

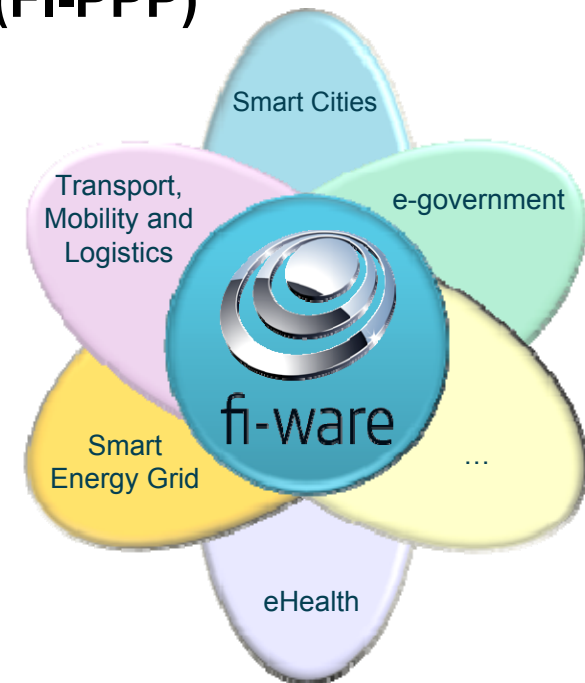


XIFI Infrastruktúrák

Vattay Gábor
ELTE / xifi@wigner

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

FACTS:

28 300 million

INVESTMENT BY THE EUROPEAN COMMISSION &
PROGRAMME PARTICIPANTS

158 68% 18

PARTNER
ORGANIZATIONS
AND COMPANIES

INDUSTRY SHARE
IN THE PROGRAMME

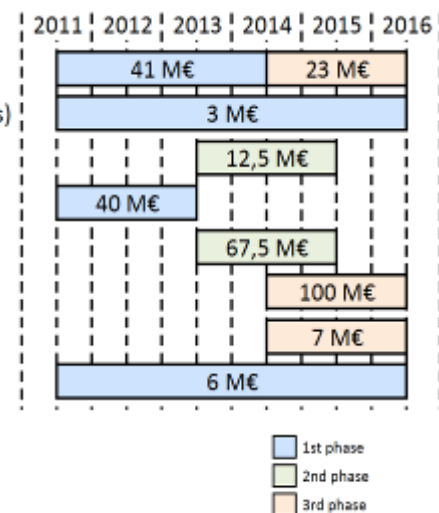
ACADEMIC
INSTITUTIONS

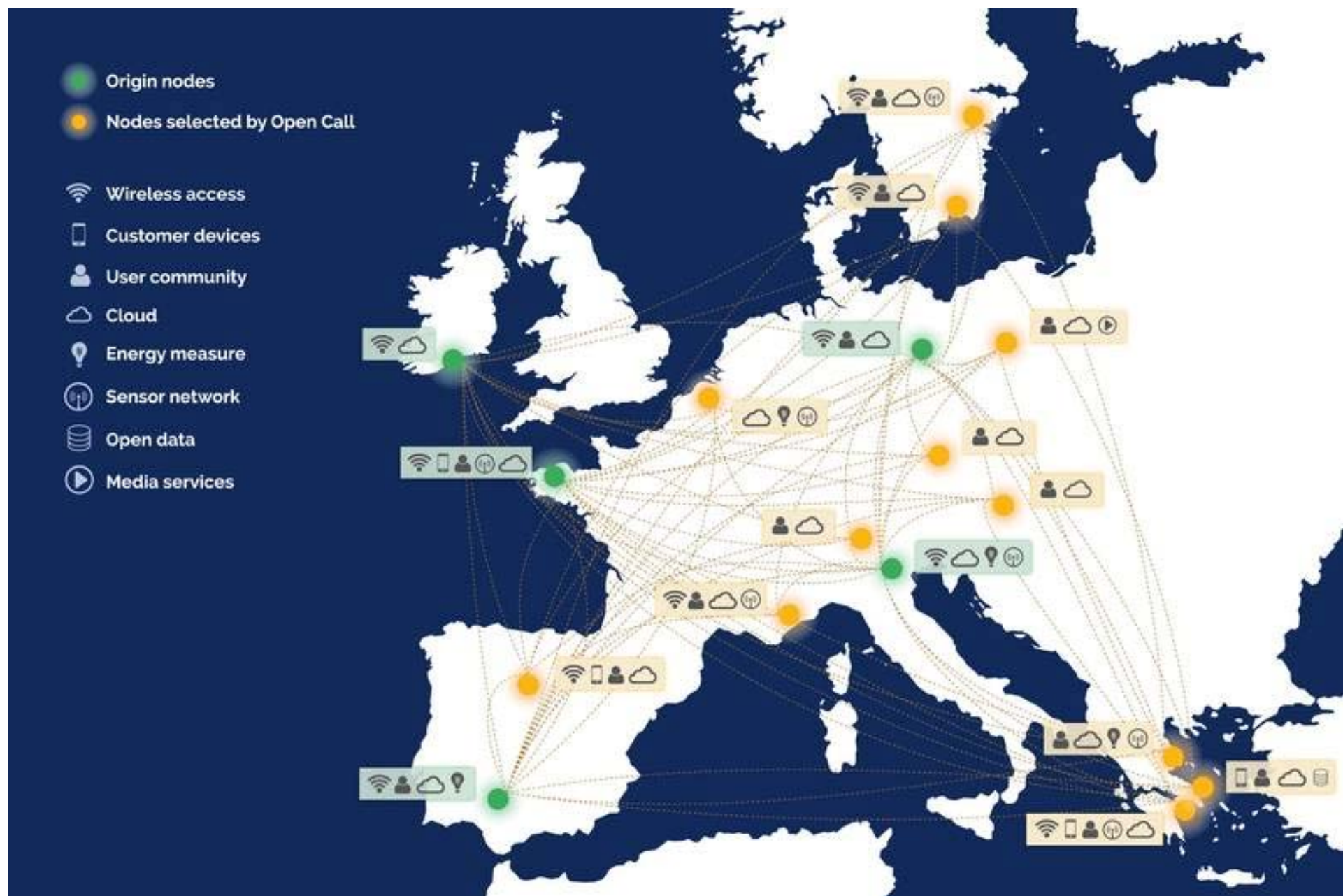
23

COUNTRIES REPRESENTED
(2 FROM OUTSIDE EUROPE)

FI-WARE
INFINITY (searching of infrastructures)
XIFI (trials common facilities)
8 Use Case Proof of Concepts
5 Use Case Trials with real users
Entrepreneurs involvement
Ecosystem support
CONCORD (Program Facilitation)

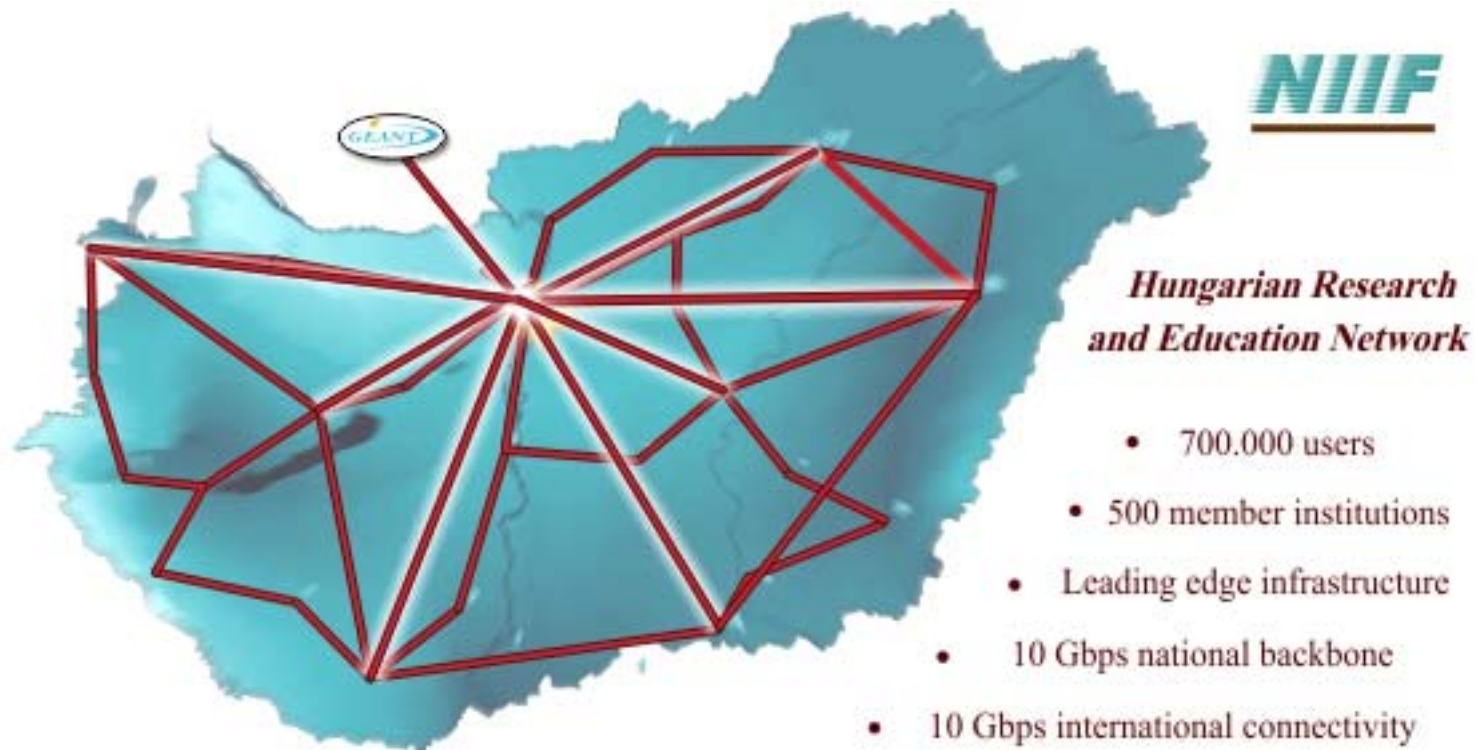
Pan-european dimension







Hungarian NREN





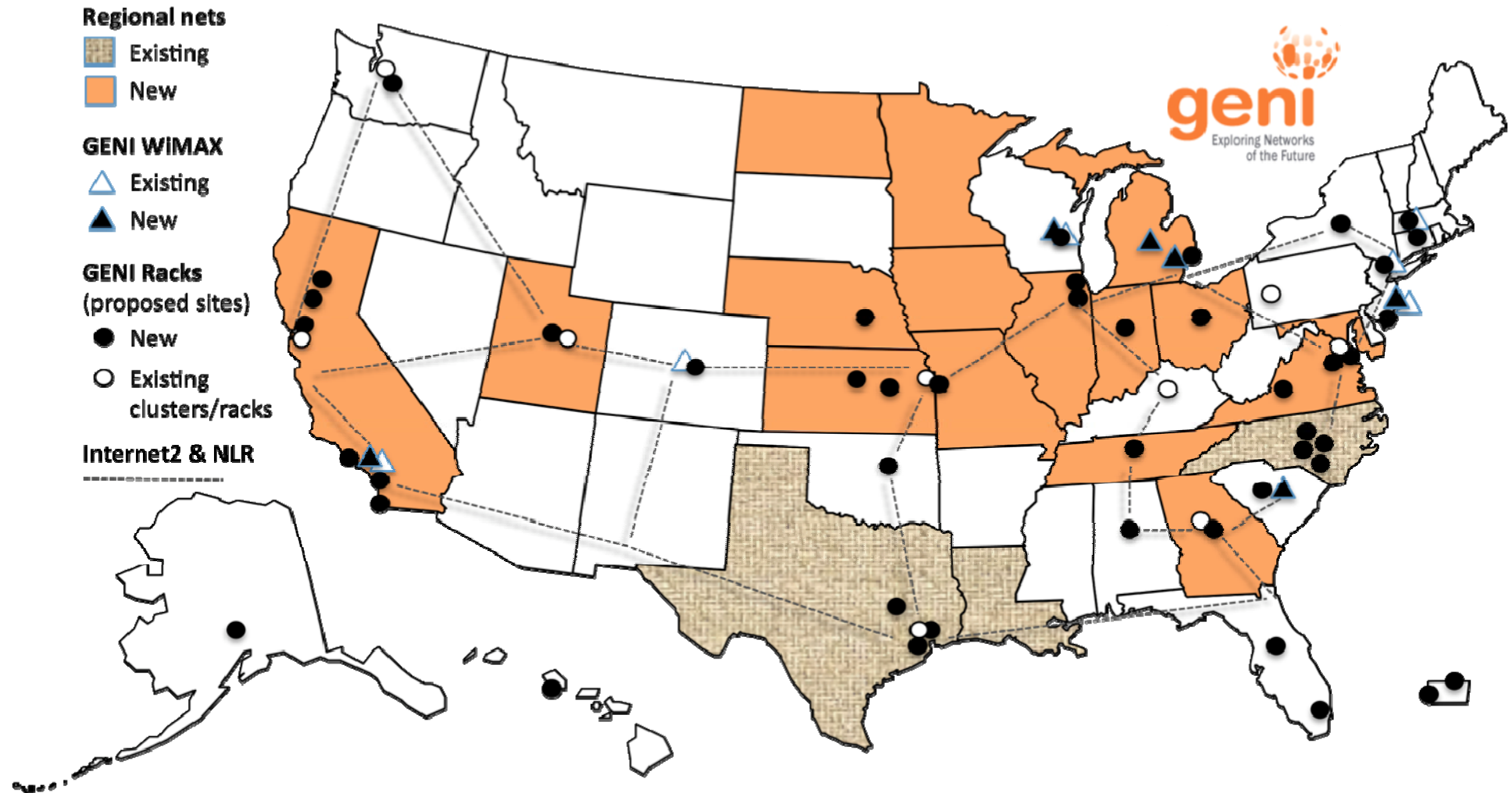
- Evergrow IP (2004-2007) with SICS and Ericsson AB (500 kEUR) •
 - HEHOK Project (2004-2007) with Ericsson and HSNLab (~1 MEUR) •
 - NAP Project (2005-2011) with Ericsson support (~4 MEUR) in collaboration with Collegium Budapest •
 - MOMENT STREP (2008-2010) with SICS and Ericsson AB (250 kEUR) •
 - 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 -

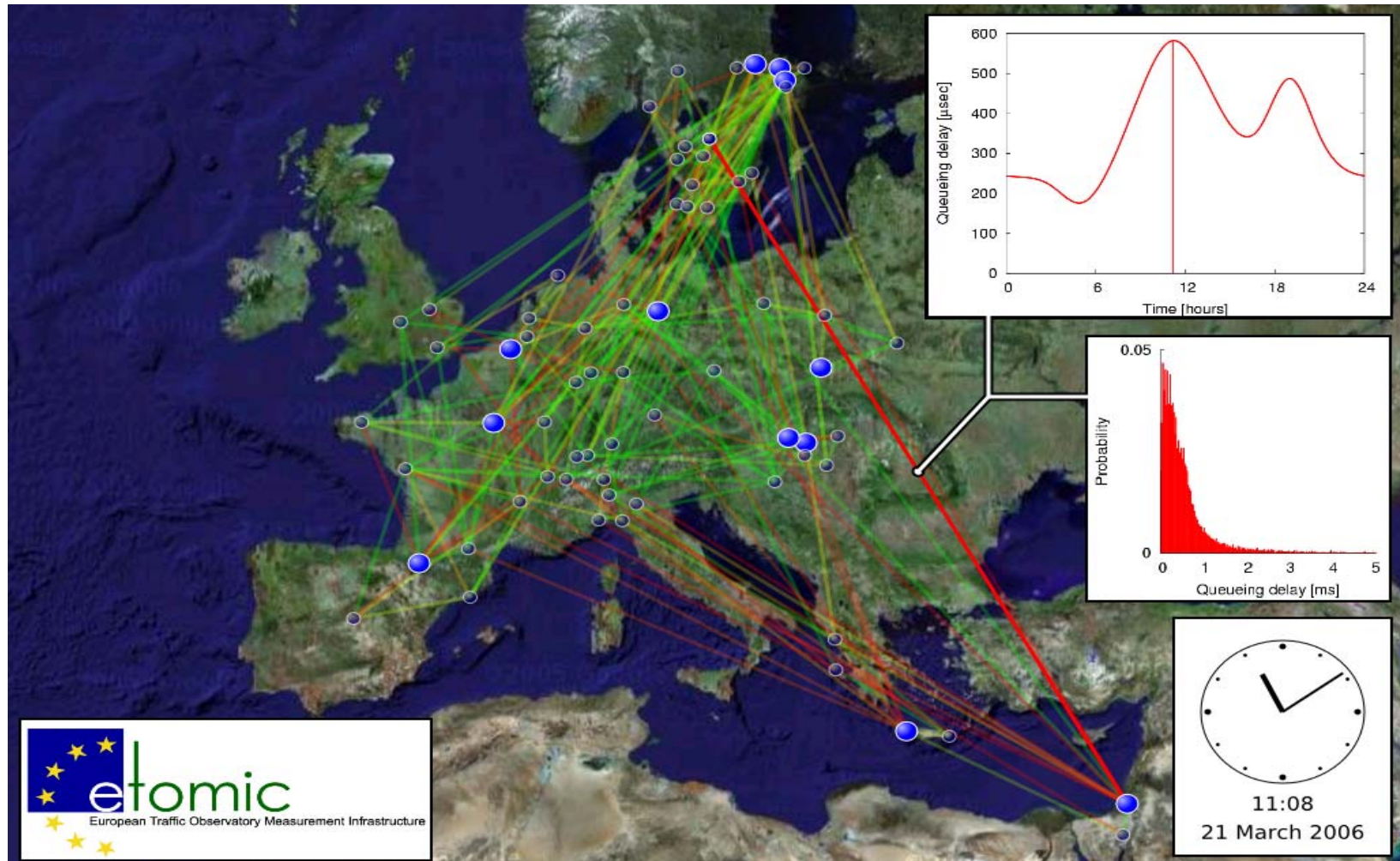




etomic

European Traffic Observatory Measurement Infrastructure

Etomic/Sonoma



The GENI connection

GENI Component Reference Design

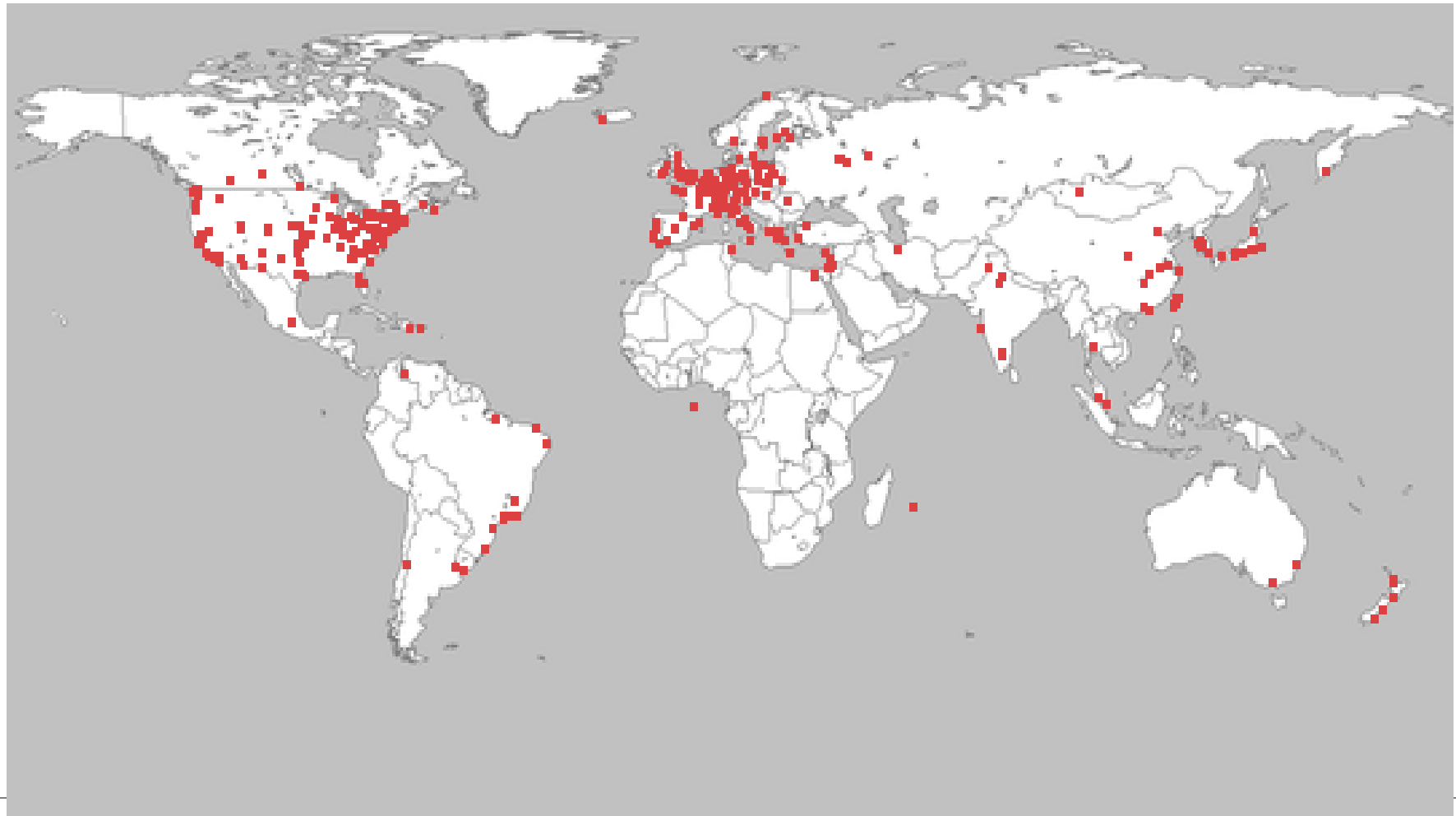
3 November 2006 (Version 0.76)

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.

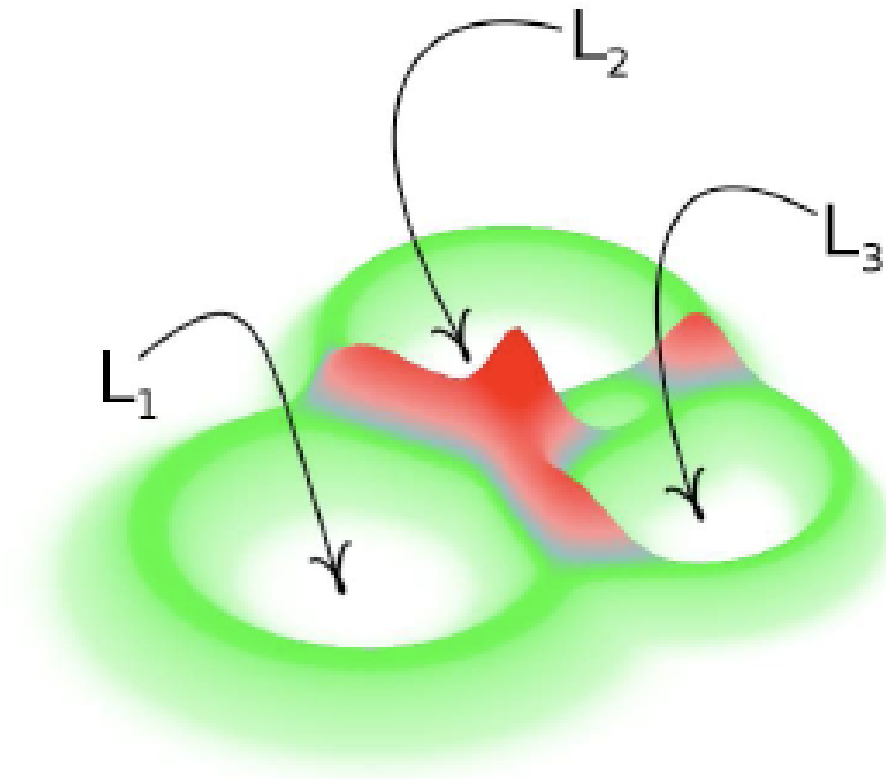


SPOTTER GEOLOCALIZATION

PlanetLab: experimental testbed “Experimental Computer Science”



Location of a node from three RTT measurements



http://spotter.etomic.org

Spotter

INNOVATION IN GEOLOCATION

HOME

SERVICE

SCREENSHOTS

PAPERS

CONTACT

Online Geolocation Service

powered by SONoMA

This online service aims at demonstrating the efficiency 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

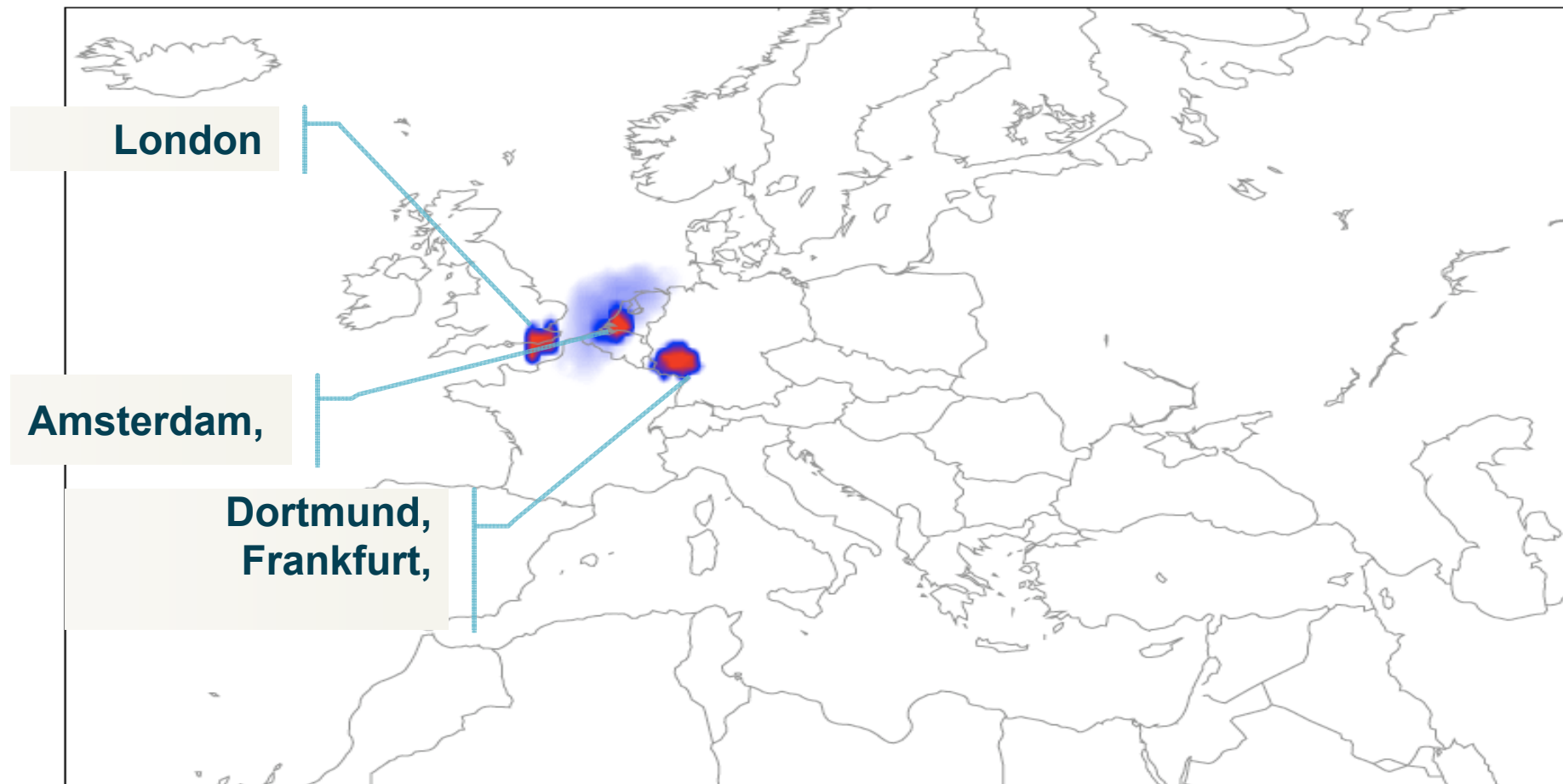
Status: Host is available.

Expected Coordinates: 47,47 19,06

City-level Location: Budapest, Hungary

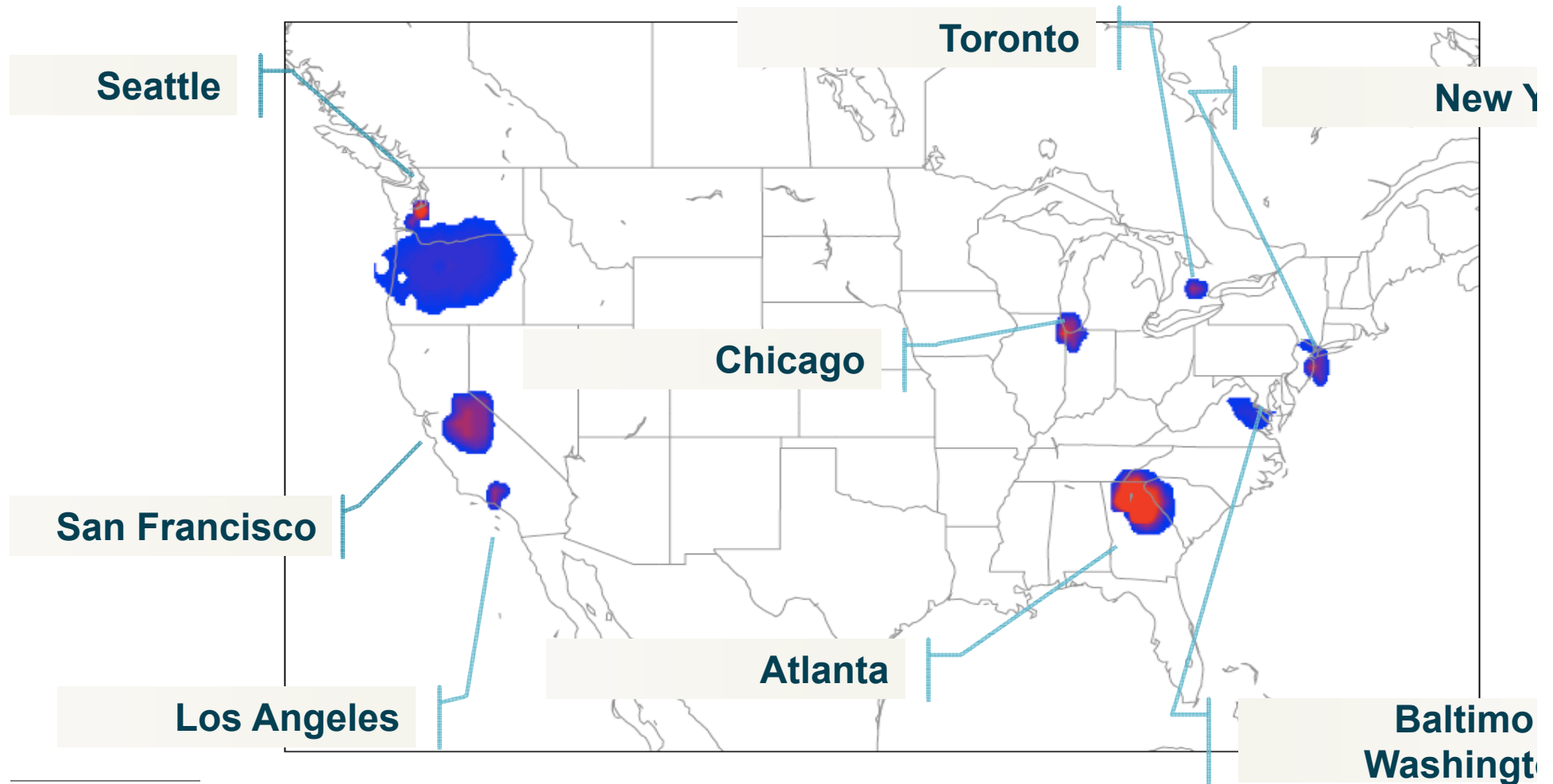
Map:

You Tube in Europe



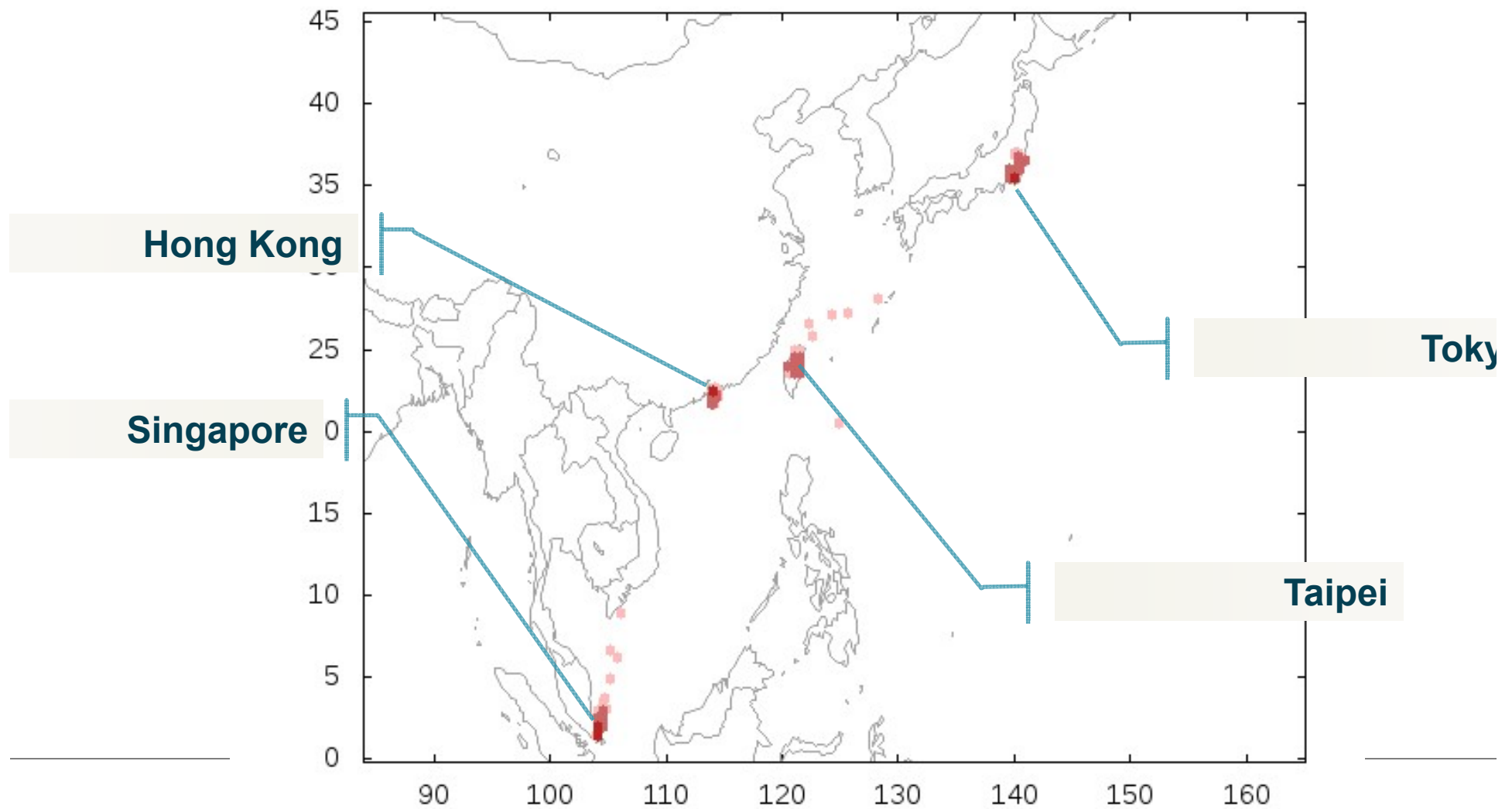
(b) YouTube sites in Europe

You Tube in North America



(a) YouTube sites in North America

You Tube in Asia



economic mess | China step in | Deal the desert | St. Nick's

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

BBC News - Cyber attack forces Wikileaks to change web address

http://www.bbc.co.uk/news/world-us-canada-11907641

Reader

where is wikileaks

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3 December 2010 Last updated at 18:11 GMT

Cyber attack forces Wikileaks to change web address

Whistle-blowing website Wikileaks has been forced to change its web address after the company providing its domain name cut off service.

EveryDNS.net said it had terminated services because Wikileaks.org had come under massive cyber attacks.

But Wikileaks has already reappeared using a Swiss web address.

Wikileaks has also used the micro-blogging site Twitter to urge its fans to redistribute its "raw" net address so it can be viewed at any time.

This numerical internet protocol (IP) address remains live and accessible even when web domains - the normal "www" addresses used to access most sites - are unavailable.

Experts say it is likely that Wikileaks has done deals with lots of web hosting companies, although many are likely to back away from dealing with the controversial site in the light of recent web attacks.



Wikileaks had defended its decision to publish thousands of secret documents

Wikileaks Revelations

Q&A: Arrest of Wikileaks' founder

Cables at a glance

Wikileaks activists go analogue

A world after

Top Stories

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Features & Analysis

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Deadly bite
The growing global threat of snake bites EARTH NEWS

Day in pictures

Online Geolocation Service

powered by SONoMA

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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)?

Sp^otter

Results:

wikileaks.ch

IP Address: 46.59.1.2

Status: Host is available.

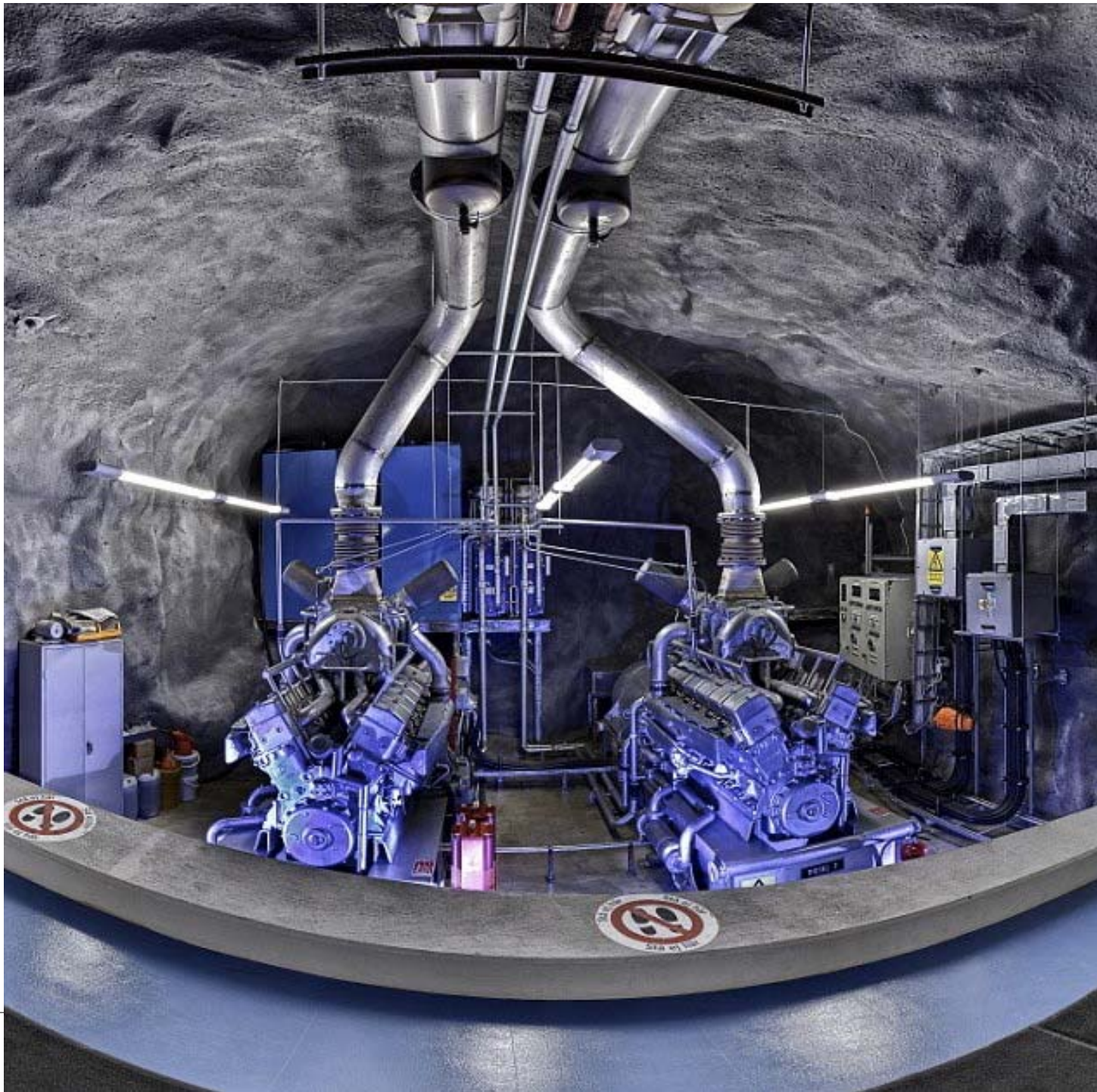
Expected Coordinates: 59,35 17,94

City-level Location: Stockholm, Sweden

Map:



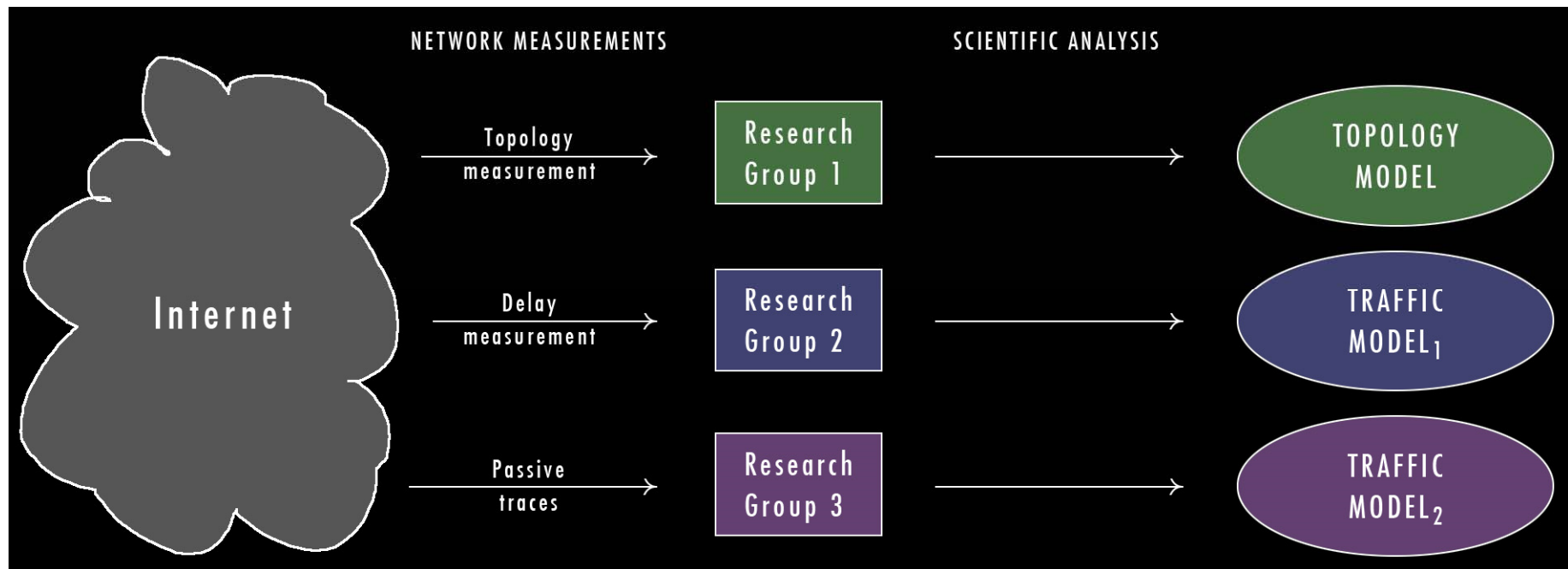




DATA VIRTUAL OBSERVATORY

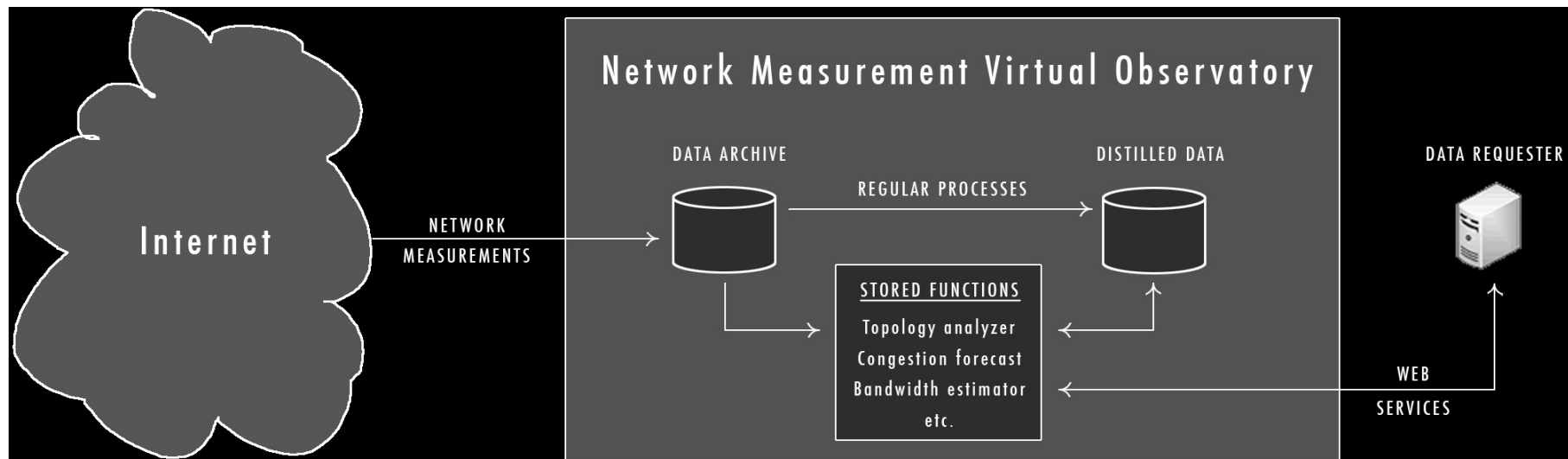
traditional approach

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



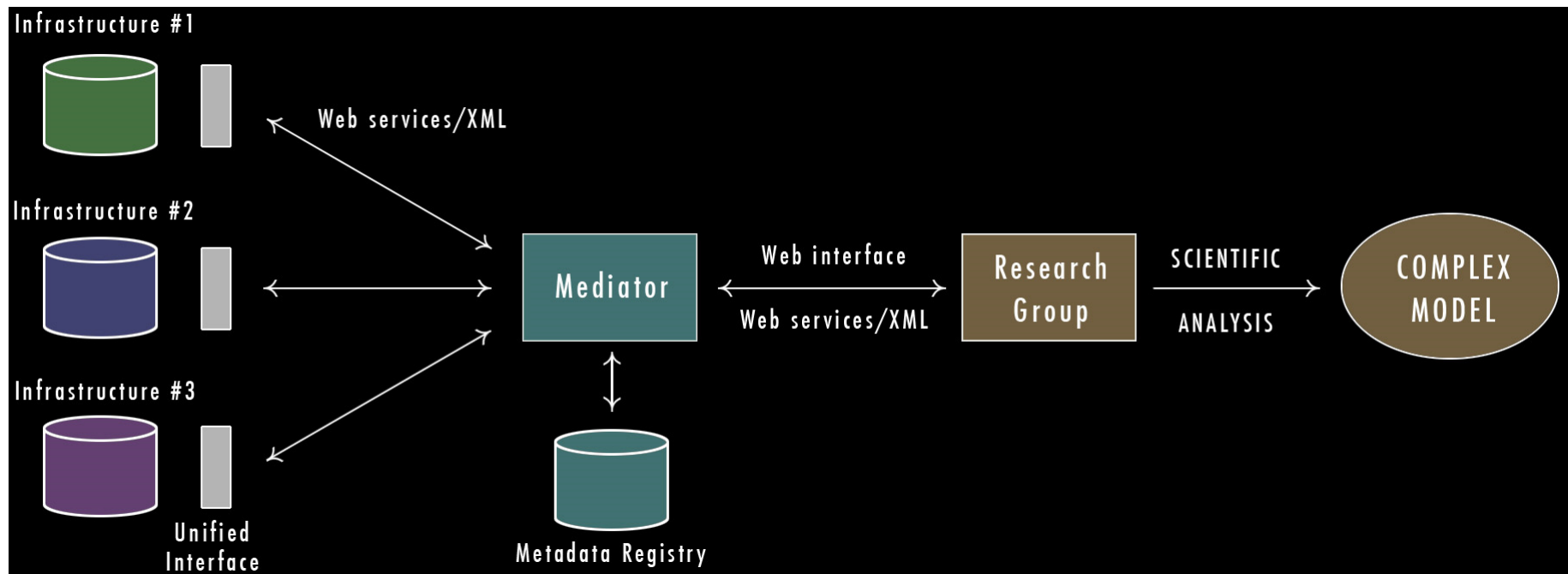
vo approach

- 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

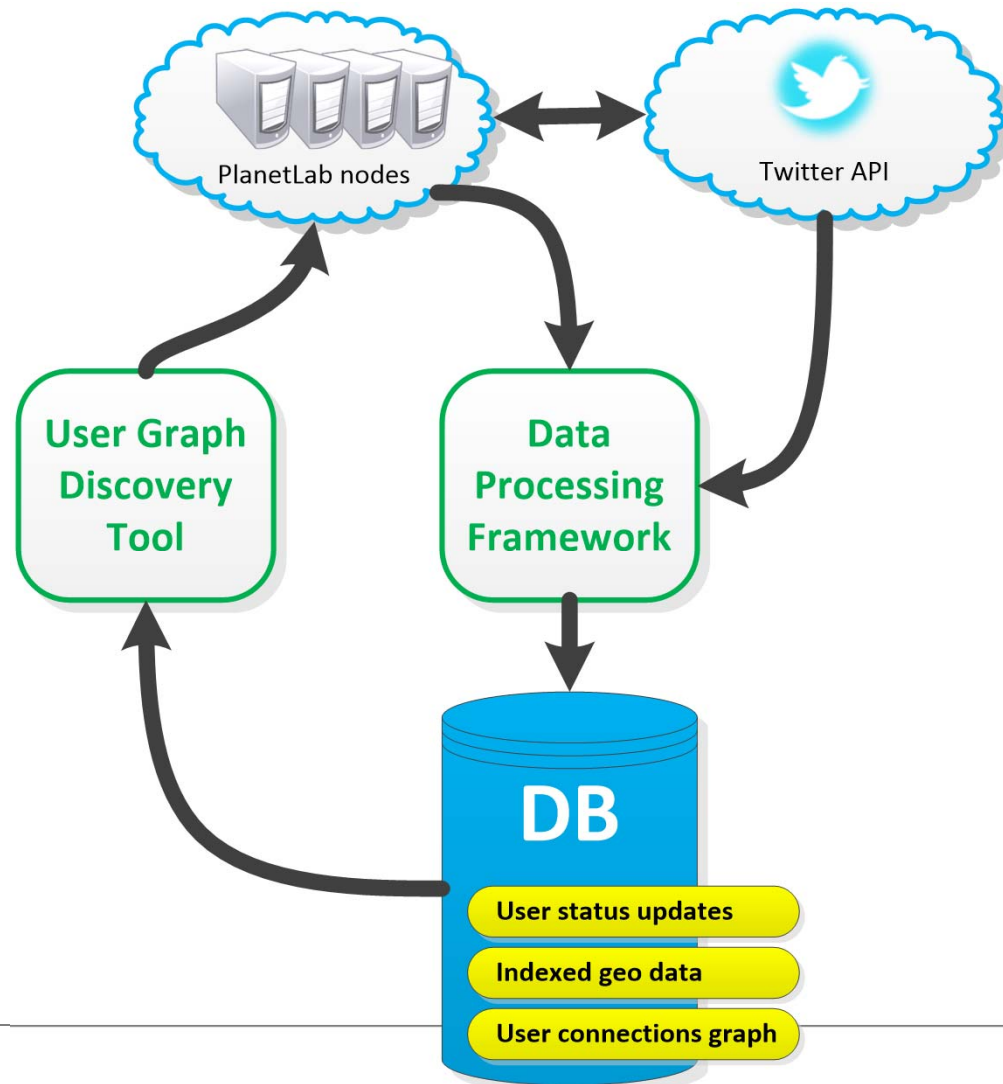


unified interface

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



Advanced data collection infrastructure



Database schema

run	
PK	<u>run_id</u>
	started_at stopped_at

tweet_hour	
PK	<u>run_id</u>
PK	<u>time</u>
	tweet_id

tweet	
PK	<u>run_id</u>
PK	<u>tweet_id</u>
	created_at utc_offset user_id place_id lon lat cx cy cz htm_id in_reply_to_tweet_id in_reply_to_user_id possibly_sensitive possibly_sensitive_editable retweet_count text truncated lang

tweet_user_mention	
PK	<u>run_id</u>
PK	<u>tweet_id</u>
PK	<u>user_id</u>
PK	<u>mentioned_user_id</u>

tweet_retweet	
PK	<u>run_id</u>
PK	<u>tweet_id</u>
PK	<u>user_id</u>
PK	<u>retweeted_user_id</u>
	retweeted_tweet_id

tweet_url	
PK	<u>tweet_id</u>
PK	<u>url_id</u>
	user_id created_at expanded_url

tweet_hashtag	
PK	<u>run_id</u>
PK	<u>tag</u>
PK	<u>tweet_id</u>
PK	<u>user_id</u>
	created_at

user	
PK	<u>user_id</u>
	created_at last_update_at screen_name description favourites_count followers_count friends_count statuses_count geo_enabled lang location name profile_background_color profile_text_color protected show_all_inline_media utc_offset verified

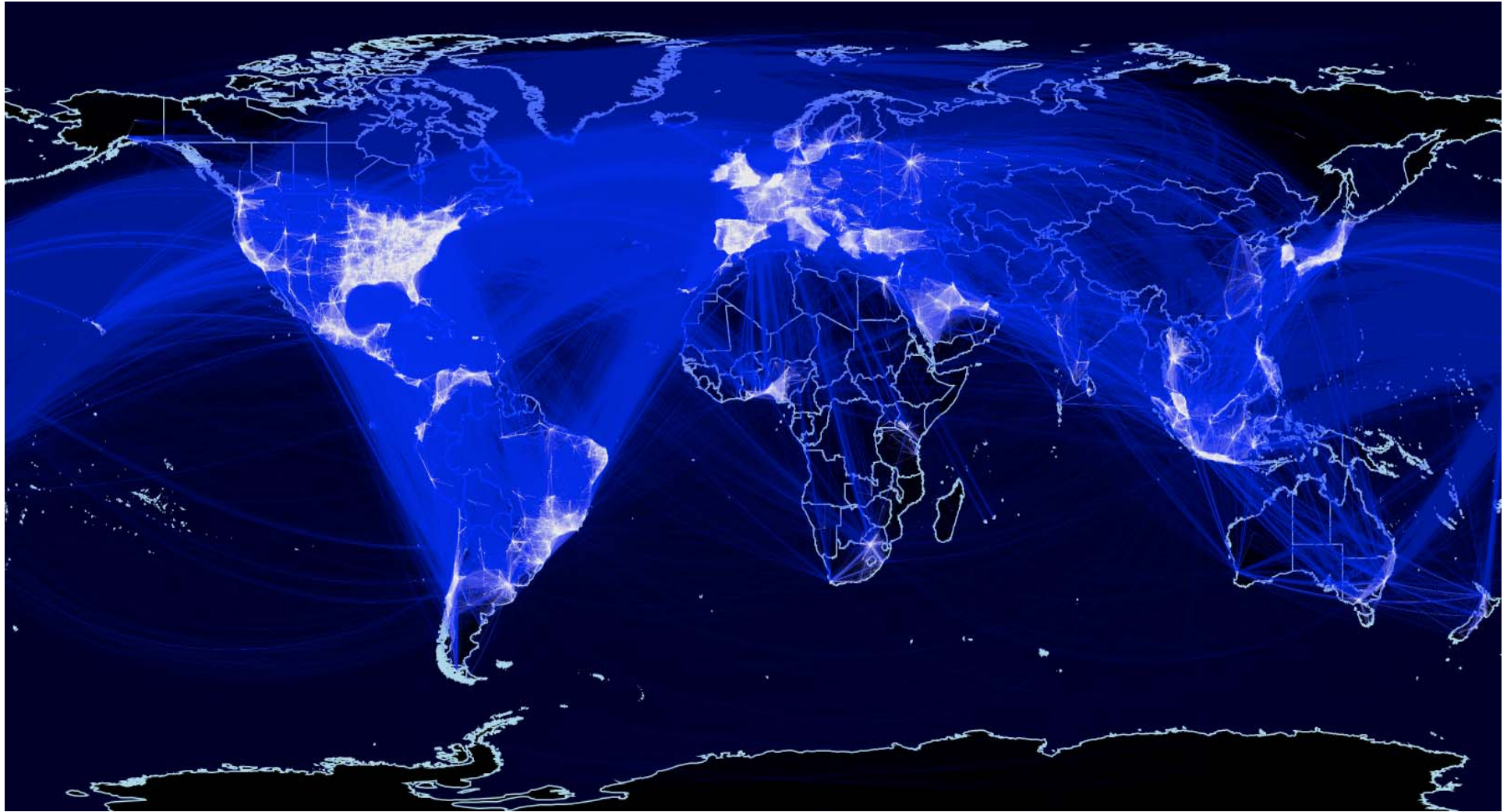
user_update	
	run_id user_id tweeted_at
	screen_name description favourites_count followers_count friends_count statuses_count geo_enabled lang location name profile_background_color profile_text_color utc_offset verified

indexed geo data
uses HTM

user
- mention (
- retweet (
- URL (sha

user status updates
extracted from tweets
and logged

- hashtag
("#hashtagname")



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!

vattay@elte.hu
