Internet Measurements and Statistics

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RIPE / NCC

- RIPE
  - Community of network operators: You!
  - Develops addressing policy
  - Working groups, mailing lists, RIPE meetings
- RIPE NCC
  - Non-for-profit
  - Supporting RIPE community

RIPE NCC

RIPE Labs

https://labs.ripe.net/

RIPE NCC

What is RIPE Labs?

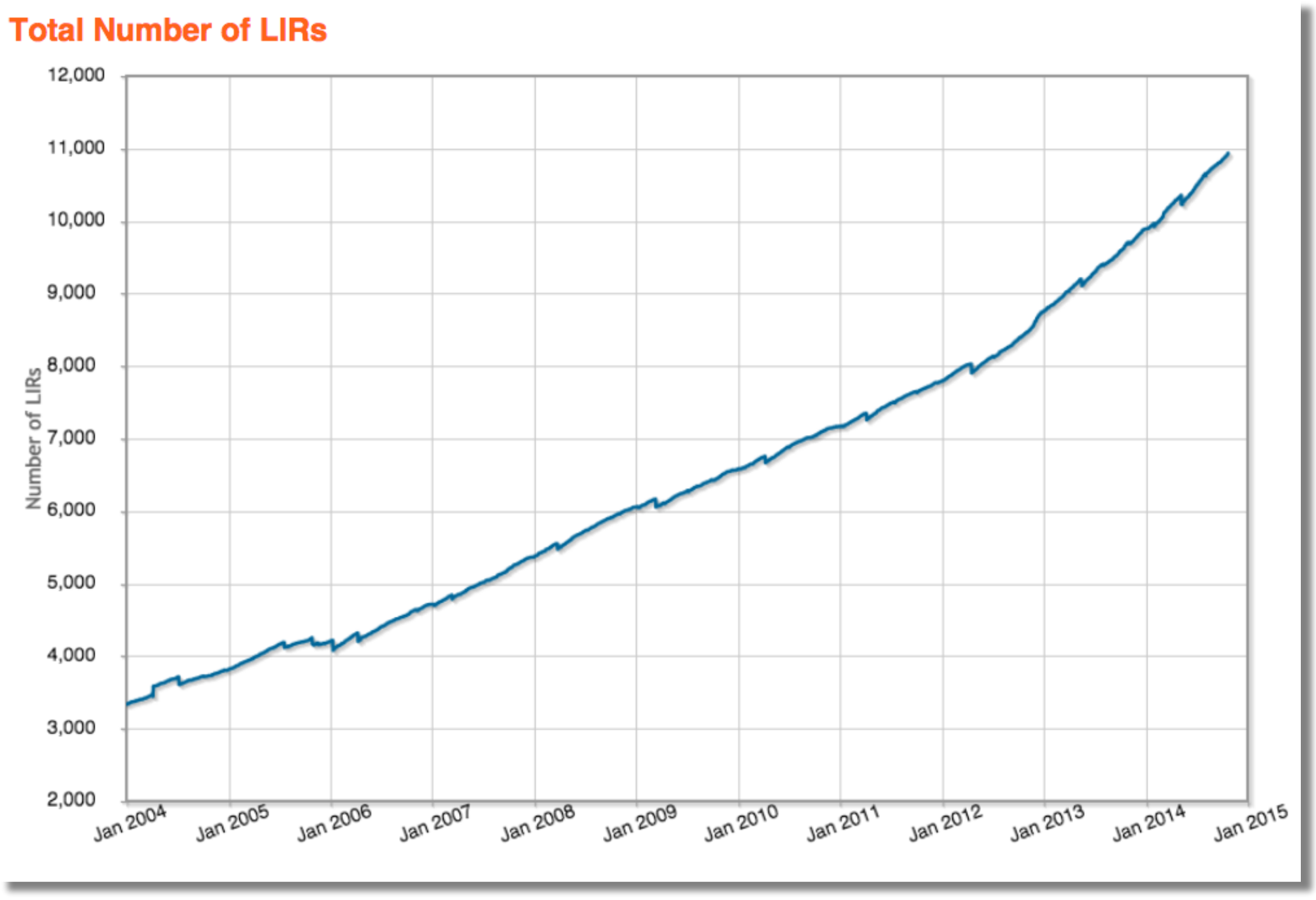
- It's a website, but more importantly:
  - It is a platform and a tool for the community
  - Launched in Sept. 2009, constantly developed
- You can:
  - Test and evaluate new tools and prototypes
  - Contribute new ideas and research results
  - Provide feedback and discuss with others

https://labs.ripe.net/

Popular Content on RIPE Labs

- IPv6 related topics
- Tools & Prototypes
  - RIPEstat, RIPE Atlas, RIPE DB API etc.
- Internet Events
- Statistics
  - IPv4, IPv6, RPKI, Routing, DNSSEC etc.
  - http://labs.ripe.net/statistics

RIPE Labs Statistic Example



~11k , 55 are Romanian

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RIPEstat

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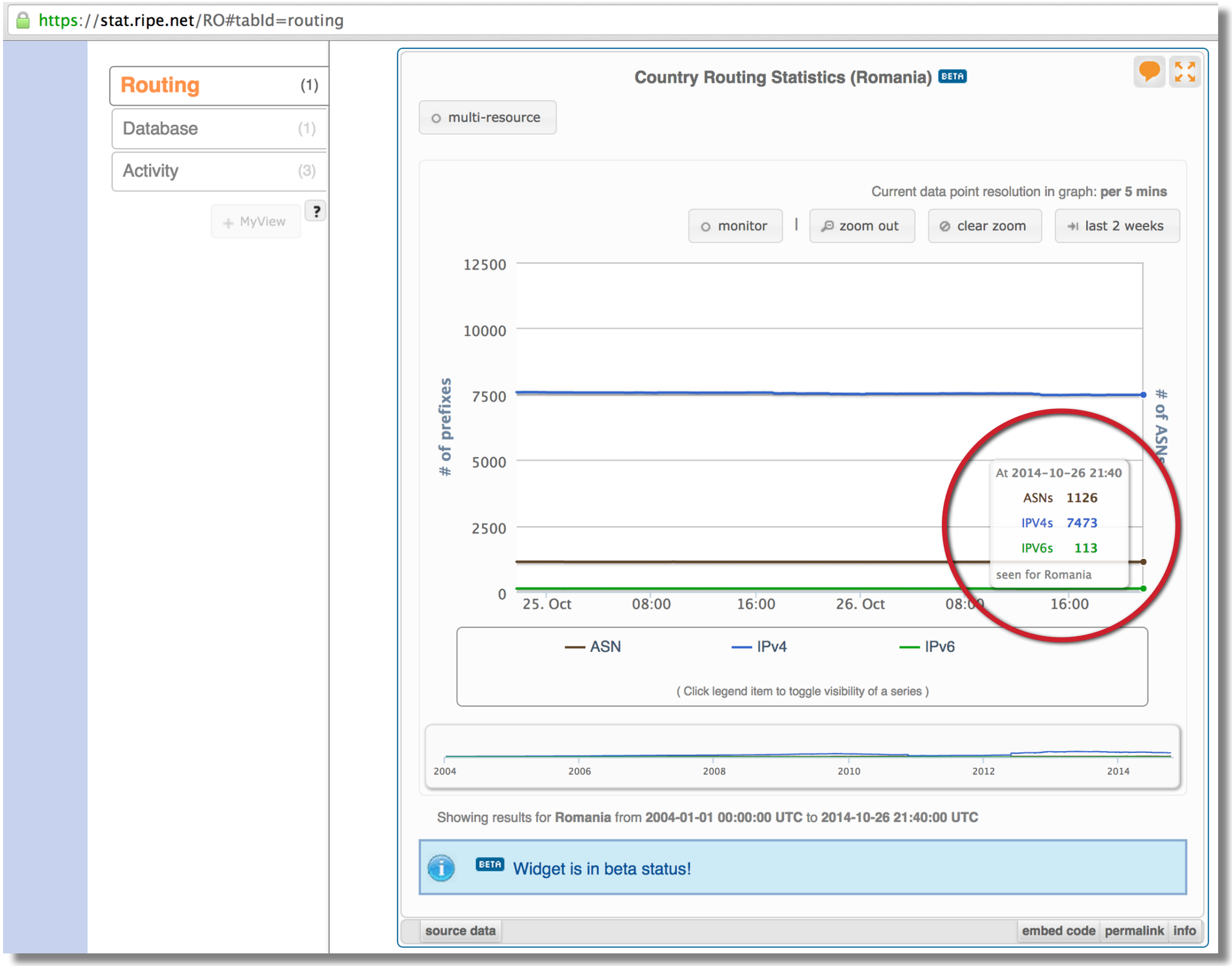
https://stat.ripe.net/

- Information system for Internet number resources (IPs, prefixes, ASNs)

Country Statistics



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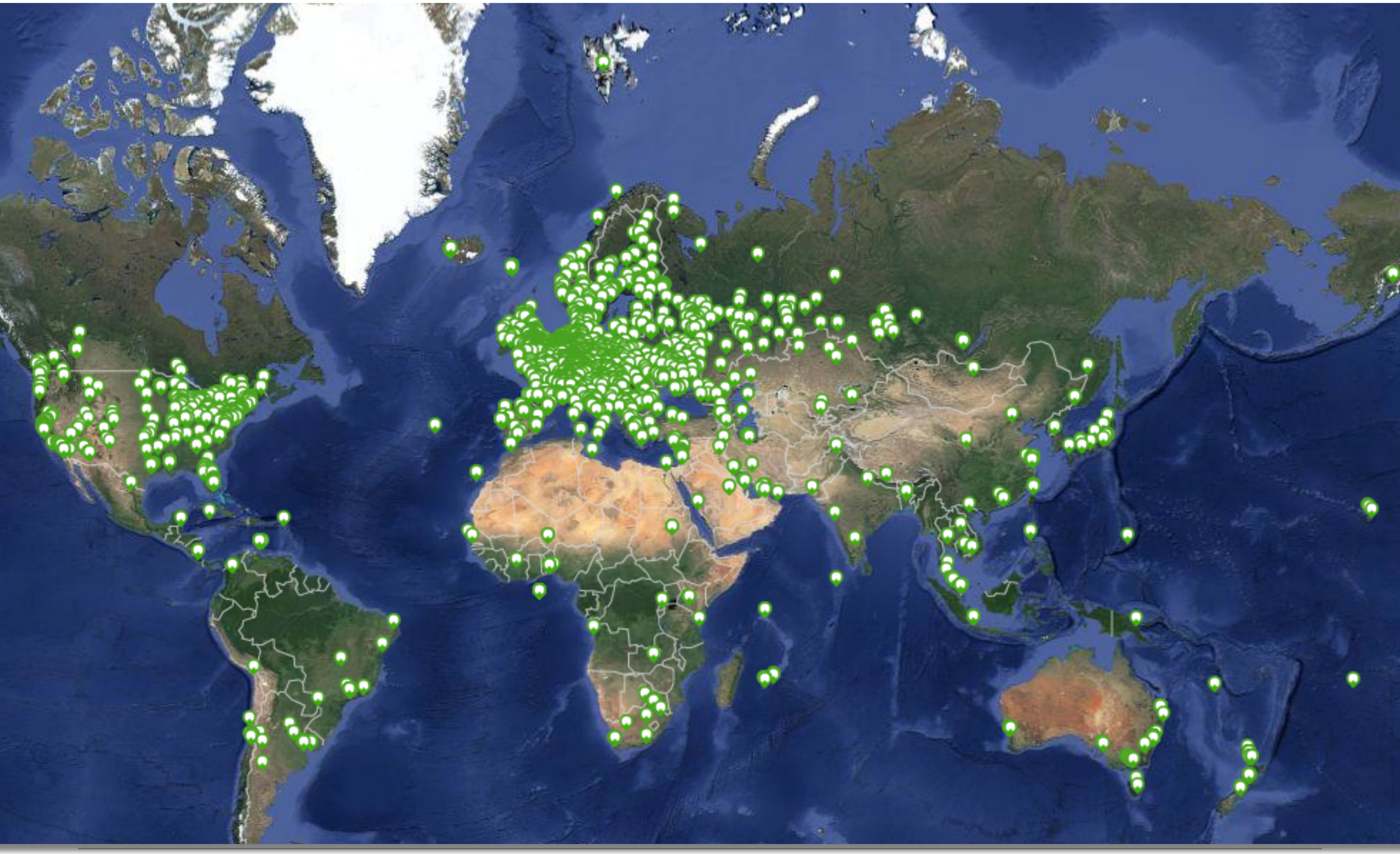
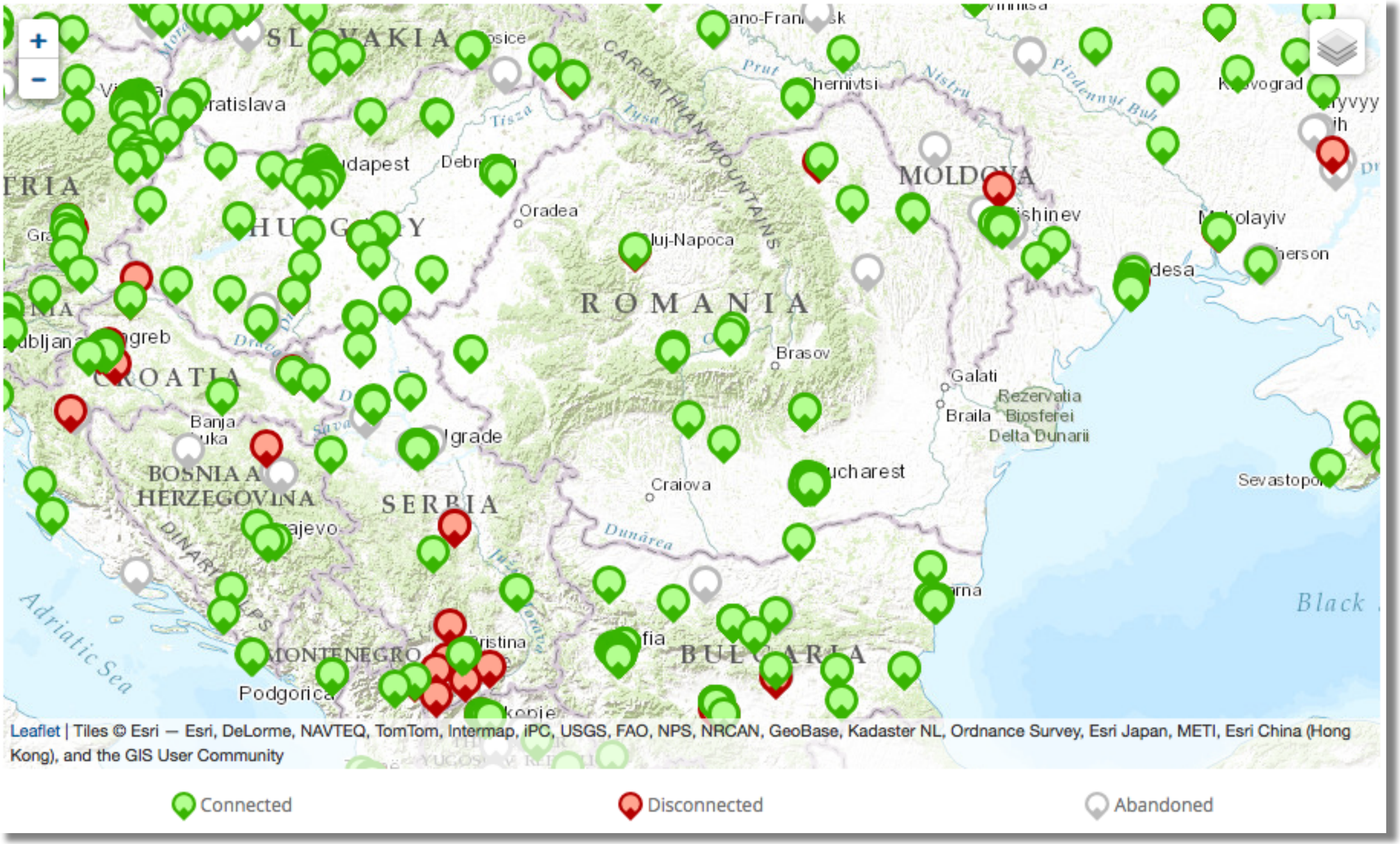
RIPE Atlas

https://atlas.ripe.net



RIPE Atlas around Romania



How to Use?

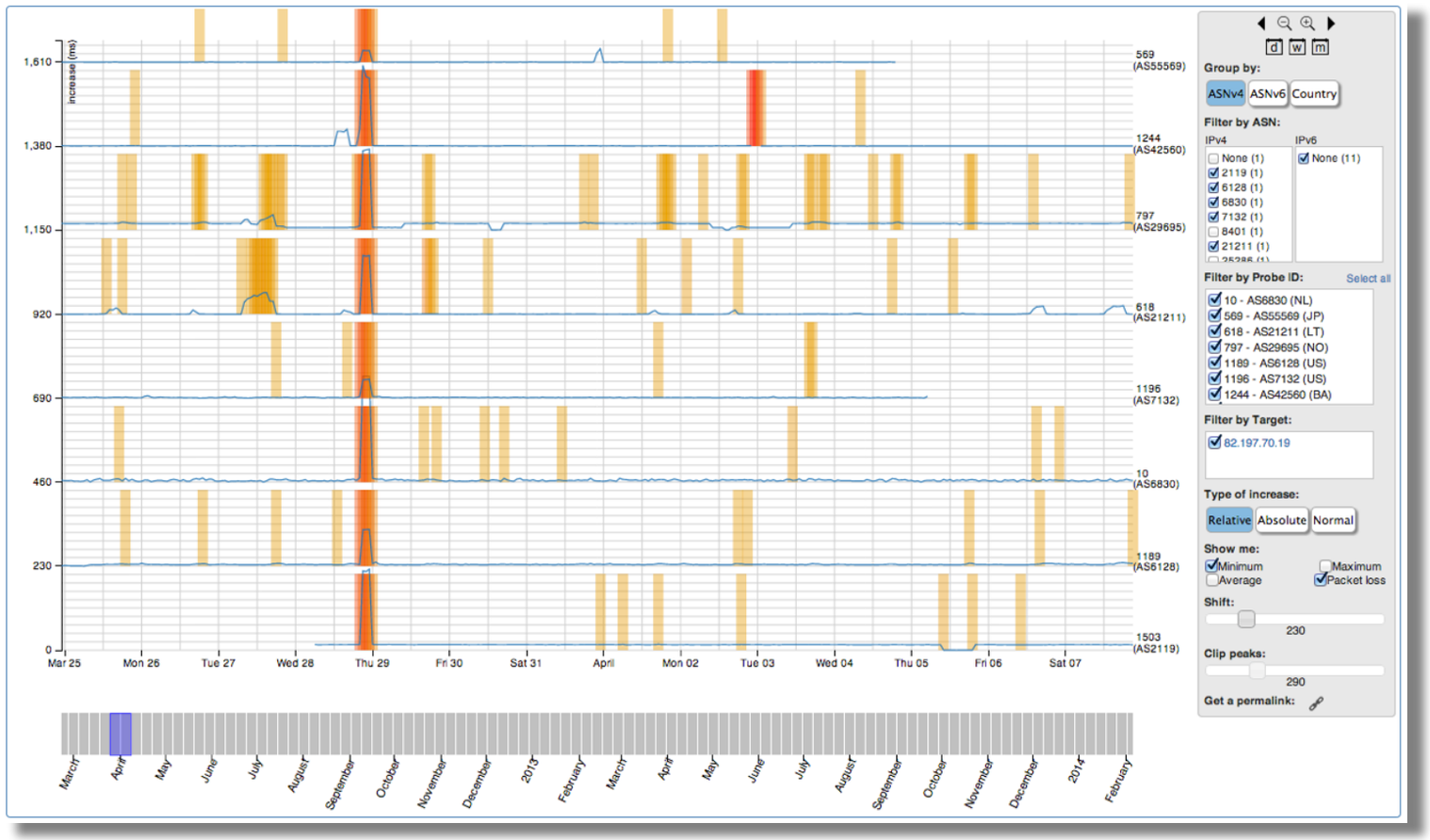
- Hosting a measurement device earns you “credits”

- “Credits” can be used to measure (ping,trace,etc.) on all of the other devices in the system

Example Ping Result Visualisation

- Seismograph:
  - Multiple ping measurements in one view
  - Stacked chart and interactive control panel

https://labs.ripe.net/Members/massimo_candela/seismograph-user-guide



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Internet Maps

Maps – RIPE Atlas — RIPE

https://atlas.ripe.net/results/maps/

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- Coverage & Statistics
- Analyses & Use Cases
- Graphs
- RIPE Atlas Anchors

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RIPE Atlas - Map Visualisations

DNS root instances

Shows, for each probe, which root DNS server instance the probe ends up querying, when they ask a particular root server. In other words, it shows the "gravitational radius" for root DNS server instances.

Comparative DNS Root RTT

Shows a comparison of response time for DNS SOA queries to all the root DNS servers. For each probe, a marker shows the "best" root server with colour identifying the related minimum response time.

DNS root server TCP/UDP performances

This map shows the reply time to the SOA query of a particular root DNS server, over the selected transport protocol (UDP, TCP or comparison of the two) for each probe.

RTT to fixed destinations

Shows the colour coding for the RTT value for the particular destination for each probe. The minimum / average / maximum values are based on standard "ping" measurements.

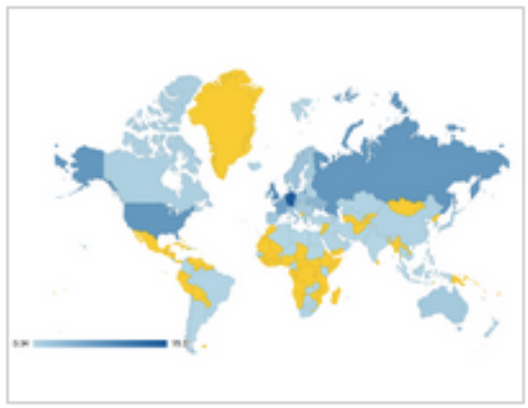
Reachability of fixed destinations

Shows if the particular fixed destination is reachable or not from each probe. Red markers indicate that the specific destination for these probes are unreachable and green reachable.

RIPE Atlas network extent

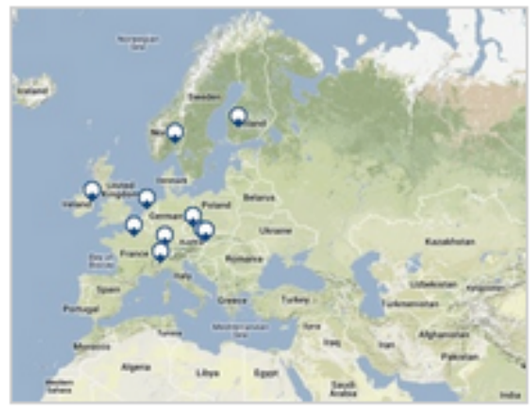
Shows the extent of the RIPE Atlas network, with all active and inactive probes.

Percentage of probes per country



Shows the distribution of probes in the world using colouring to highlight the most populated countries. Only up probes are taken into account.

RIPE Atlas anchor locations



Shows the location of RIPE Atlas anchors.

More Information

- emile.aben@ripe.net
- https://labs.ripe.net/statistics
- https://stat.ripe.net/
- https://atlas.ripe.net/

Questions?