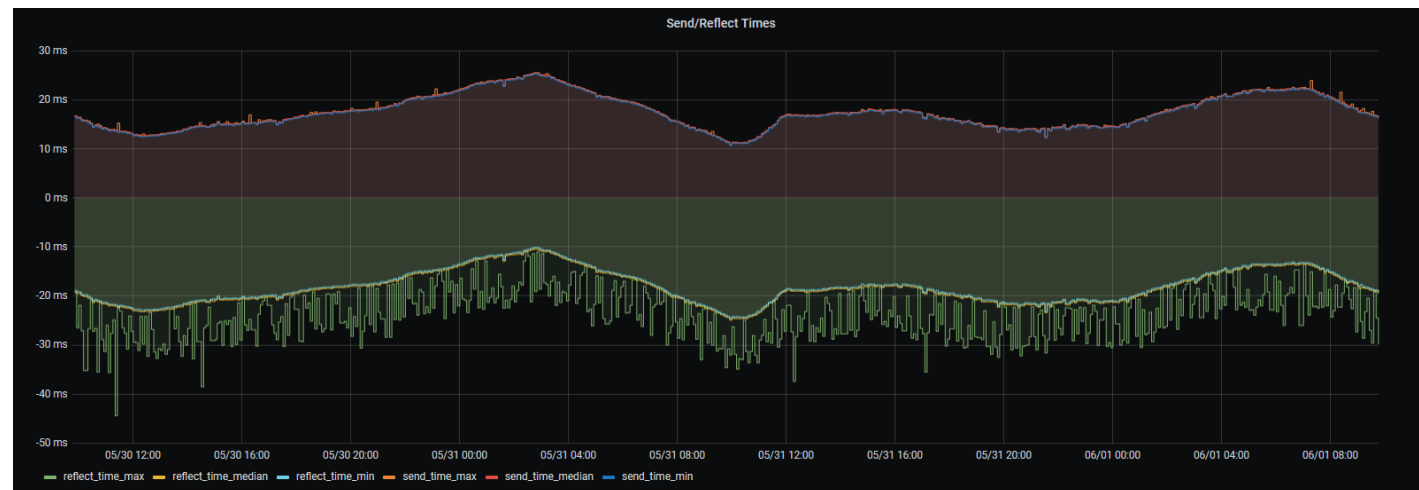
Timemap useful examples: rerouting and periodic events



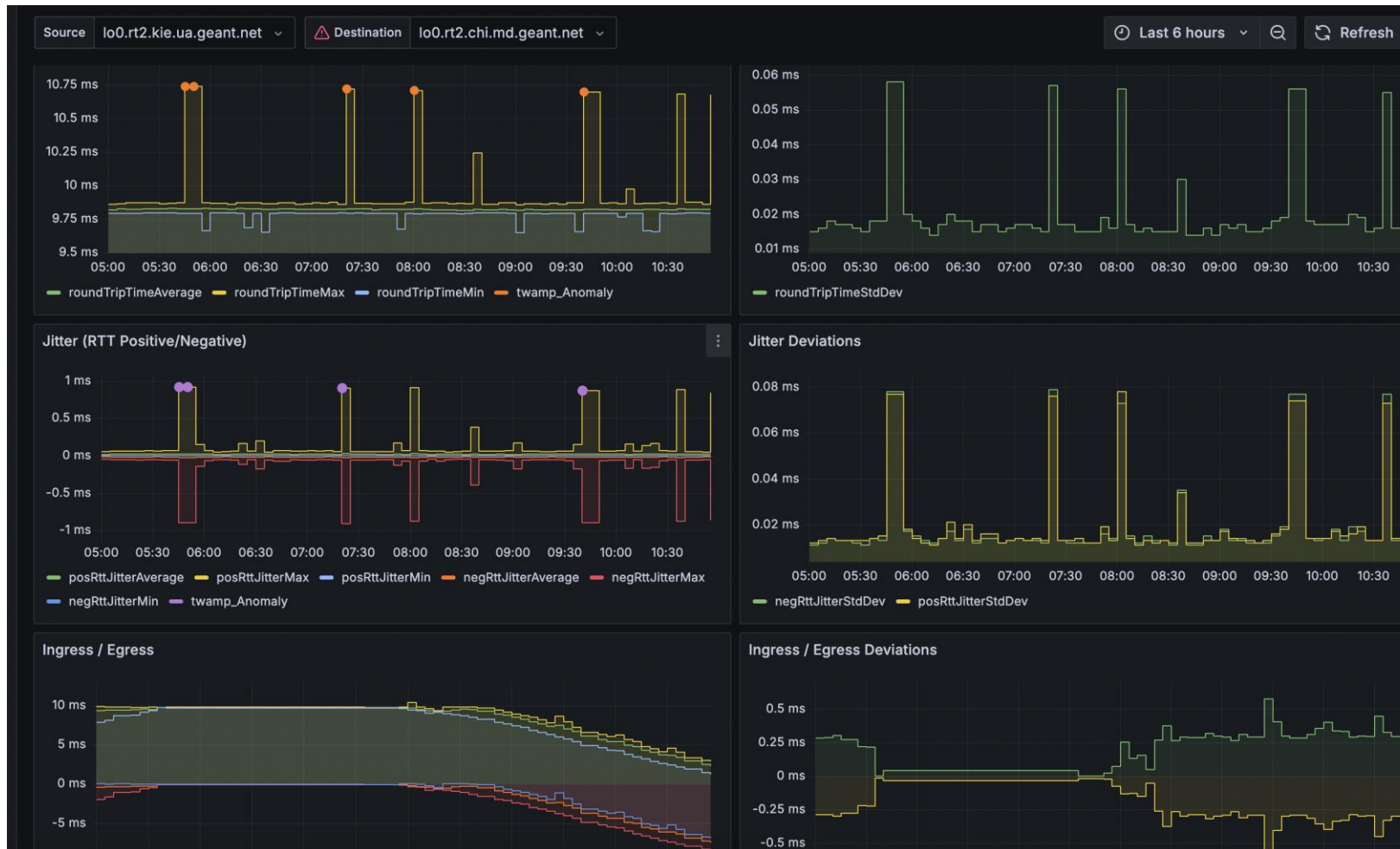
Timemap useful examples: trends



False negative issue,
after long investigation



Timemap useful examples: GPS interference?



Link Kyiv Ukraine
To
Chisinau Moldova

Clocks still based on GPS
What's the matter?

Thank You!

Any questions?

https://gitlab.geant.org/gn4-3-wp6-t1-lola/timemap_public

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