XIFI Infrastruktúrák

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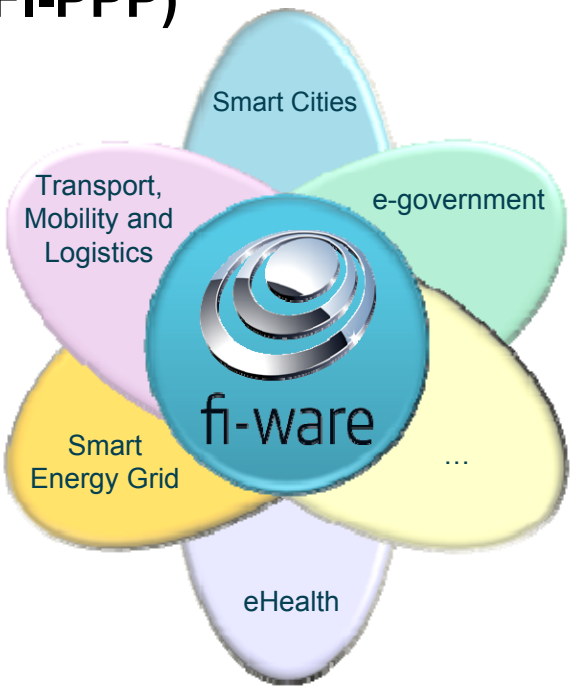
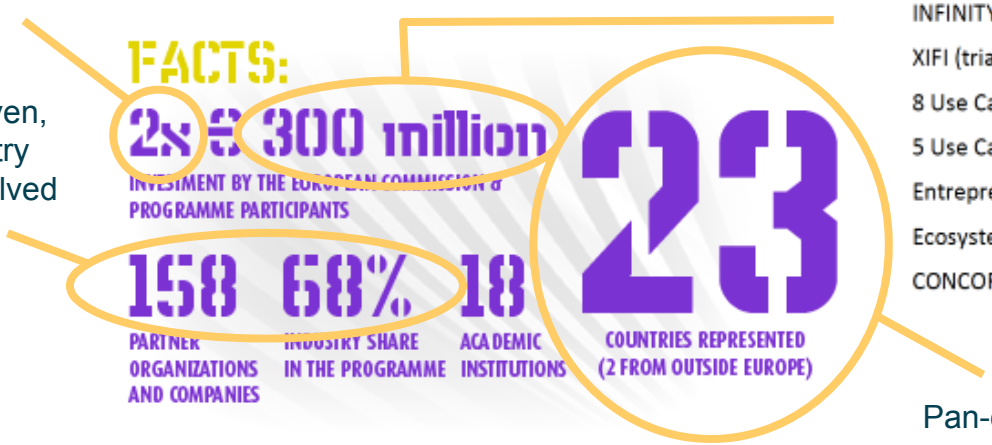
The Future Internet Public-Private Partnership (FI-PPP)

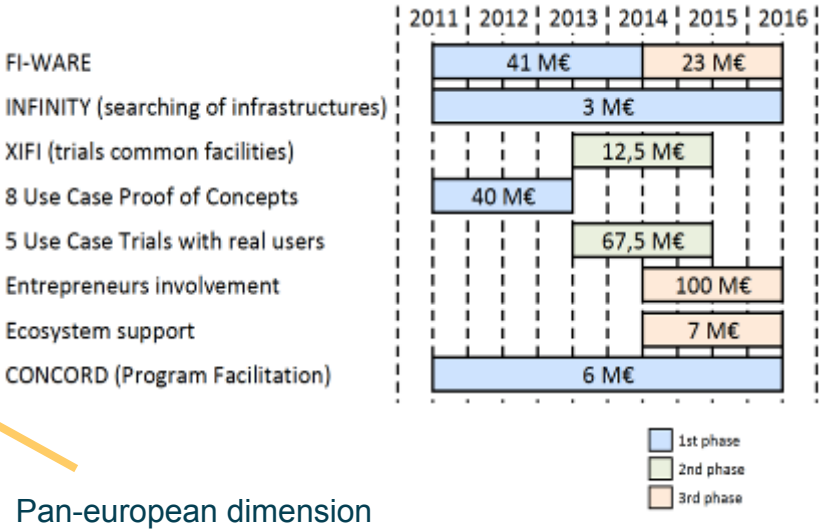
- Goal: capture new opportunities derived from Future Internet technology trends
  - Broadband connectivity, IoT, Cloud, Big Data, etc
- Approach: boost innovation by fostering industry-driven ecosystem
  - Generic Platform (FI-WARE)
  - Industry-specific platforms and trials ('Use-Cases')
  - Broader community of developers and entrepreneurs



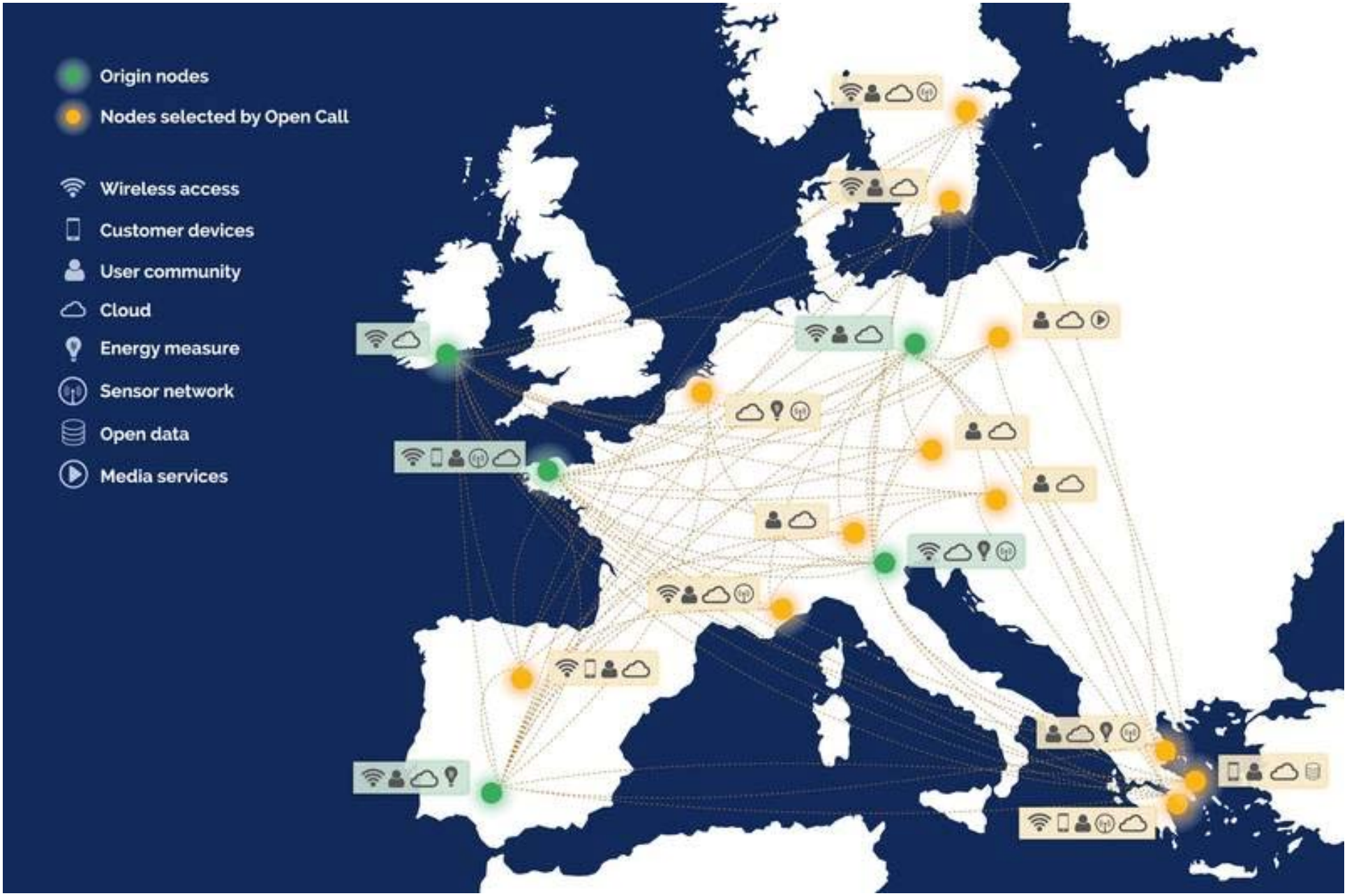
EC provides half of the funding:

Industry driven, major industry players involved

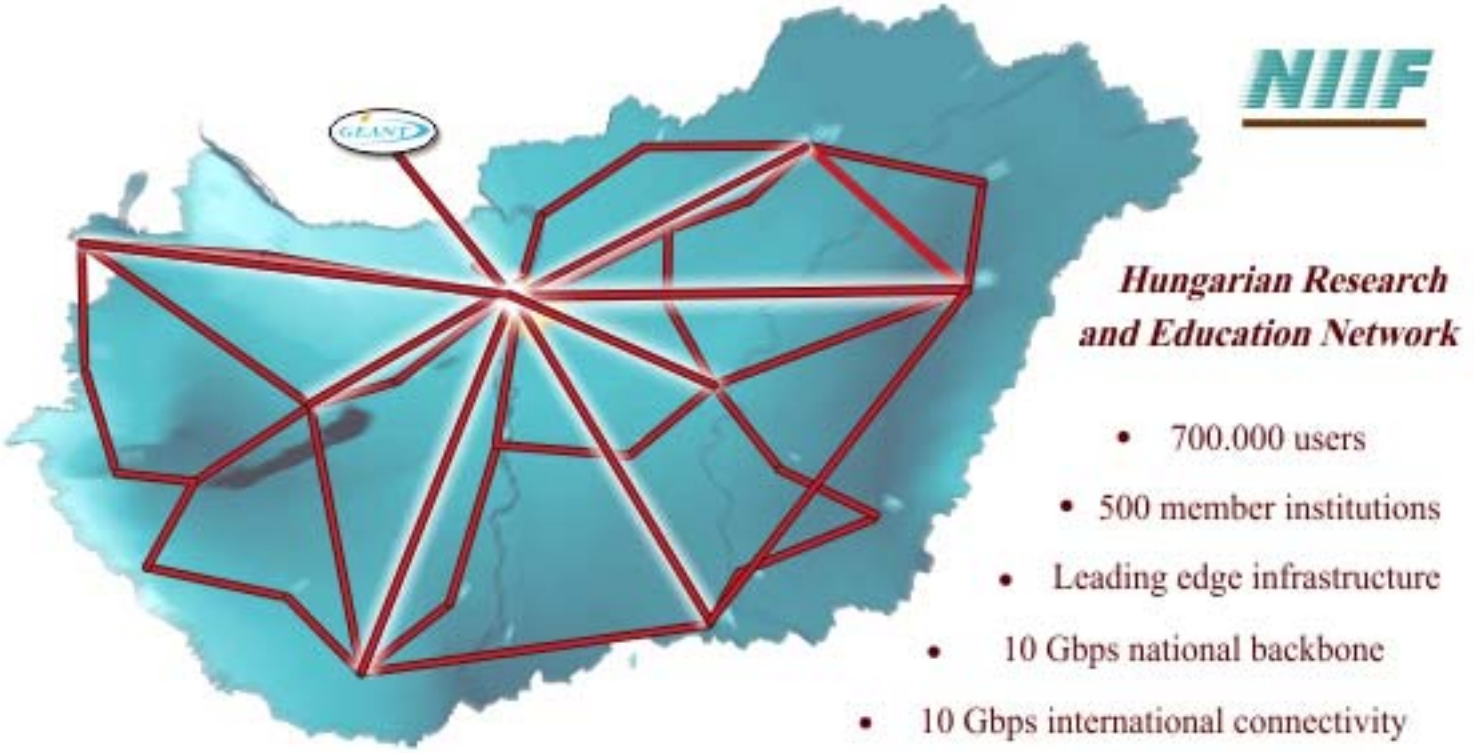




Pan-european dimension


Origin nodes
Nodes selected by Open Call
Wireless access
Customer devices
User community
Cloud
Energy measure
Sensor network
Open data
Media services

Hungarian NREN

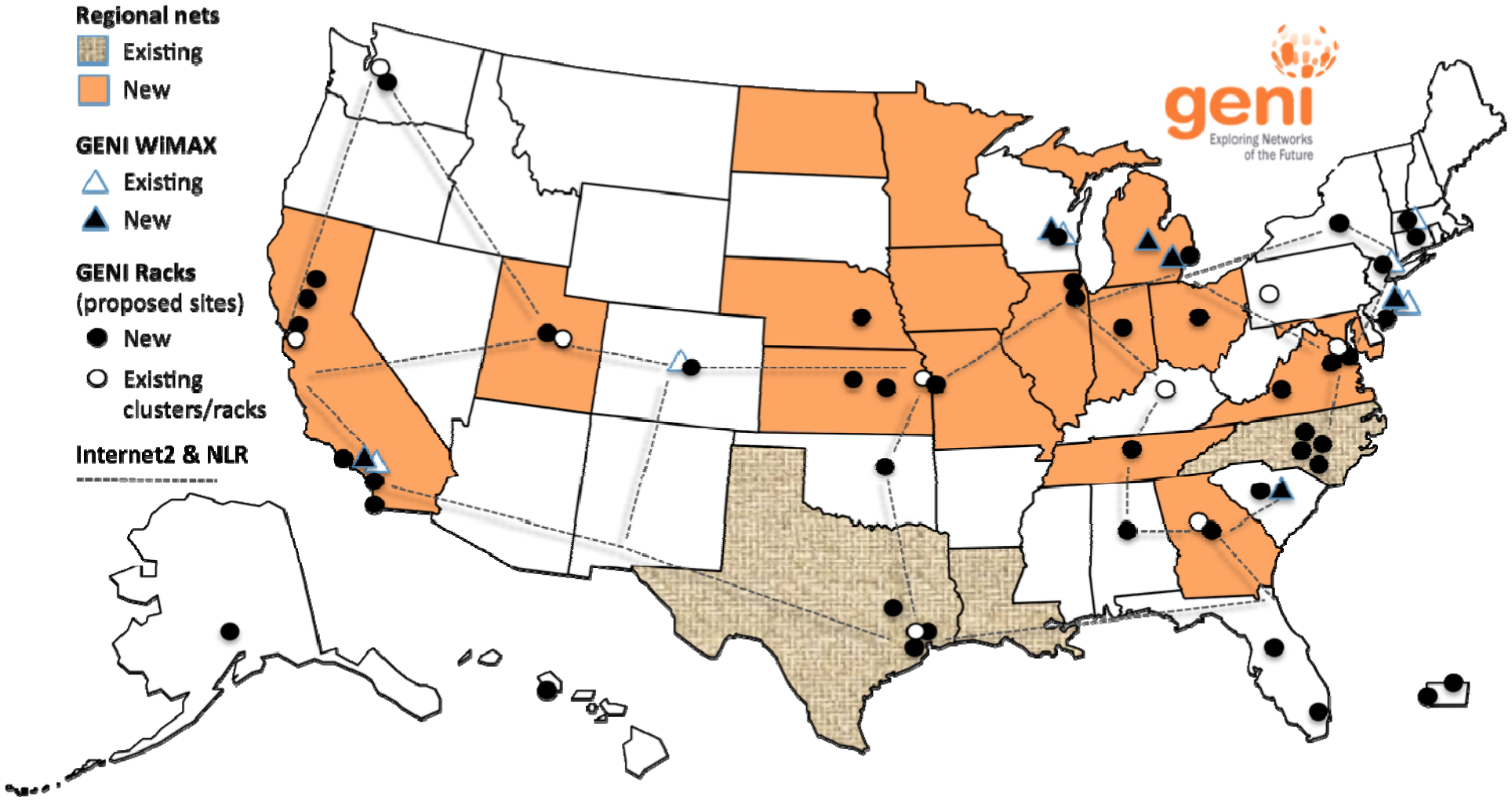


- Evergrow IP (2004-2007) with SICS and Ericsson AB (500 kEUR)
- HEHOK Project (2004-2007) with Ericsson and HSNLab (~1 MEUR)
- NAP Project (2005-2011) with Ericsson support (~4 MEUR) in collaboration with Collegium Budapest
- MOMENT STREP (2008-2010) with SICS and Ericsson AB (250 kEUR)
- OneLab2 (2008-2010) with Ericsson Germany and Ericsson Hungary (125 kEUR)
- NOVI STREP (2010-2013) with OneLab and GEANT members (240 kEUR)
- OpenLab IP (2011-2014) (85 kEUR)
- EIT KIC ICTLabs FITTING (2013-2014) (200 kEUR)
- EU Structural Funds Geosocial Networks (2013-2014) (300 kEUR)

www.xipi.eu •

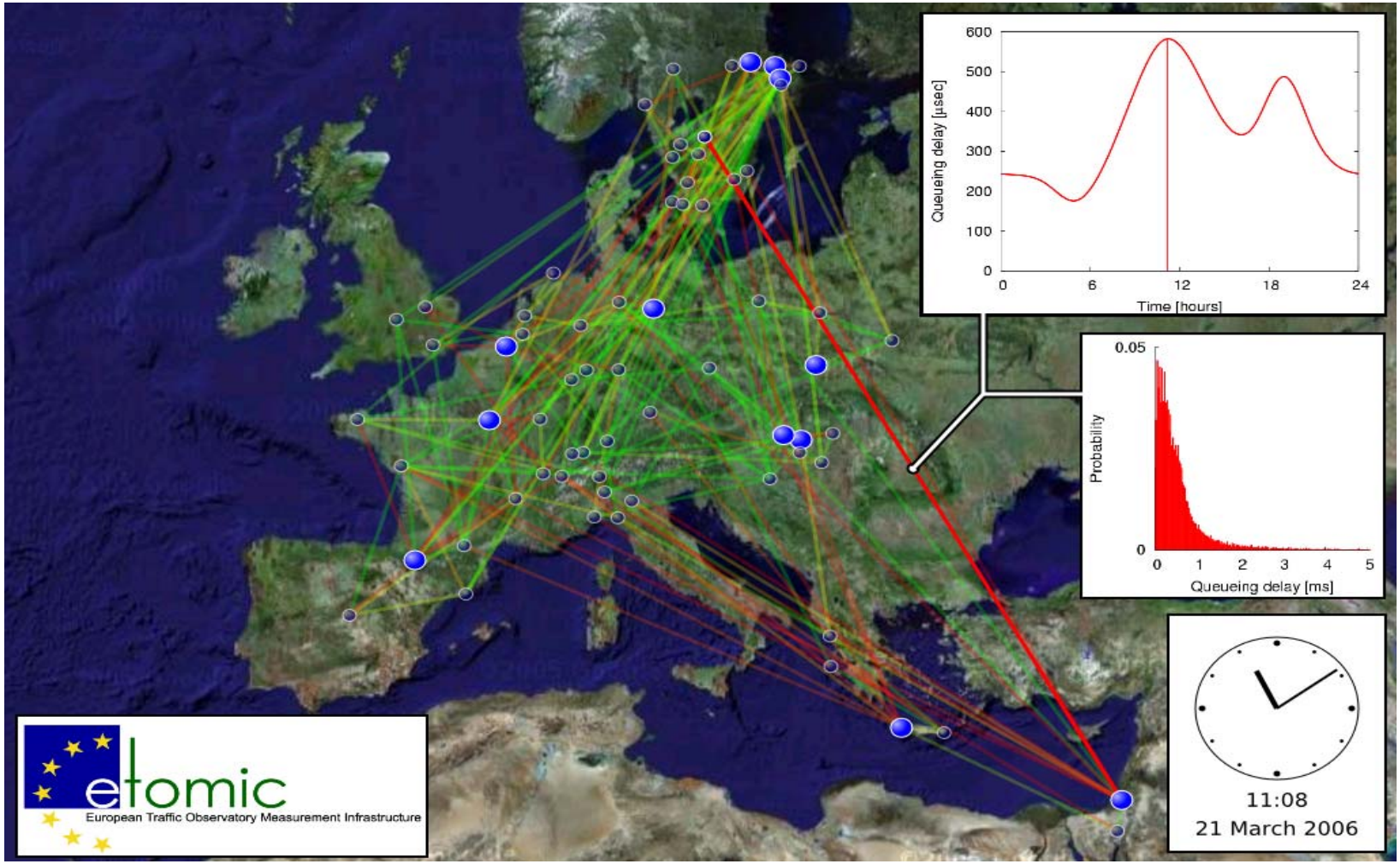
A CLEAN SLATE

GENI (2005 -


Regional nets
Existing
New
GENI WiMAX
Existing
New
GENI Racks
(proposed sites)
New
Existing
clusters/racks
Internet2 & NLR
geni
Exploring Networks
of the Future

Etomic/Sonoma

etomic
European Traffic Observatory Measurement Infrastructure



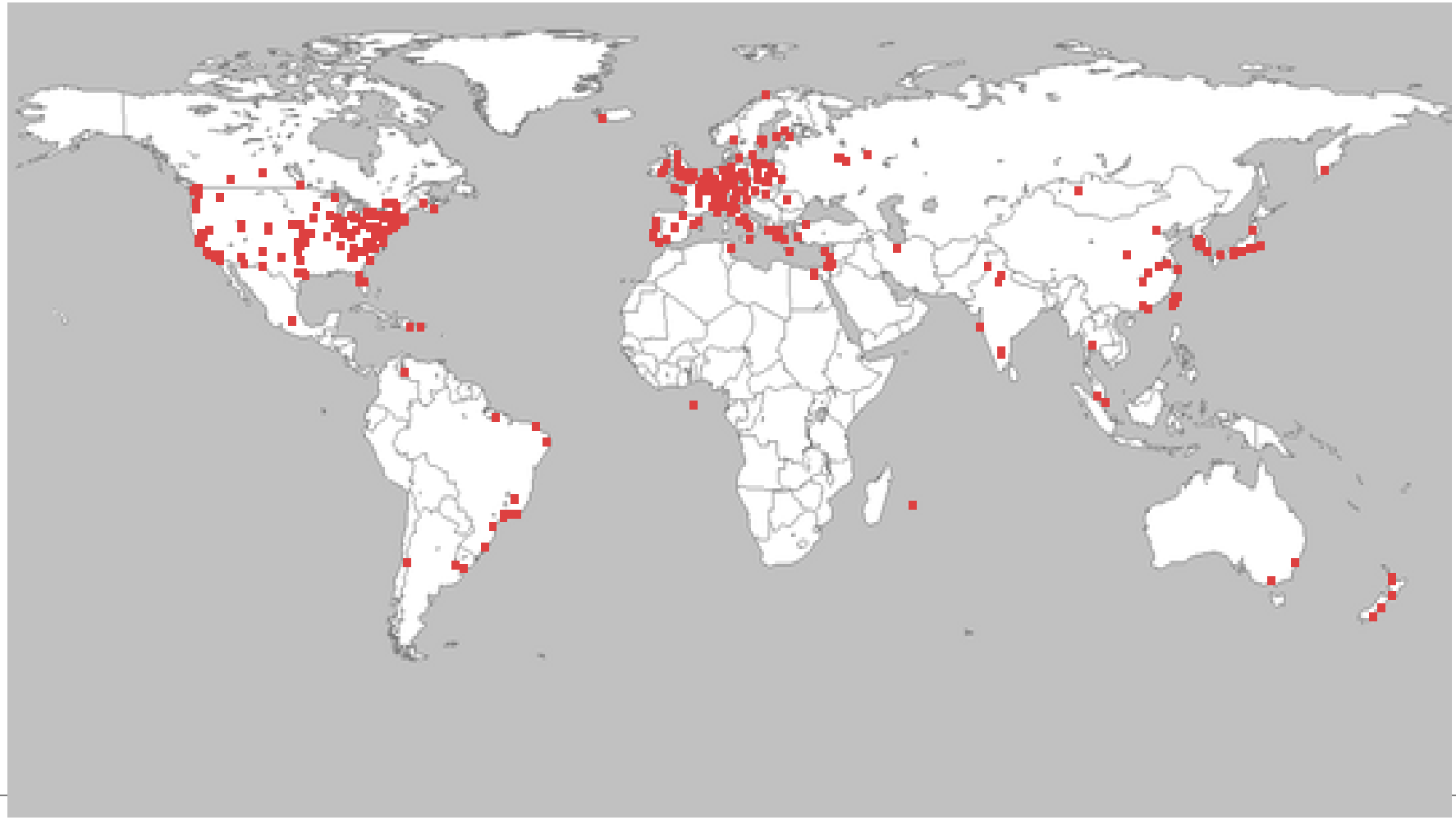
The GENI connection

GENI Component Reference Design ***3 November 2006 (Version 0.76)***

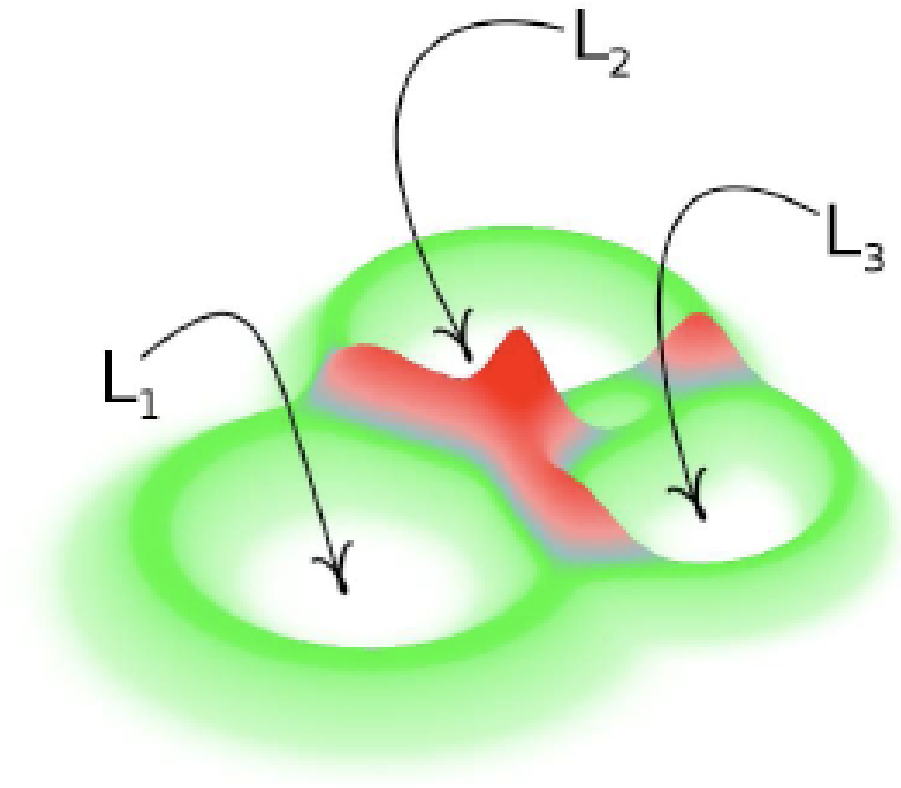
As an example, the GENI edge server components can incorporate an *optional* network instrumentation element (e.g., Endace DAG 1GigE card). This type of hardware -- already in use by the ETOMIC subproject of the EU's EVERGROW Integrated project -- would let researchers carry out network measurements between geographically distributed sites with high temporal resolution (~10 nanoseconds) that is globally synchronized. It would provide GENI with a high resolution, spatially extended dynamic picture of fast changes in network traffic, thereby open up new kinds of network tomography.

SPOTTER GEOLOCALIZATION

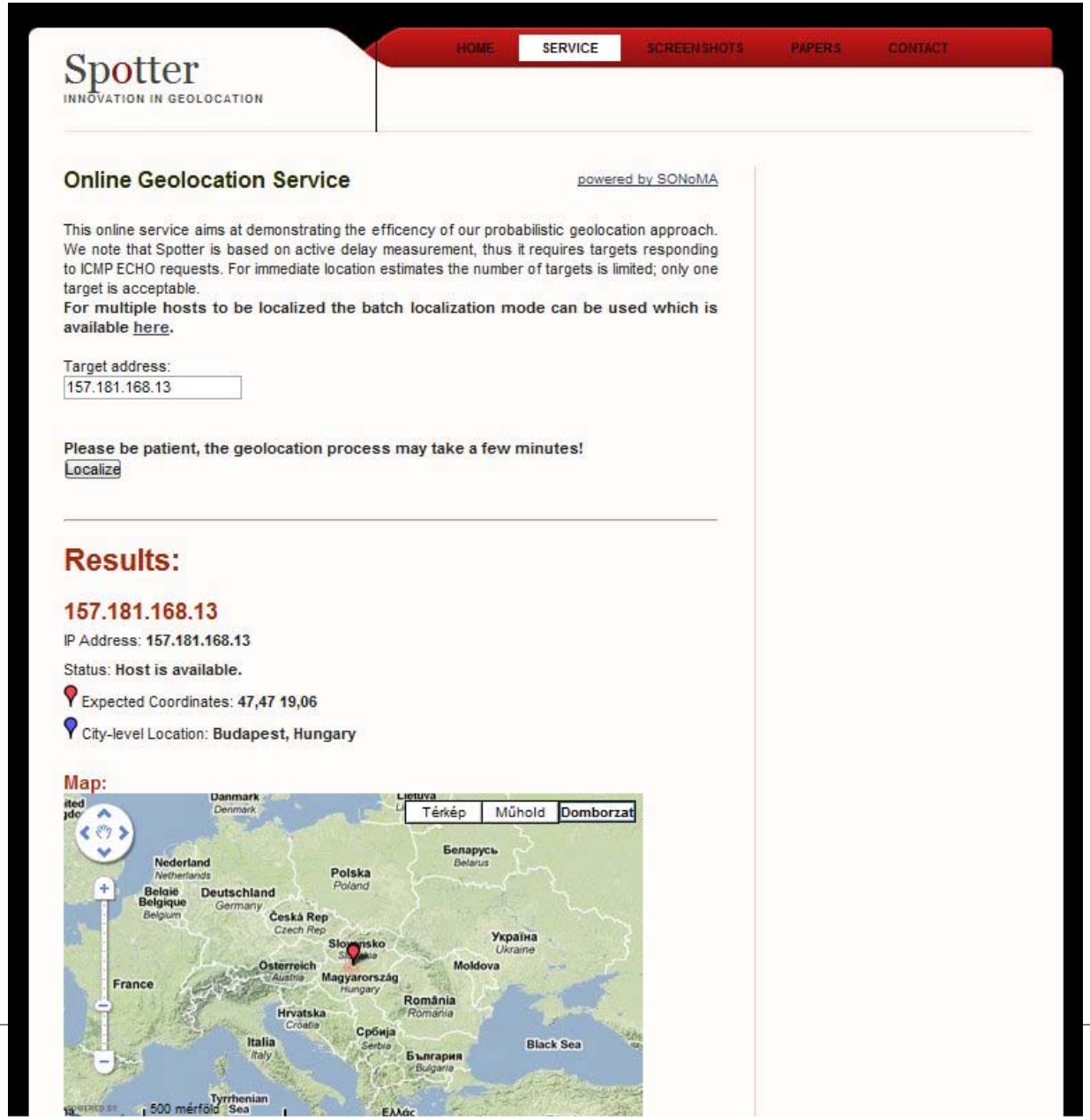
PlanetLab: experimental testbed
“Experimental Computer Science”



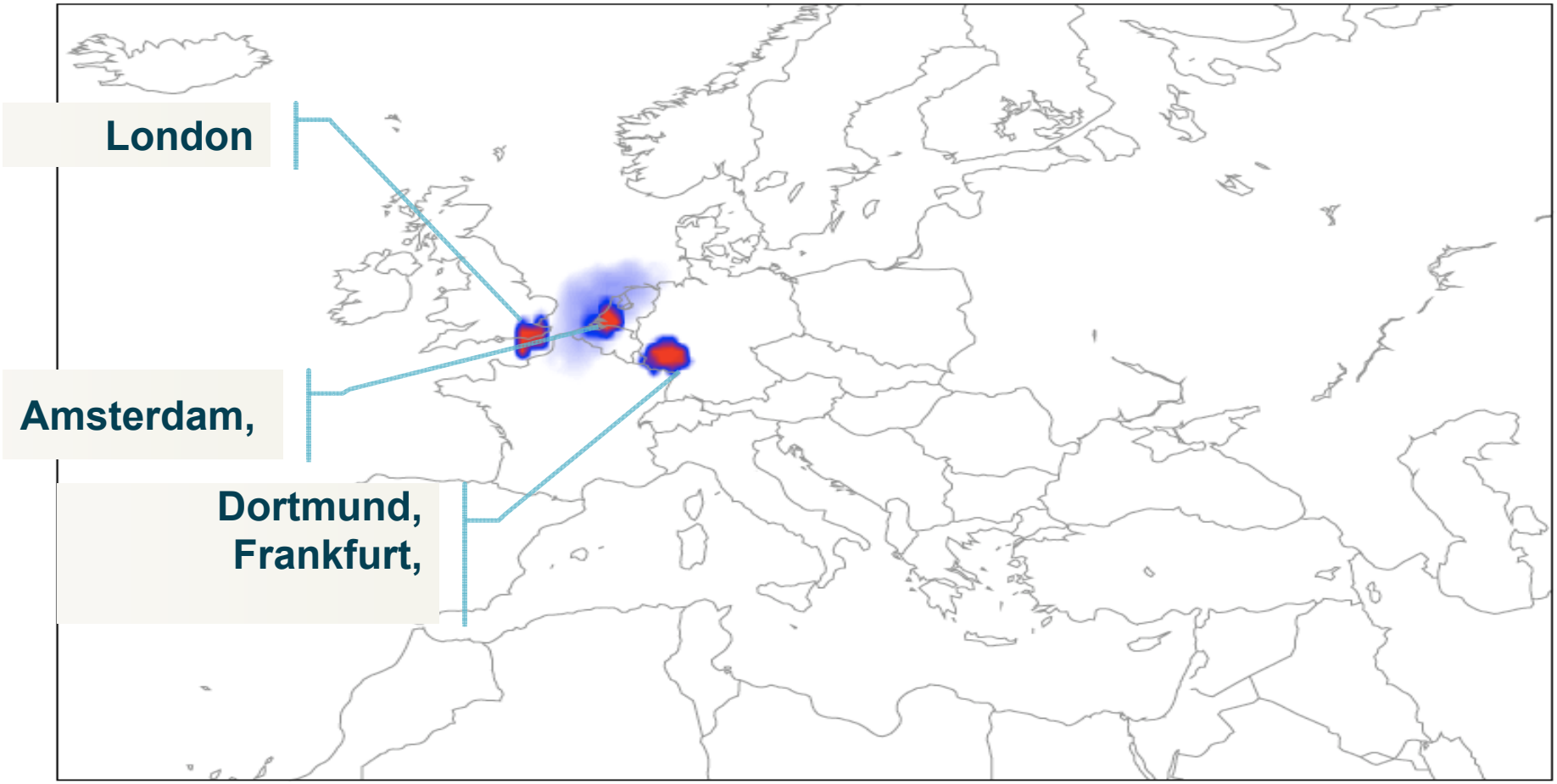
Location of a node from three RTT measurements



http://spotter.etomic.org

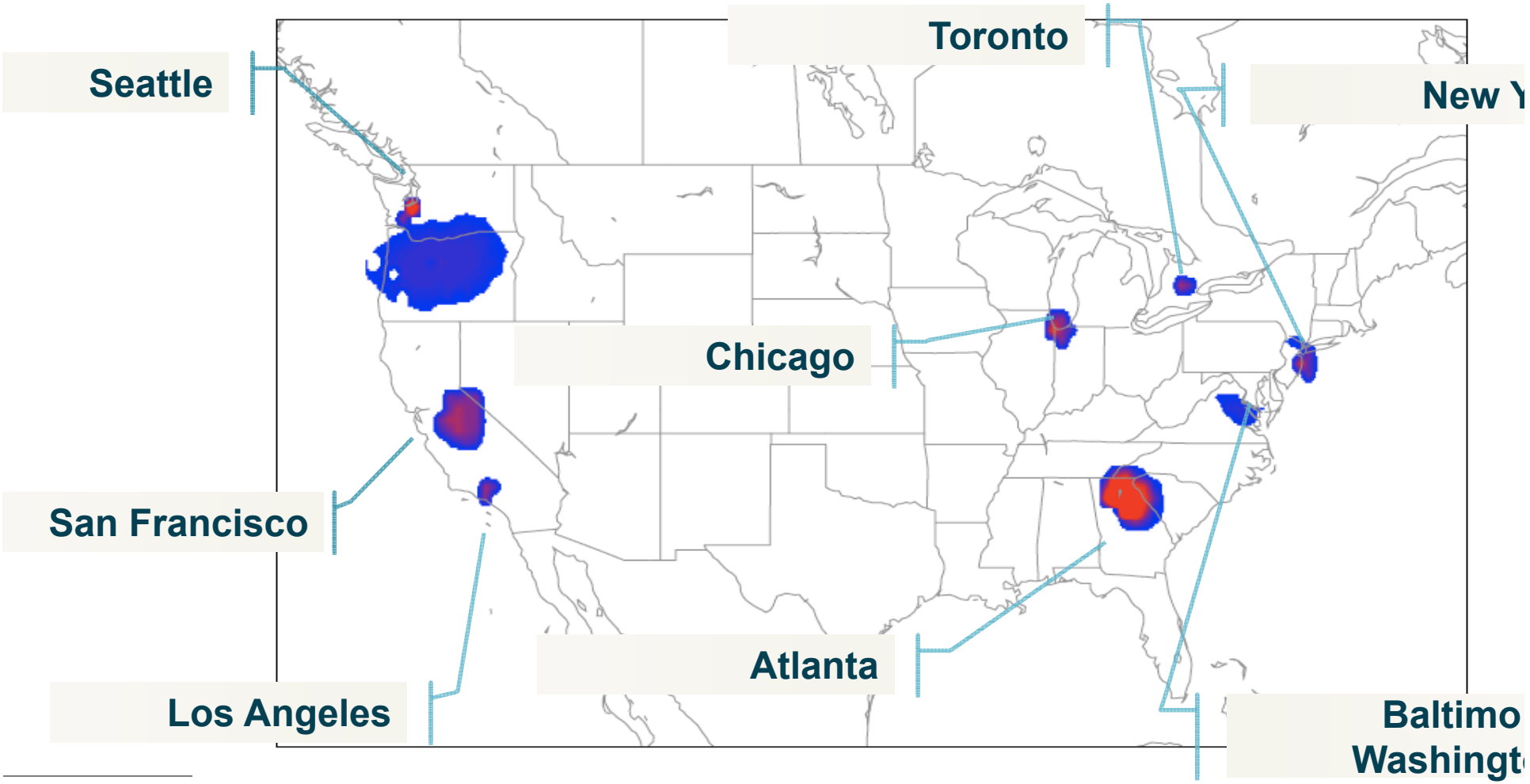


You Tube in Europe



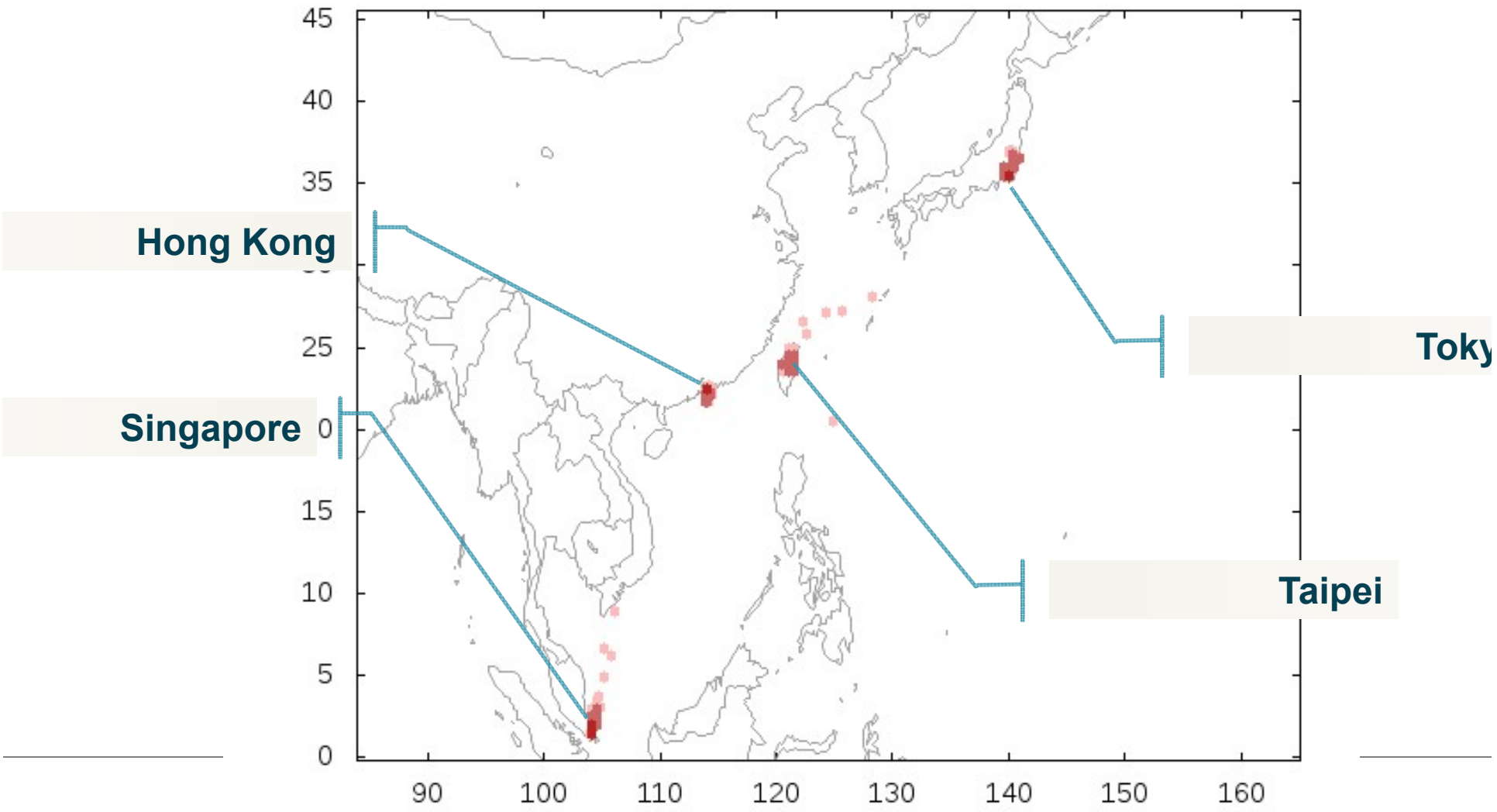
(b) YouTube sites in Europe

You Tube in North America



(a) YouTube sites in North America

You Tube in Asia



TIME
Do You Want to Know a Secret?
Why WikiLeaks' Julian Assange has so many of them
BY MASSIMO CALABRESI
And why it hasn't hurt America
BY FAREED ZAKARIA

wikileaks.org --› wikileaks.ch

Spotter
INNOVATION IN GEOLOCATION

HOME | SERVICE | SCREENSHOTS | PAPERS | CONTACT

Online Geolocation Service

powered by SONoMA

This online service aims at demonstrating the efficency of our probabilistic geolocation approach. We note that Spotter is based on active delay measurement, thus it requires targets responding to ICMP ECHO requests. For immediate location estimates the number of targets is limited; only one target is acceptable.
For multiple hosts to be localized the batch localization mode can be used which is available here.

Target address:
157.181.168.13

Please be patient, the geolocation process may take a few minutes!
Localize

Results:

157.181.168.13

IP Address: **157.181.168.13**

Status: **Host is available.**

Expected Coordinates: **47,47 19,06**

City-level Location: **Budapest, Hungary**

Map:

Where is the WikiLeaks site (46.59.1.2)?

Spotter

Results:

wikileaks.ch

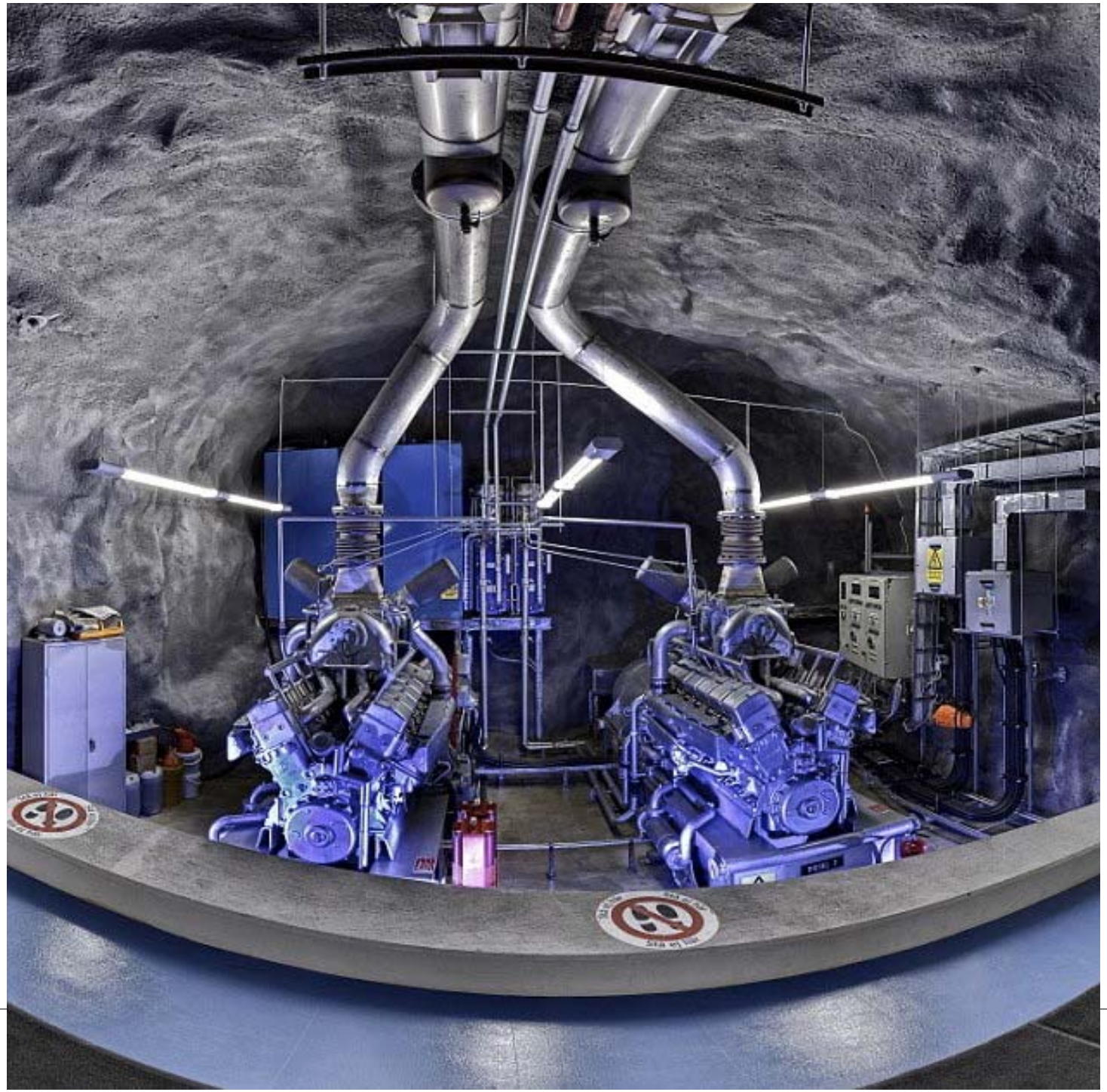
IP Address: **46.59.1.2**

Status: **Host is available.**

Expected Coordinates: **59,35 17,94**

City-level Location: **Stockholm, Sweden**

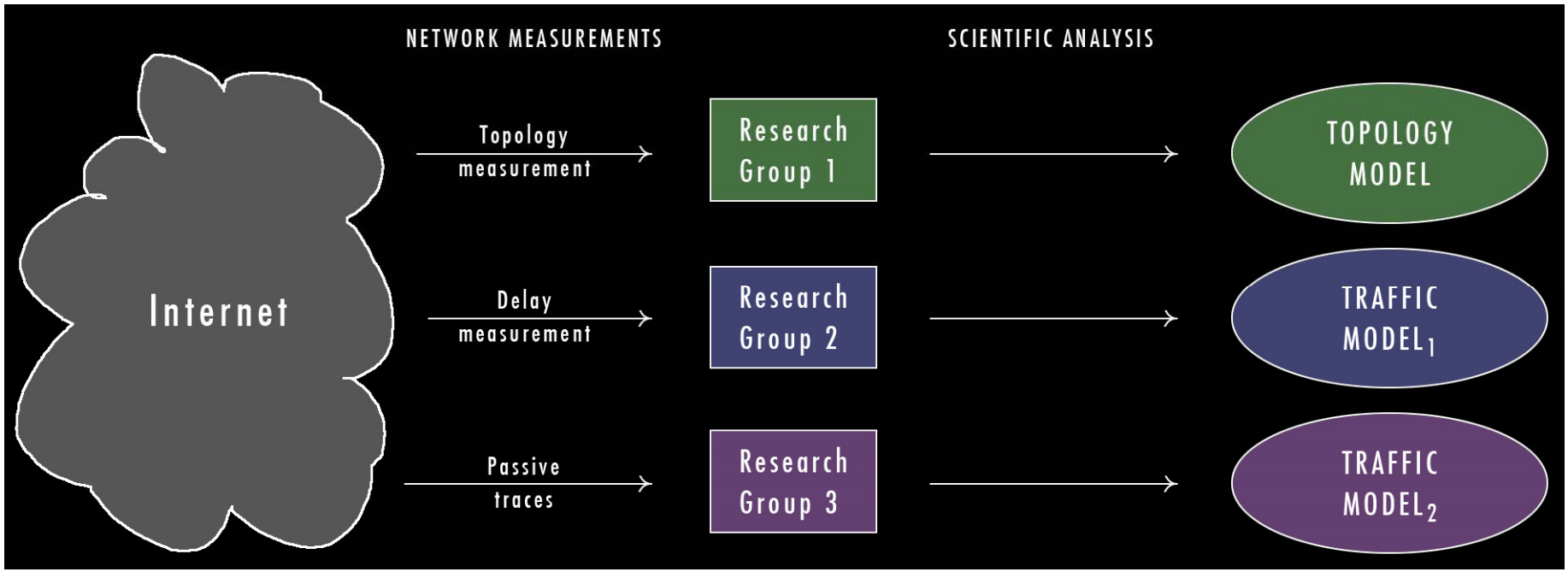
Map:



DATA VIRTUAL OBSERVATORY

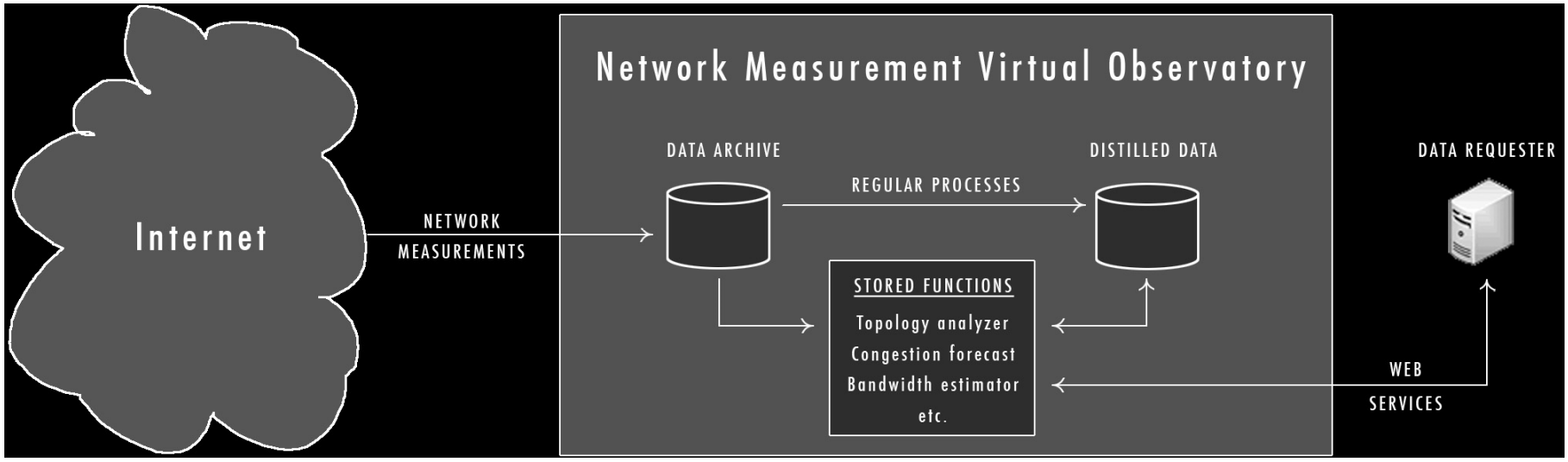
traditional aproach

- Traditionally measurements are designed to collect only specific data, important from the point of view of the researcher's agenda



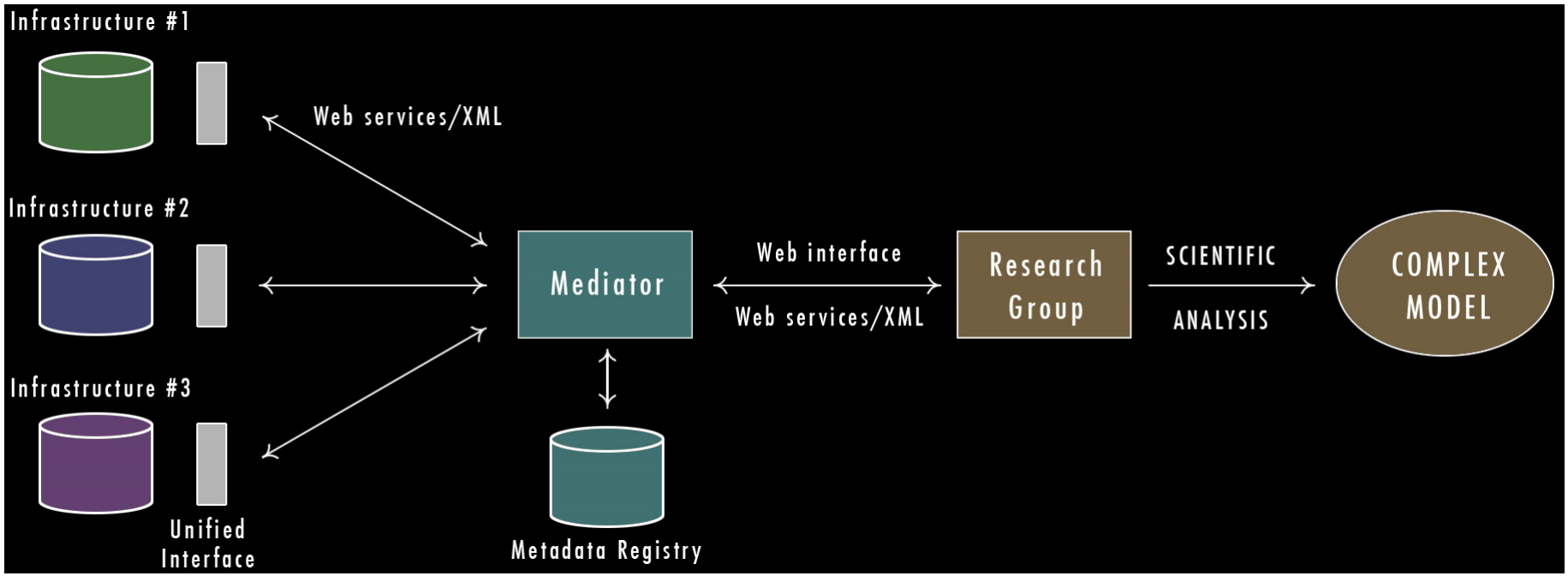
vo approach

- The modern approach is to collect and store all measurable data and make it available for „virtual observation”. Virtual measurements can have set of goals different from the original

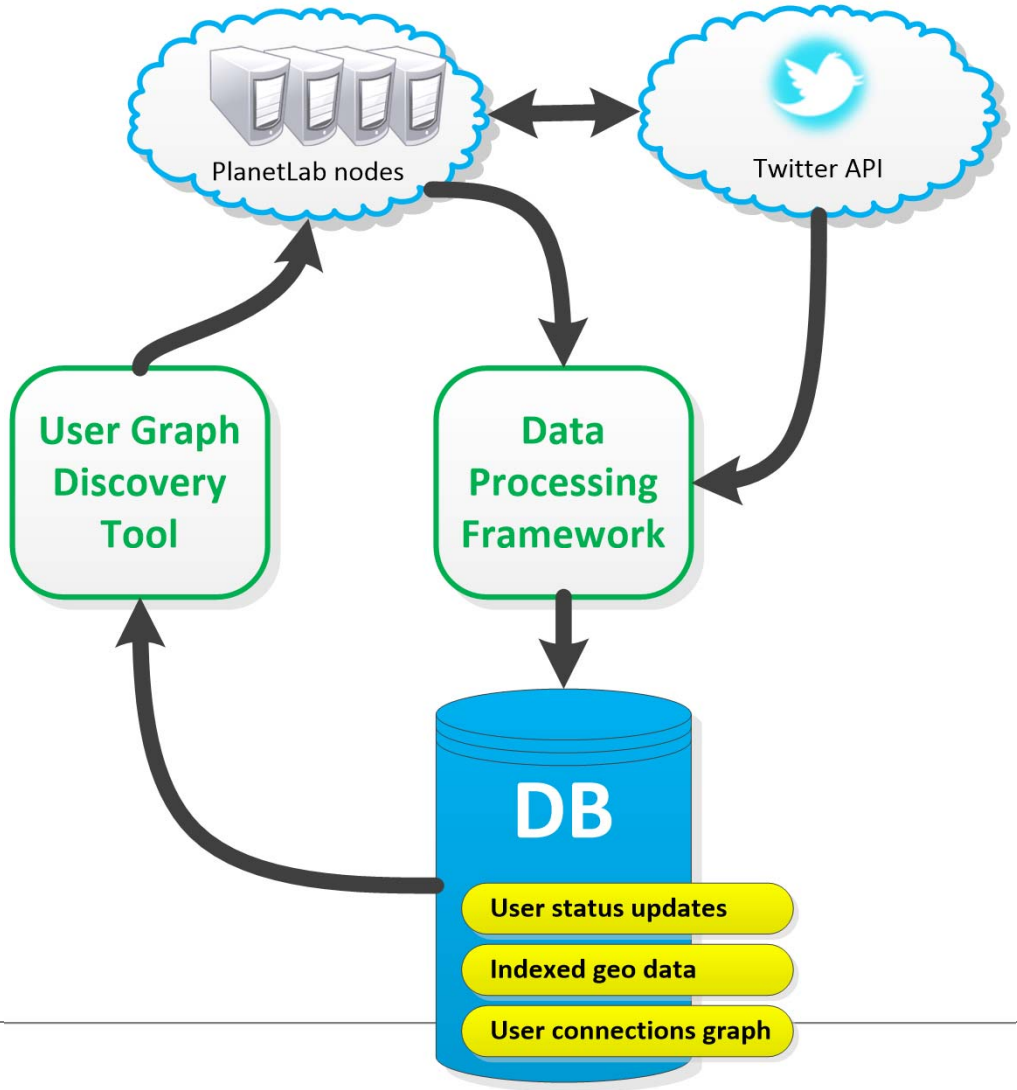


unified interface

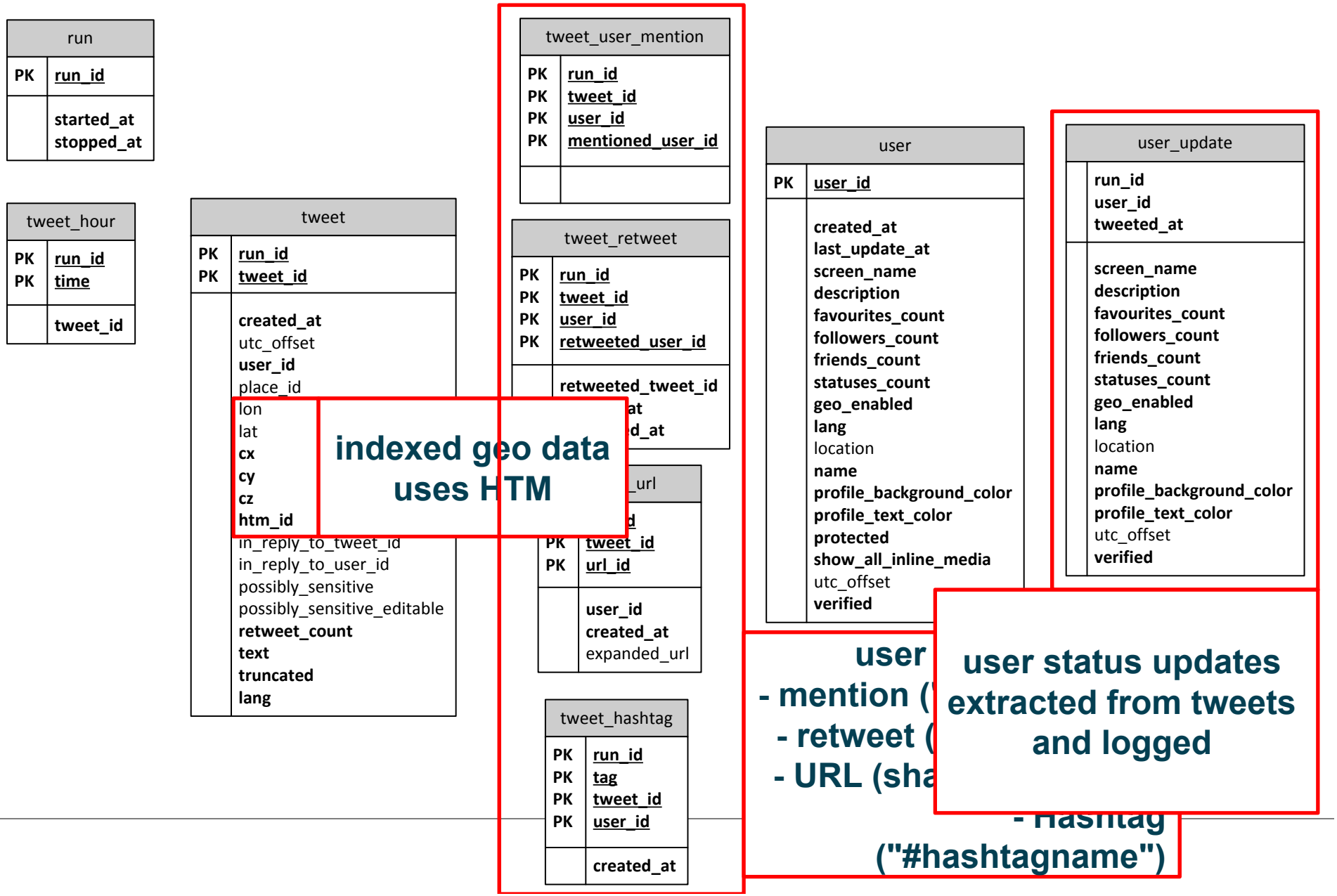
- VO can be realized by collecting measurement data from different infrastructures. Data structures should be standardized → netXML

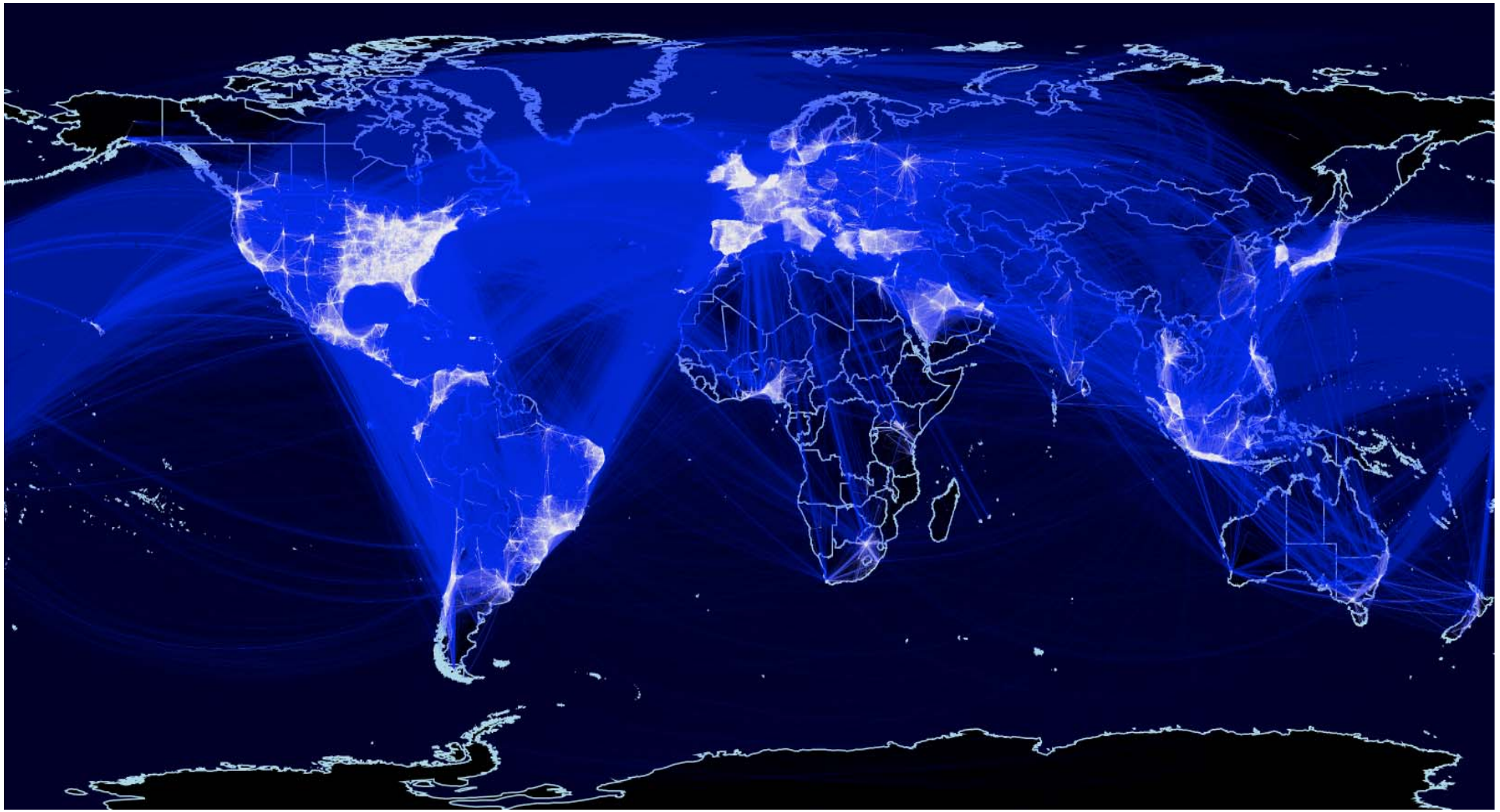


Advanced data collection infrastructure



Database schema





Ajánlatunk:

- XIFI infrastructure
- Service Oriented NetwOrk Measurement Infrastructure (SONOMA)
- SPOTTER
- BIG DATA VIRTUAL OBSERVATORY

- FI-WARE TUTORIAL/HACKATON
- FI-WARE CONSULTANCY
- **FI-WARE EMERGENCY ROOM**

Köszönöm a figyelmet!

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