

Timemap: GÉANT new latency and jitter monitoring tool, overview

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On behalf of GN4-3 WP6 T1 Team

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Public

www.geant.org

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



it may
Be nice

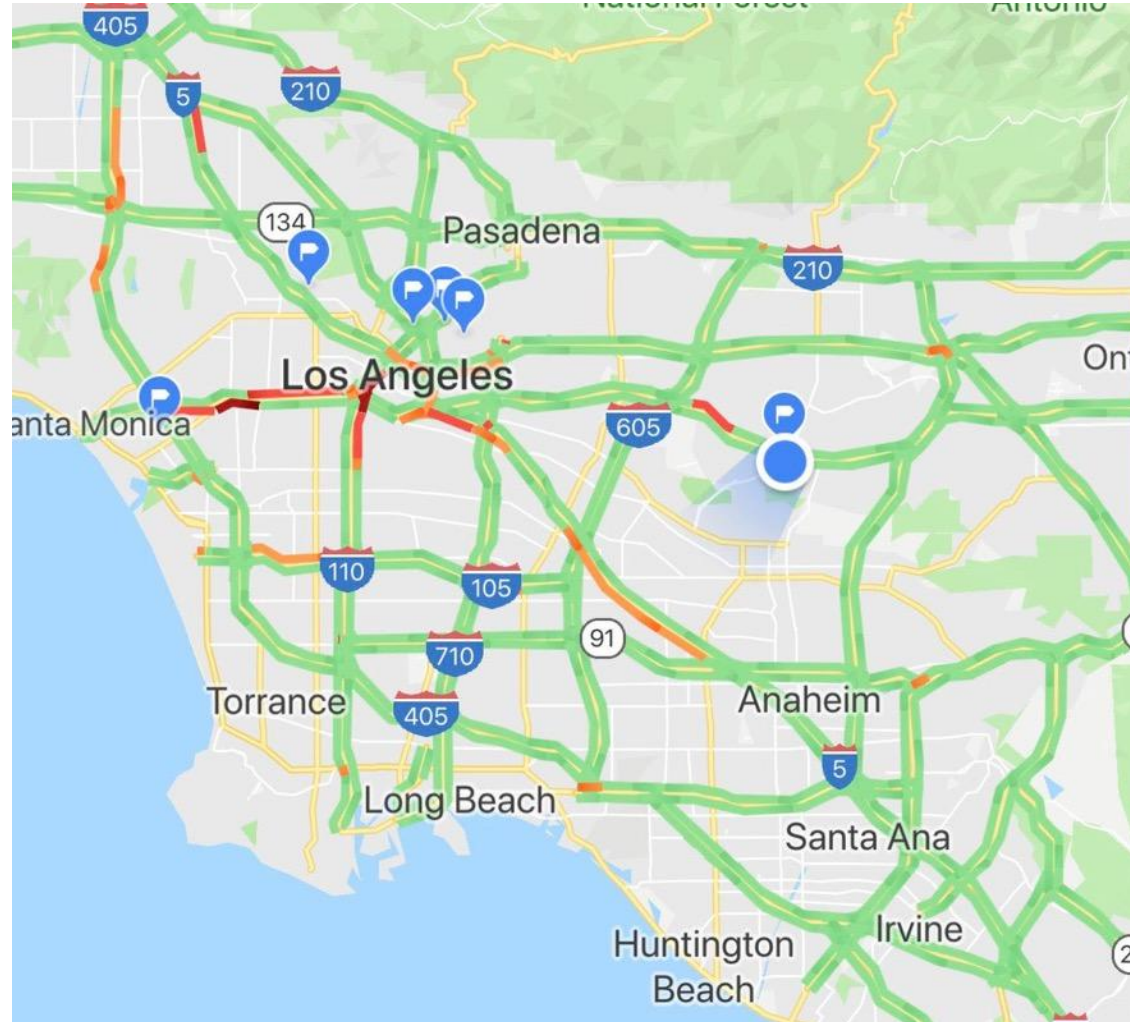
...

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



Or...
Lots of
Stop &
Go

Road report: on HWY 101 there are queues at the red spots

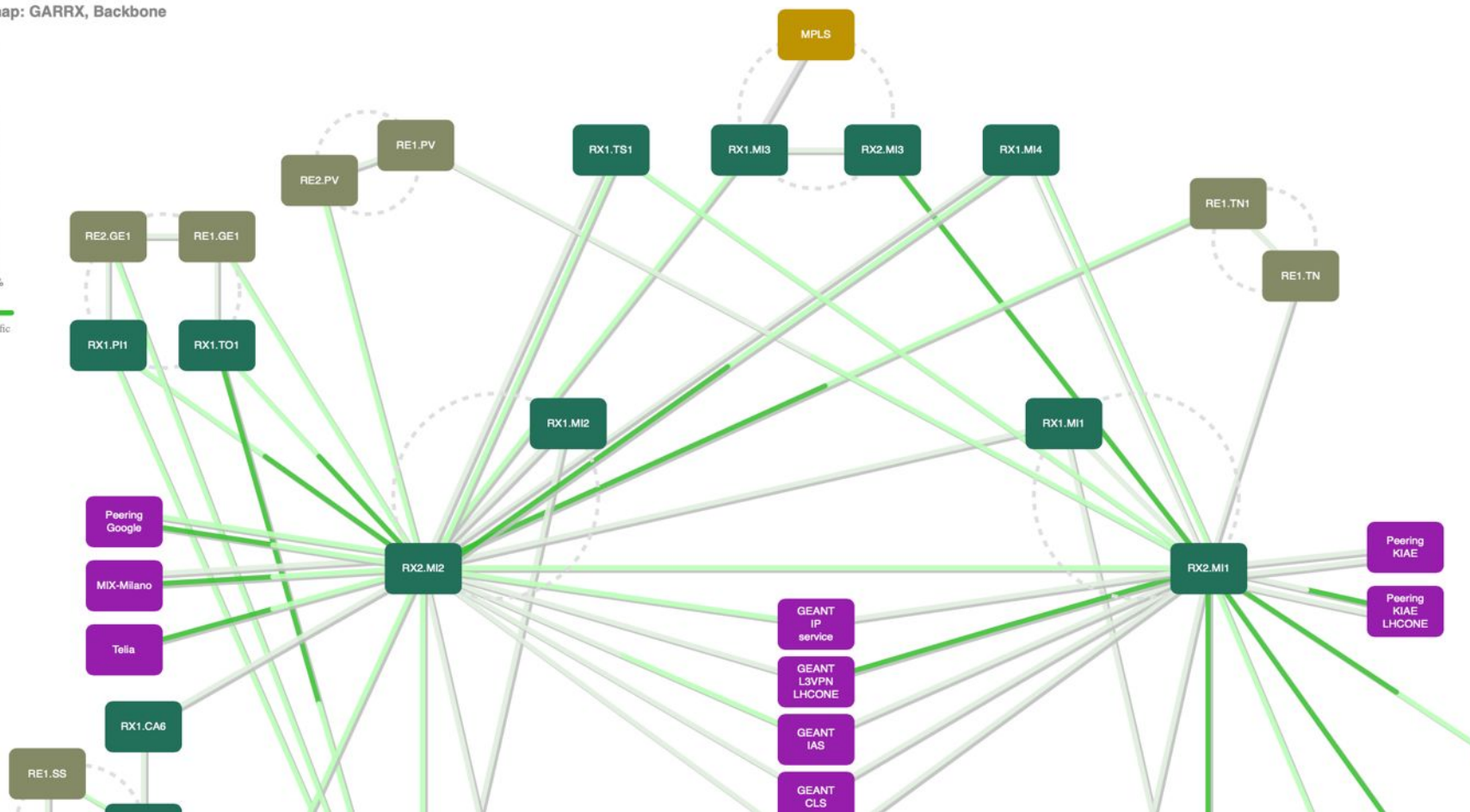
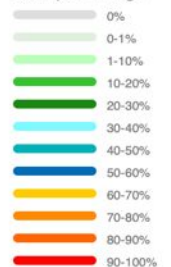


**And we
also like
to know
transit
times**

Current weather maps are useful for bulk data transfer!

GARR Weathermap: GARRX, Backbone

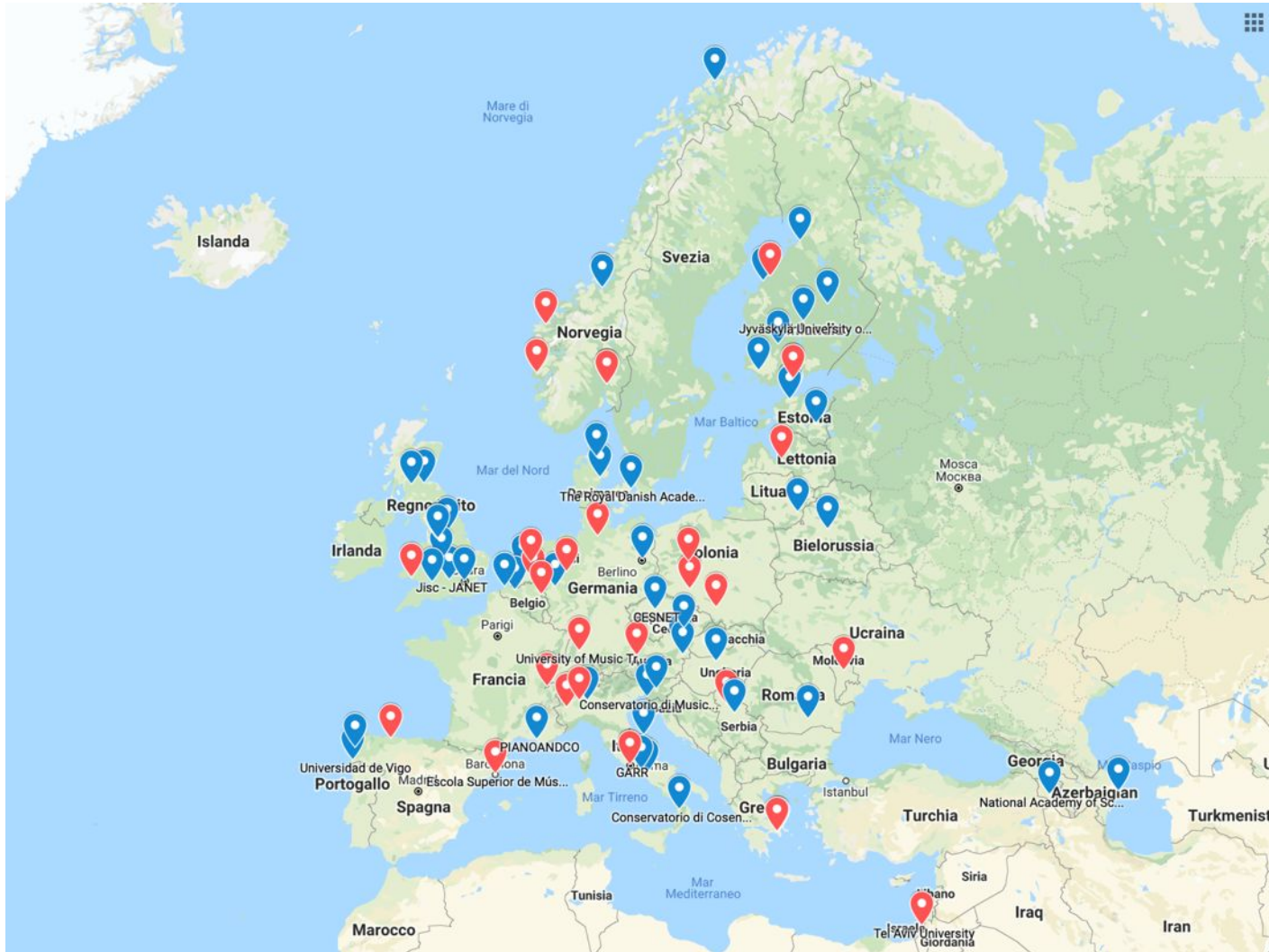
Load percentage



Can my application set the cruise control on and live happily?



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



• **LoLa**

+ 30%

Involved NRENs: do they all know about this?

Rhnet*
Jisc
Rediris
RENATER
BELnet
SURFnet
GARR
SWITCH
DFN
Uninett*
Sunet*
DeIC*
ACOnet
CESnet

PSNC
ARNES
AMRES
NIIF
RoEduNet
GRNET
Litnet
EEnet
FUNET*
BASNET
ASNET-AM
AZscienceNet
RENAM

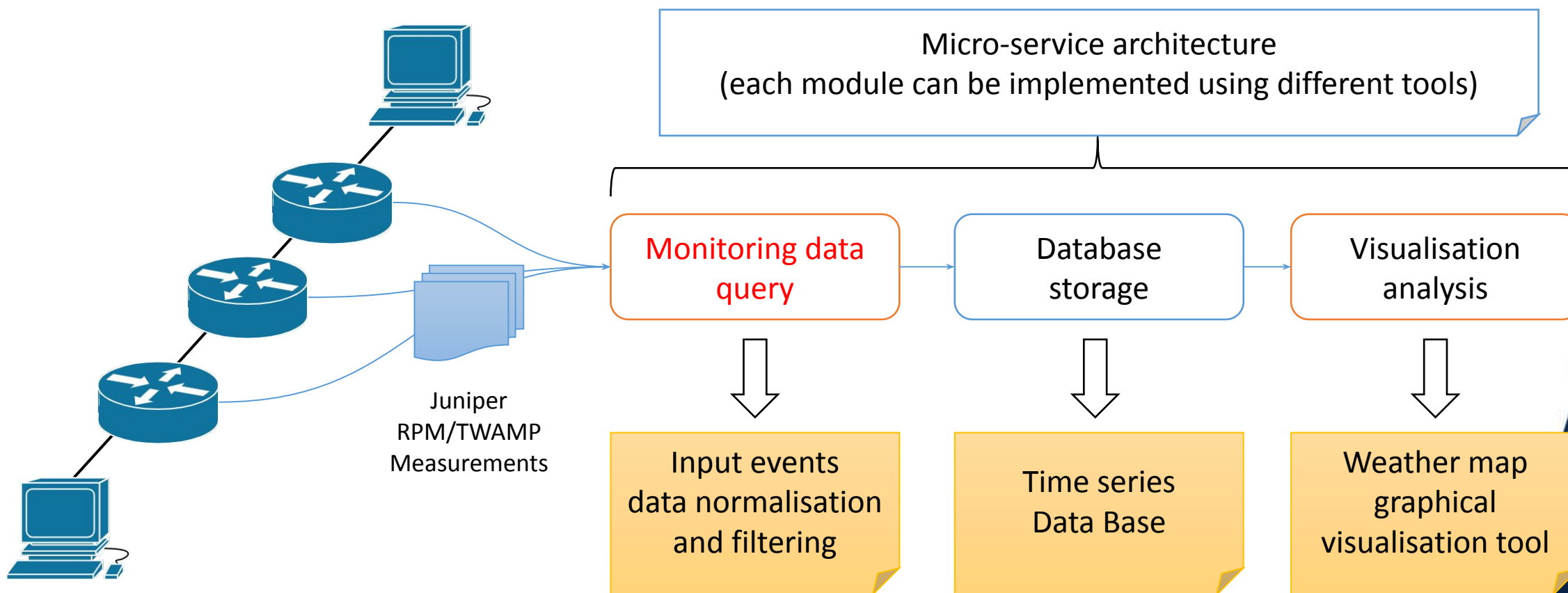
* Nordunet

LATNET
IUCCL



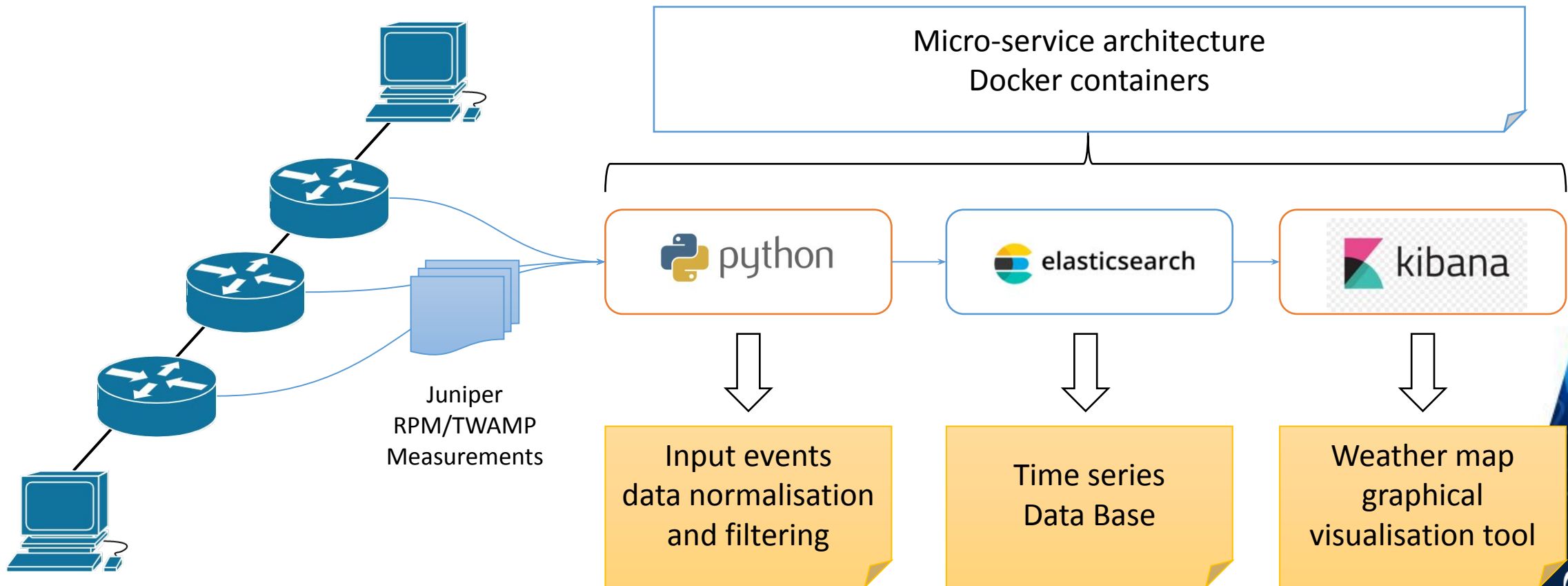
TIMEMAP system architecture – independent modules

- High level architecture design

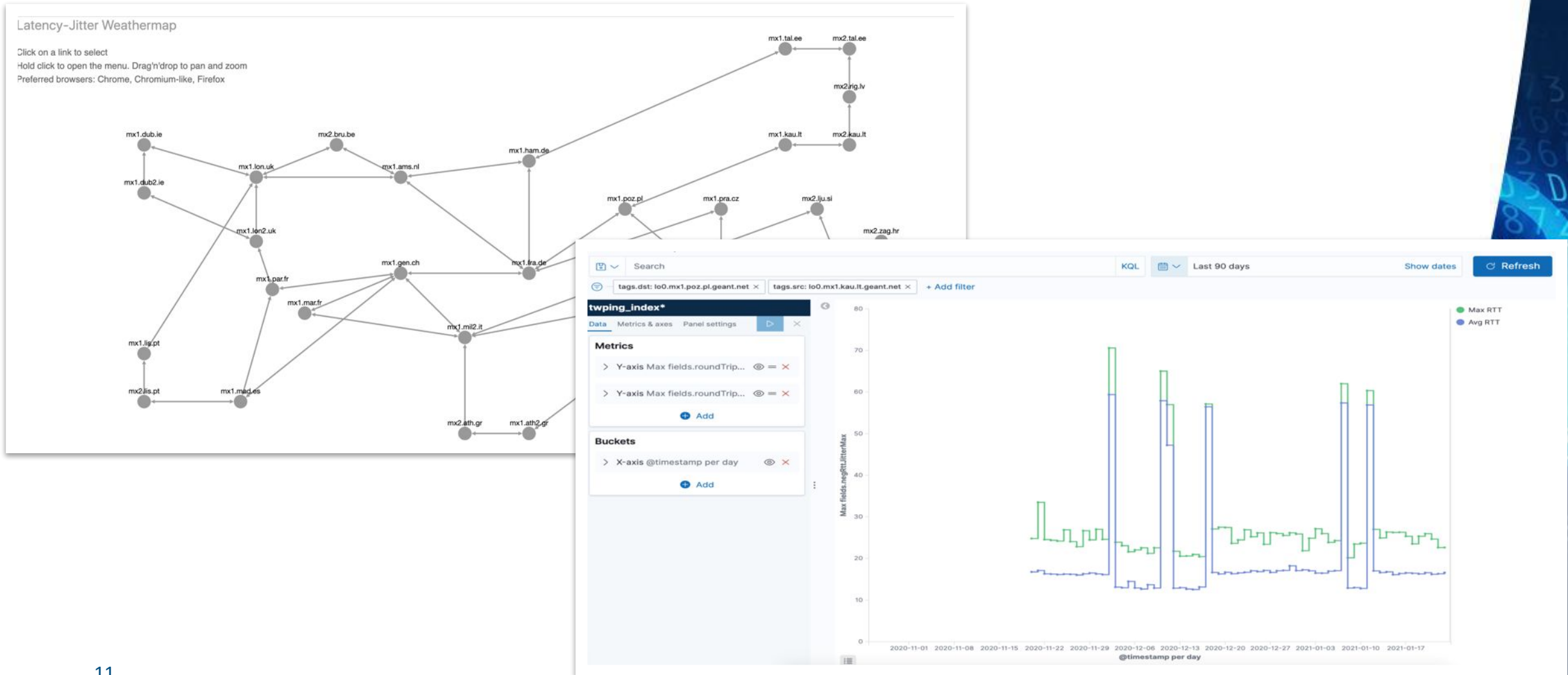


TIMEMAP system architecture – v0.x prototype

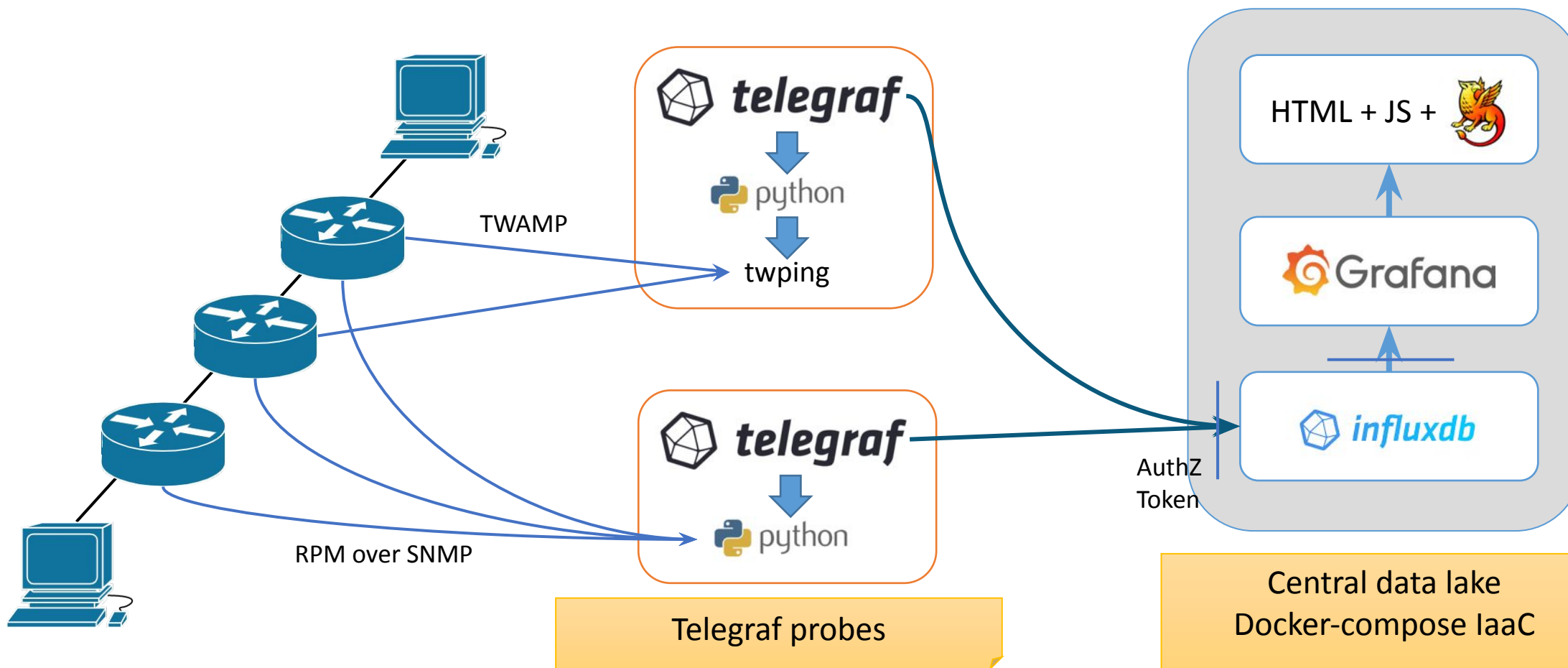
- High level architecture design



TIMEMAP – v0.x look & feel



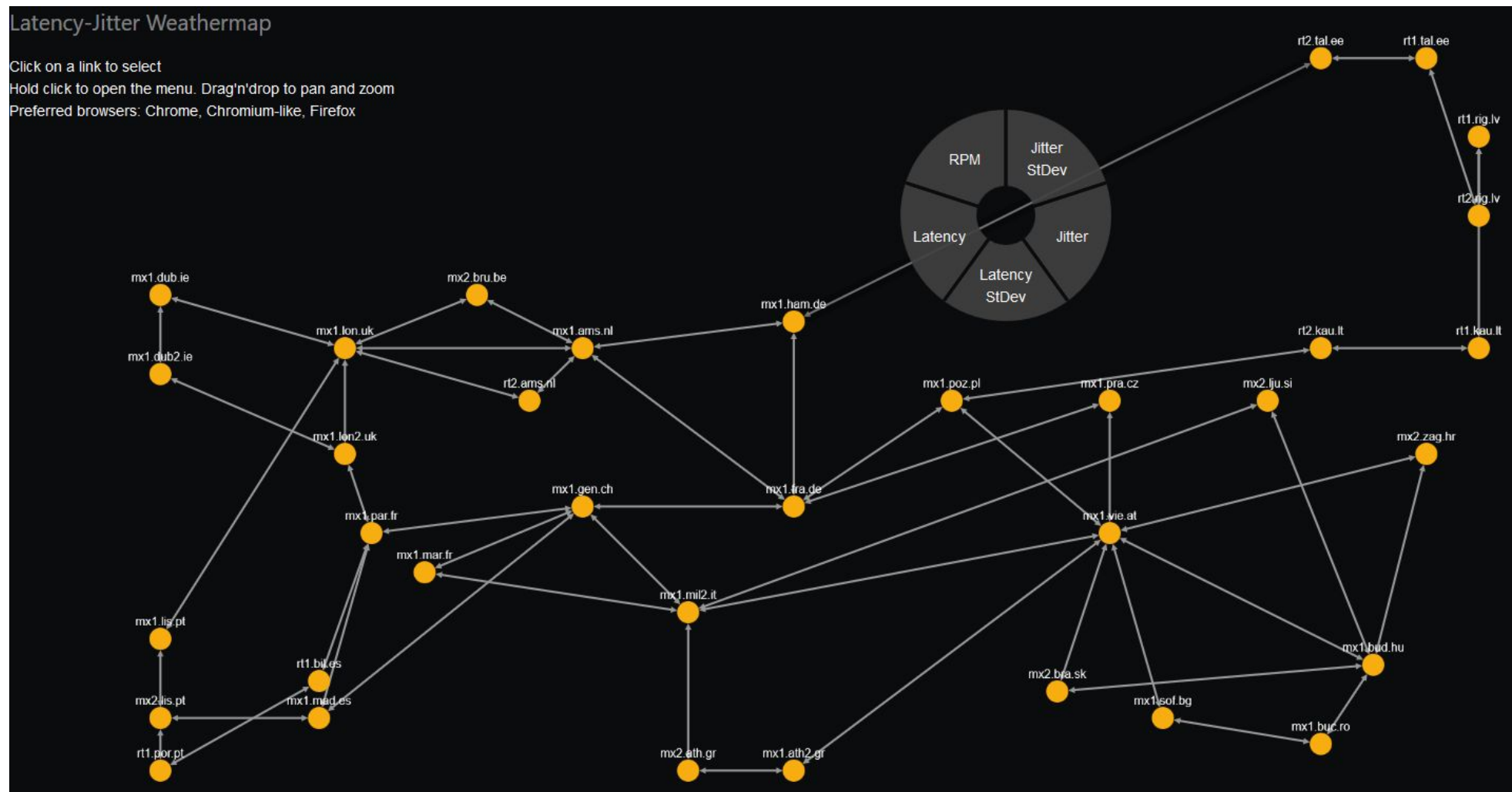
TIMEMAP v1 refactoring - Same architecture different blocks



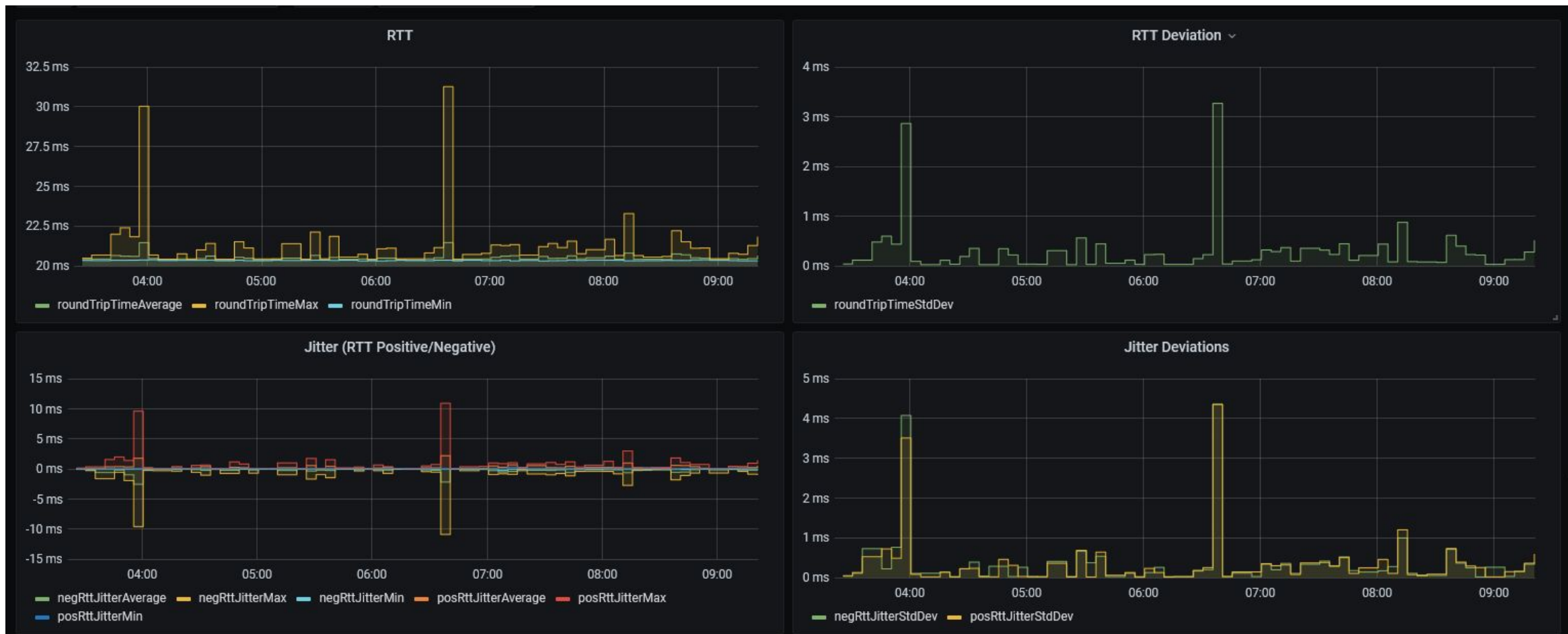
Timemap v.1 main features

- Latency & Jitter data collection
 - RPM/SNMP from all GÉANT routers
 - TWAMP from selected perfSONAR VMs
- Simplicity: almost zero footprint
 - Docker + standard Linux packages, minimal custom code
- Security and flexibility
 - eduGAIN federated authentication
 - RBAC and multi-tenancy in Grafana and InfluxDB
 - R/W authorization token for APIs

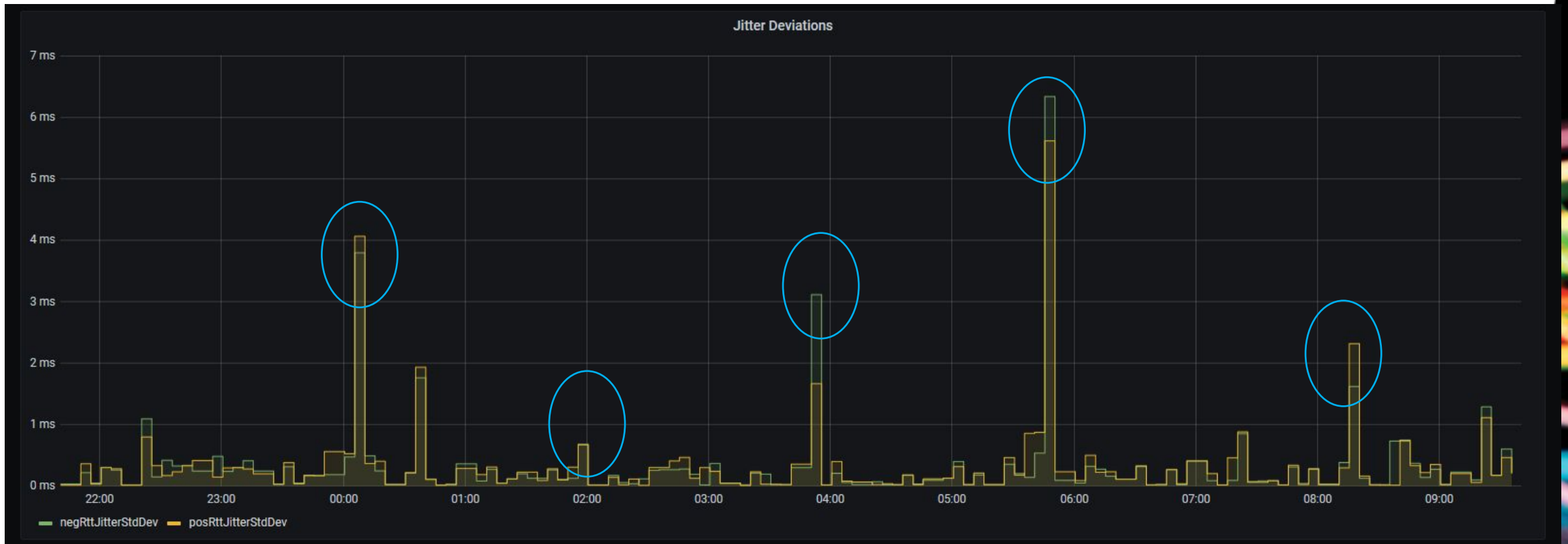
Timemap useful examples



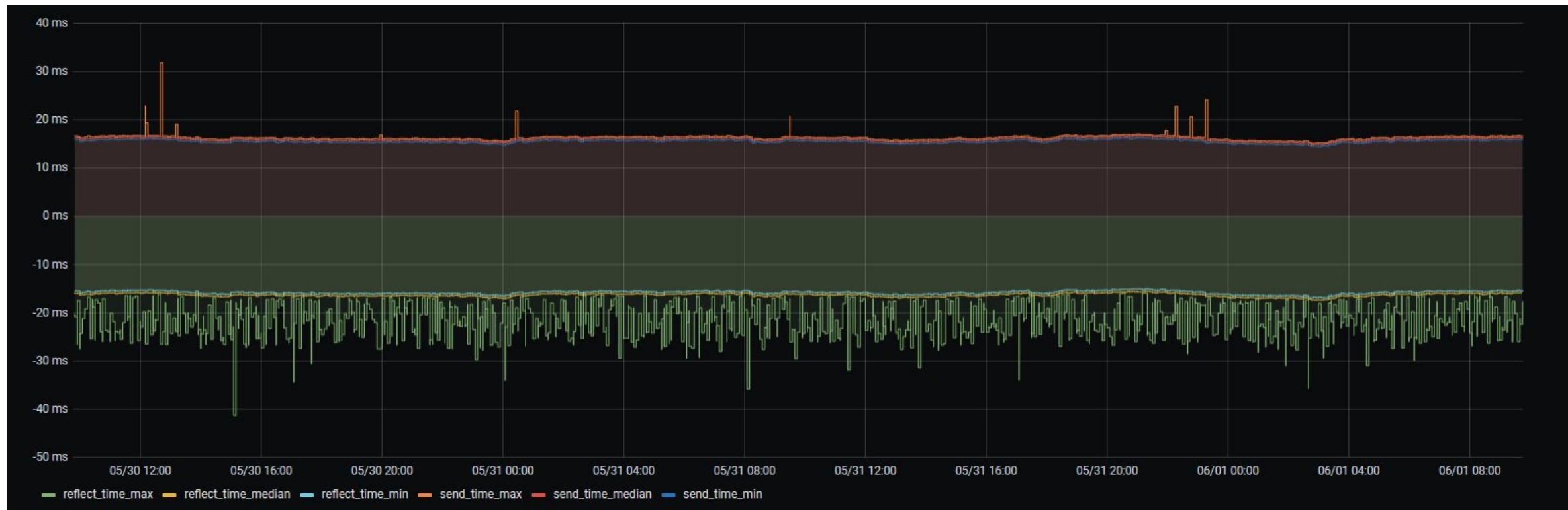
Timemap useful examples: rerouting and periodic events



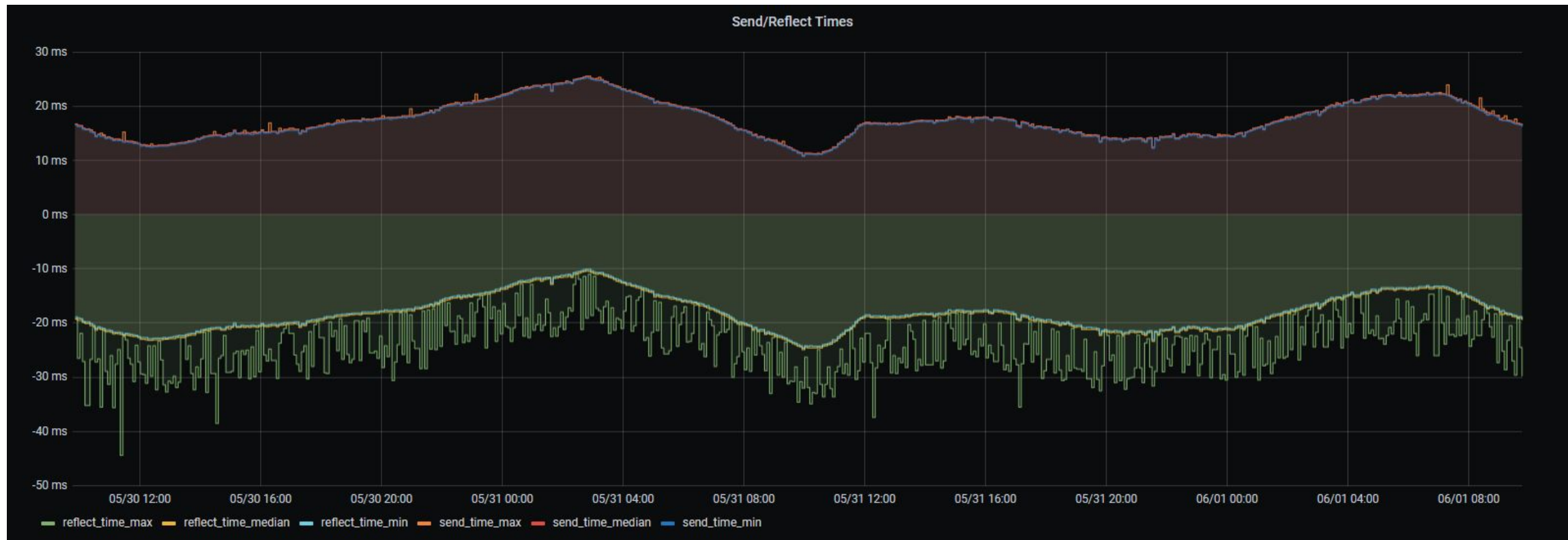
Timemap useful examples: rerouting and periodic events



Timemap useful examples: trends



Timemap useful examples: trends



Next steps

- Ready to use, hand over to GÉANT IT and Ops

<https://timemap.geant.org/>

- Documentation: user, admin, and customization guides
- Release the source code
- Looking to talk at NRENs interested in implementing something similar in their backbones, beyond WP6T1 members

Thank you

Any questions?

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