Timemap for latency and jitter monitoring

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On behalf of GN4-3 WP6 T1 Team

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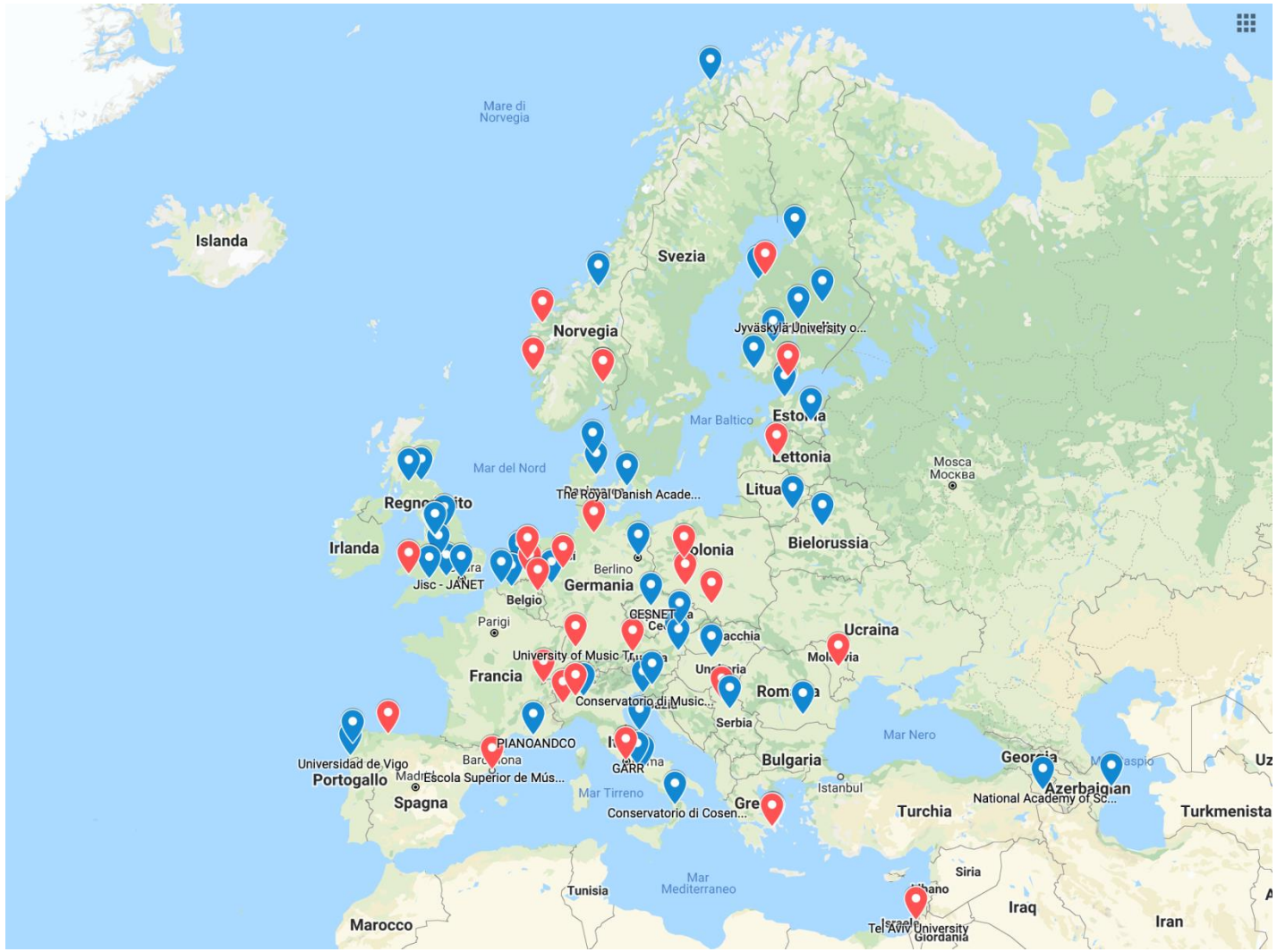
Public

www.geant.org

A map (incomplete) of Institutions using LoLa (January 2021)



- **LoLa**

+ 30%

Involved NRENs: do they all know about this?

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

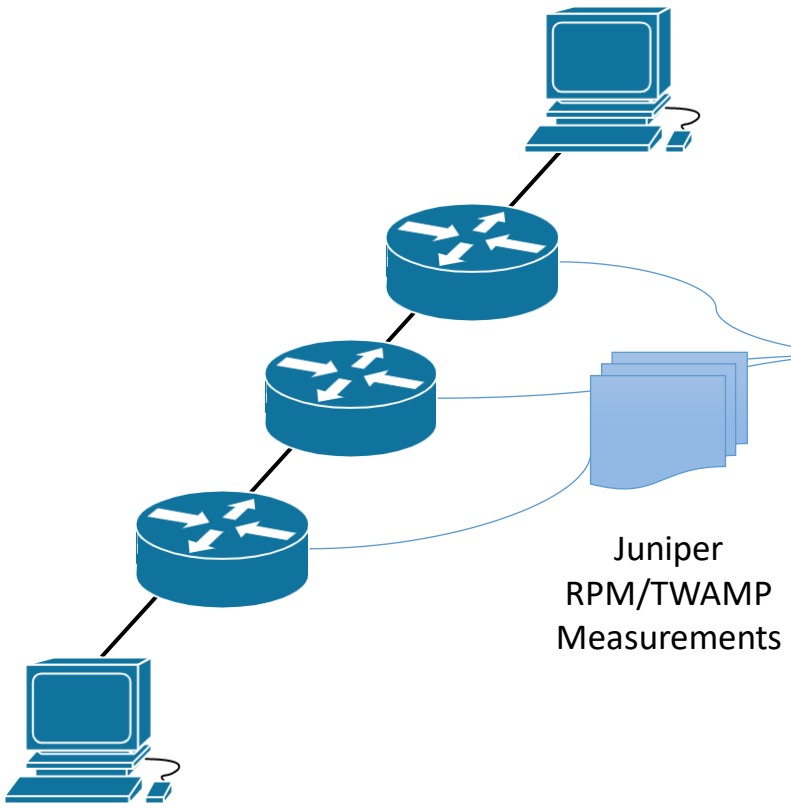
PSNC
ARNES
AMRES
NIIF
RoEduNet
GRNET
Litnet
EEnet
FUNET*
BASNET
ASNET-AM
AZscienceNet
RENAM

* Nordunet

LATNET
IUCCL

TIMEMAP system architecture – independent modules

- High level architecture design



Juniper
RPM/TWAMP
Measurements

Micro-service architecture
(each module can be implemented using different tools)

Monitoring data query → Database storage → Visualisation analysis

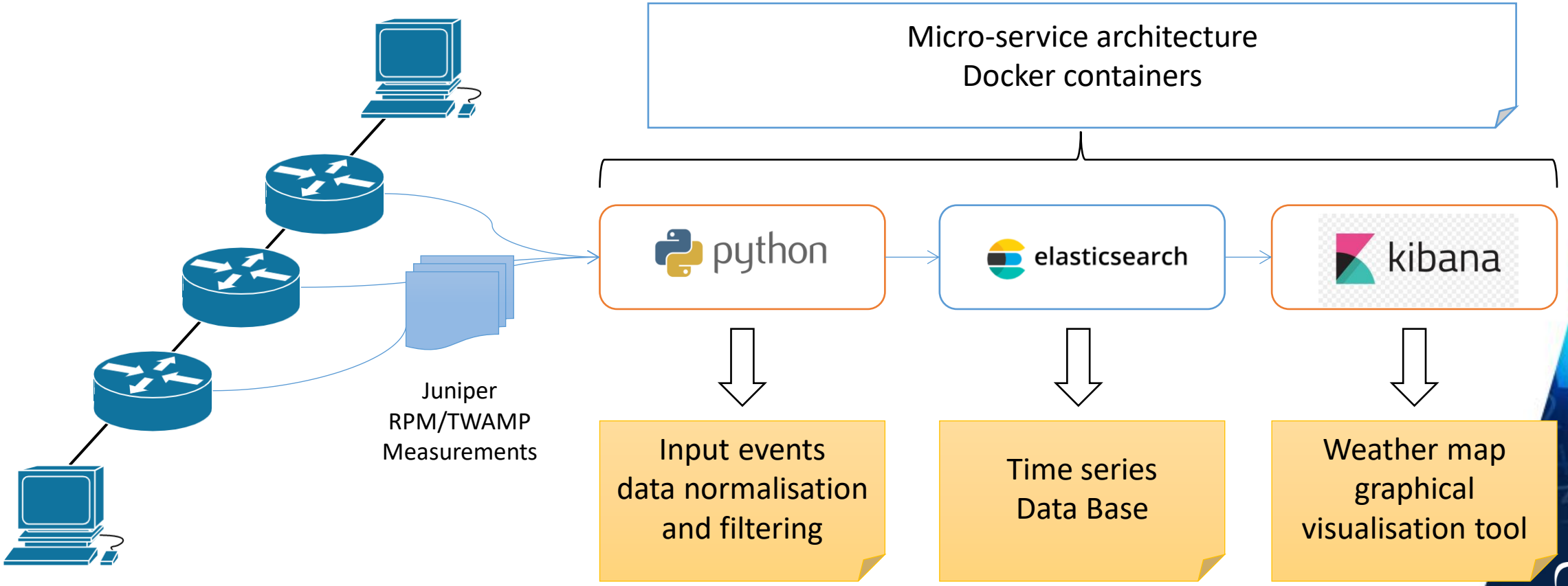
Input events data normalisation and filtering

Time series Data Base

Weather map graphical visualisation tool

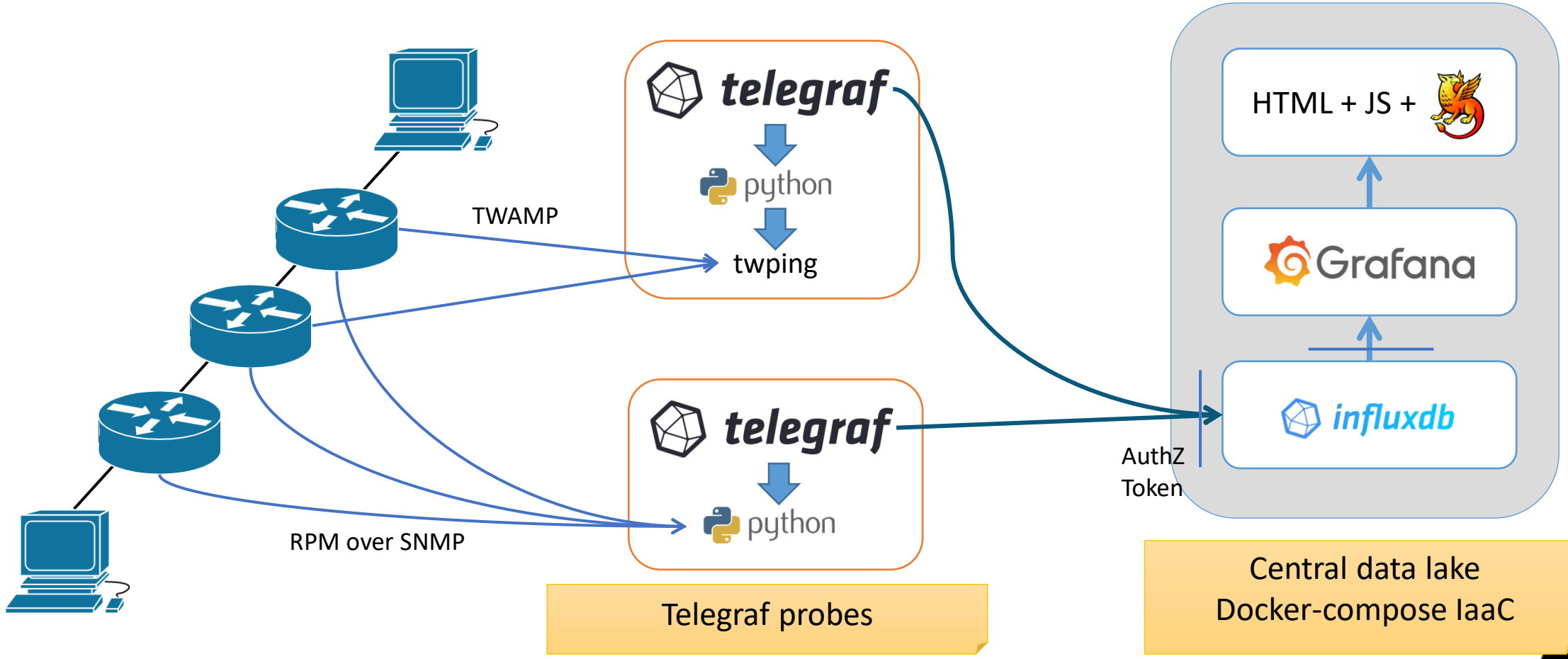
TIMEMAP system architecture – v0.x prototype

- 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 GÈANT routers
  - TWAMP from perfSONAR VM @ JISC w/ routers subset
- Simplicity: Docker + standard Linux packages, almost zero custom code
- Security and flexibility
  - eduGAIN federated authentication
  - RBAC and multi-tenancy in Grafana and InfluxDB
  - R/W authorization token for APIs

Next steps

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

https://timemap.geant.org/

- Documentation: user, admin, and customisation 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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