Measuring the Health of the Internet (Even in Real Time)

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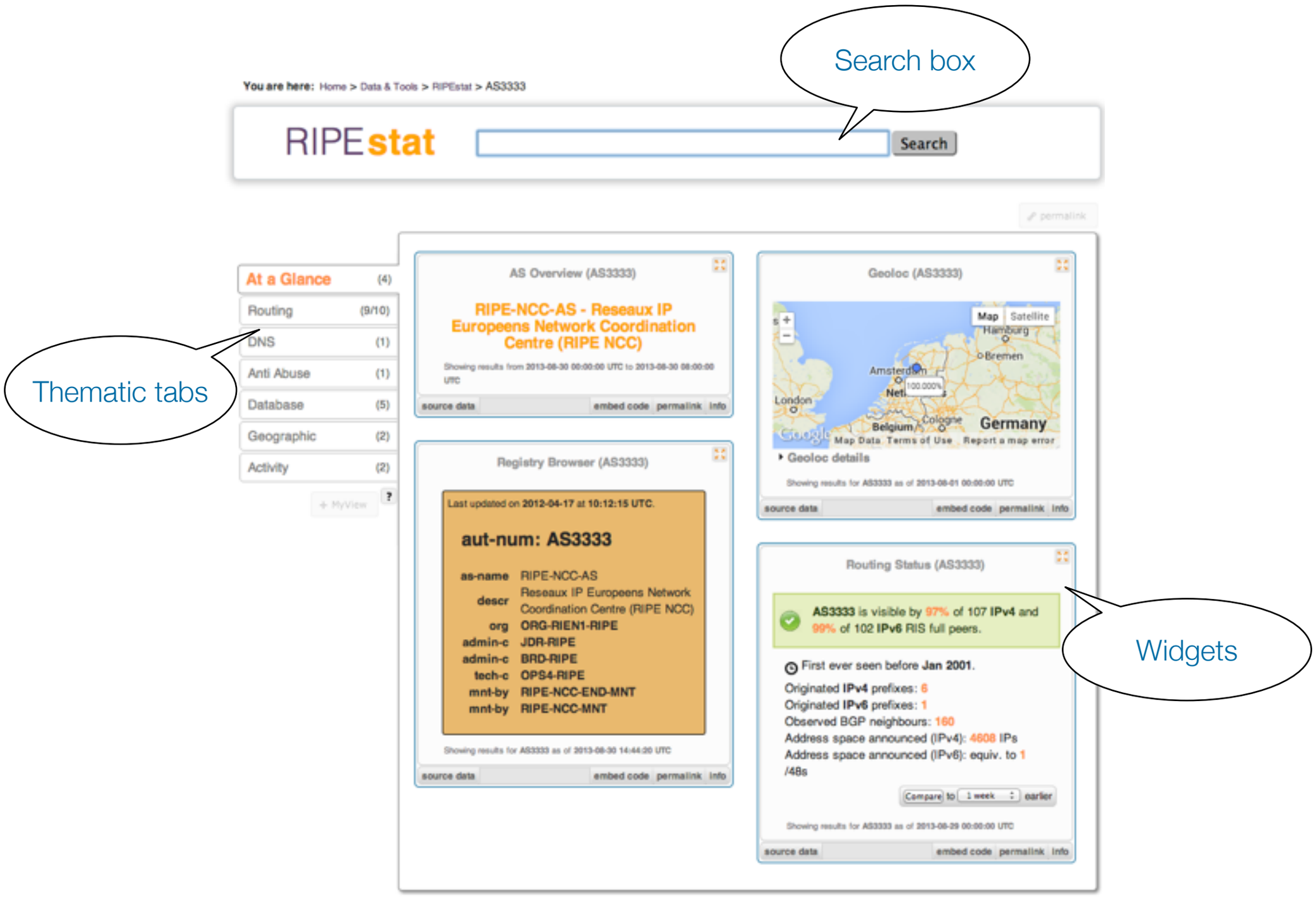
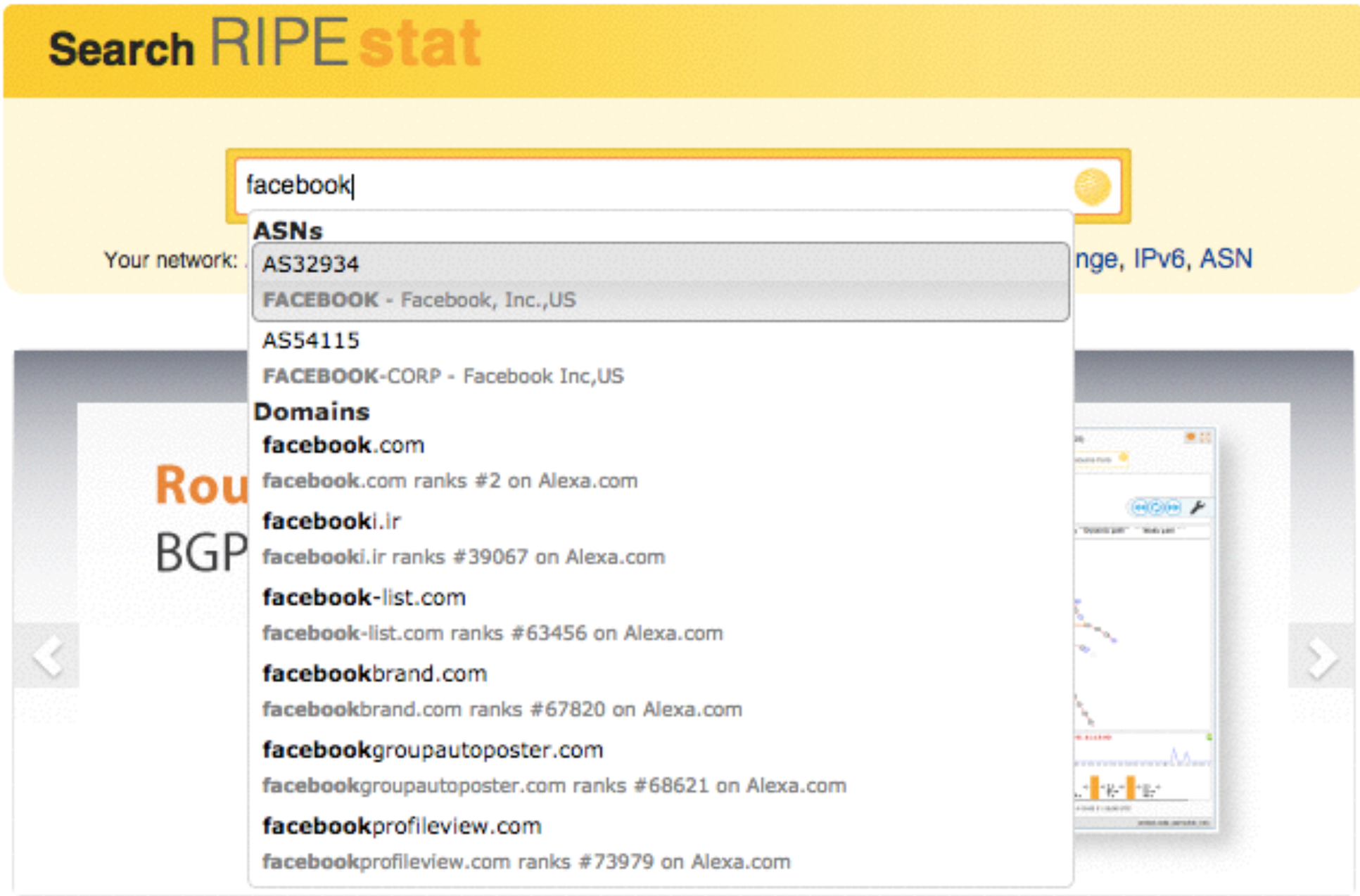
A few words about RIPEstat



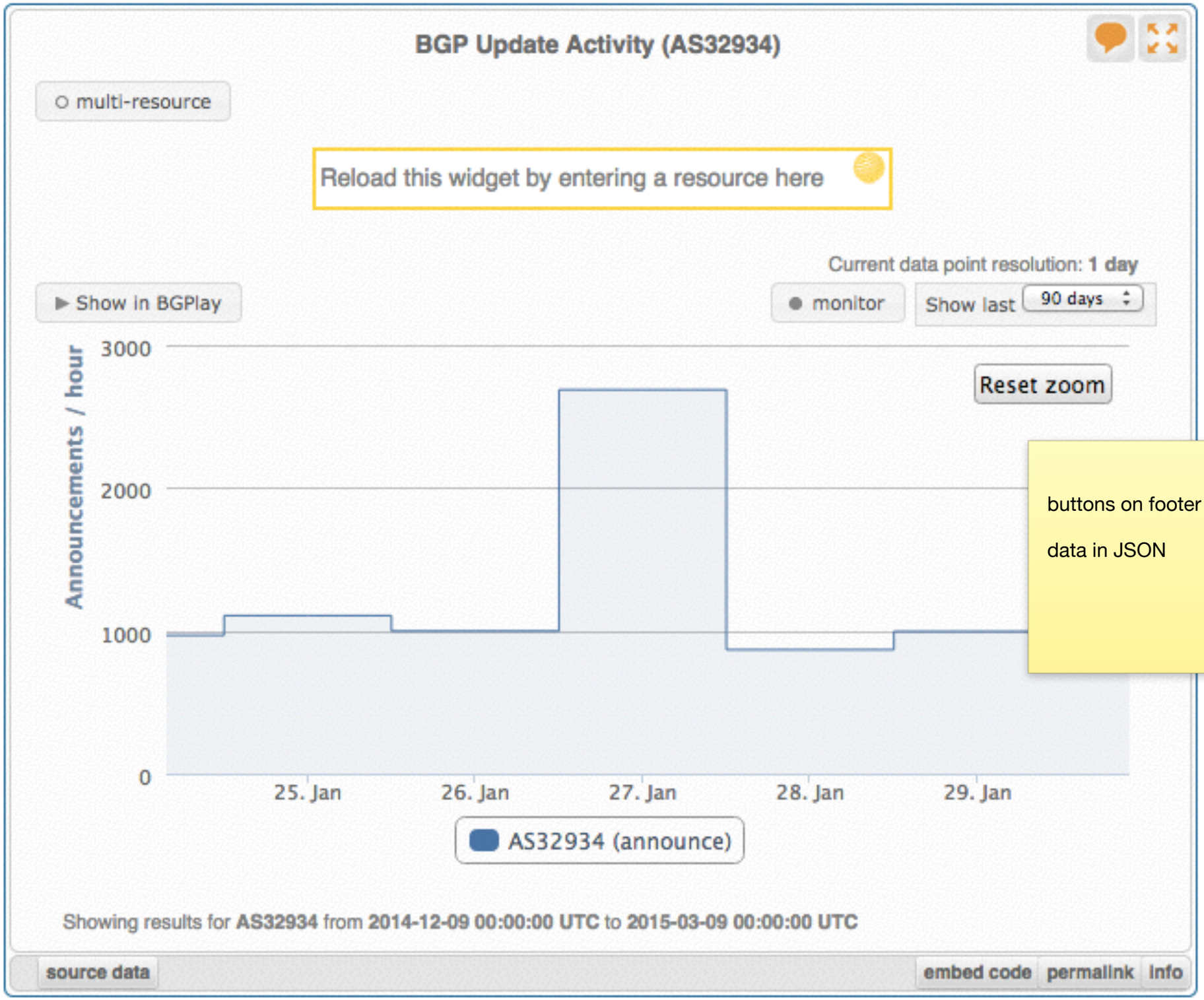
Data sources: https://stat.ripe.net/data-sources

Example: #facebookdown



https://labs.ripe.net/Members/emileaben/facebookdown-and-what-internet-data

Example: #facebookdown



buttons on footer

data in JSON

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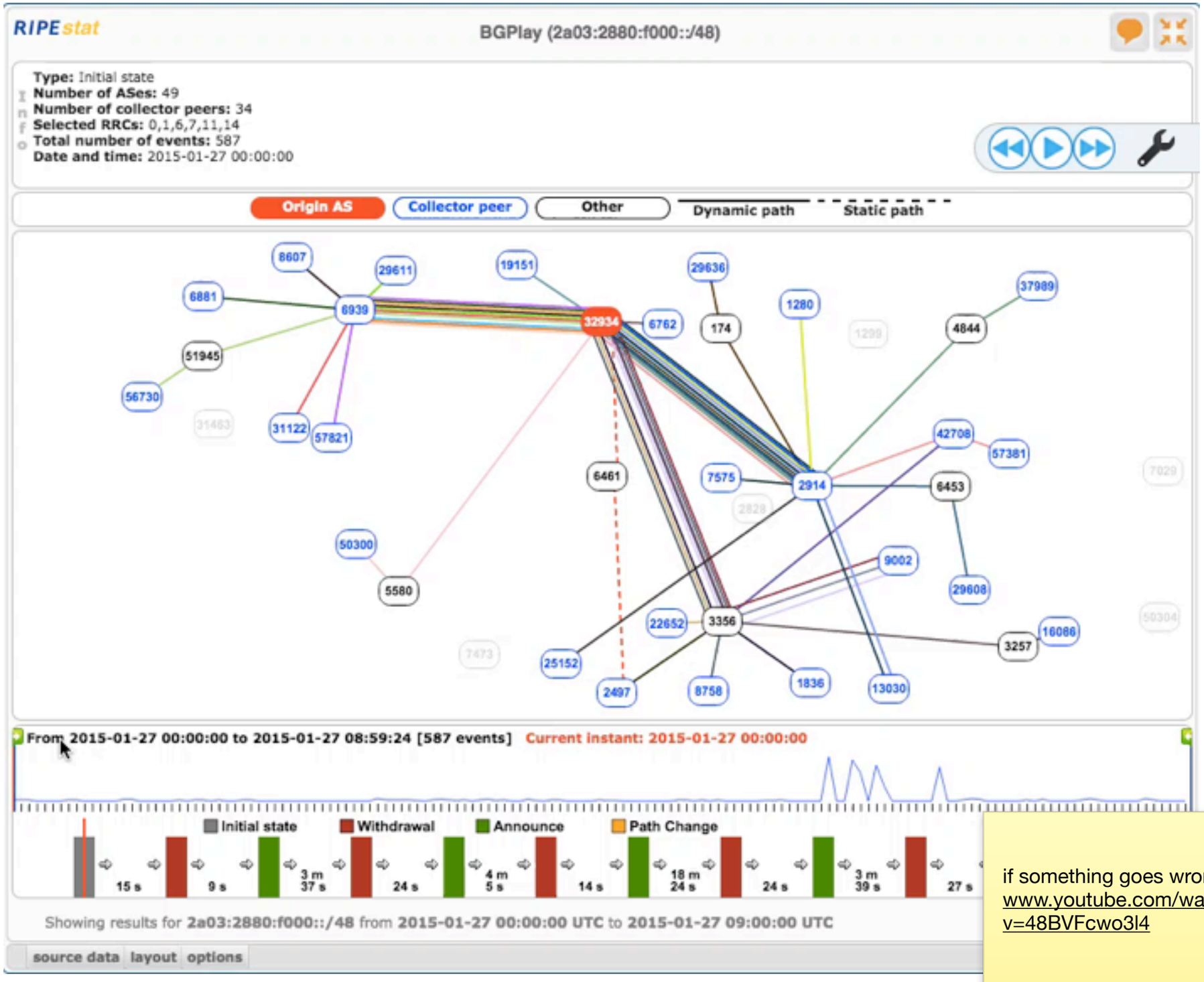
#facebookdown on BGPlay



Watch it in RIPEstat

if something goes wrong: https://www.youtube.com/watch?v=48BVFcwo3l4

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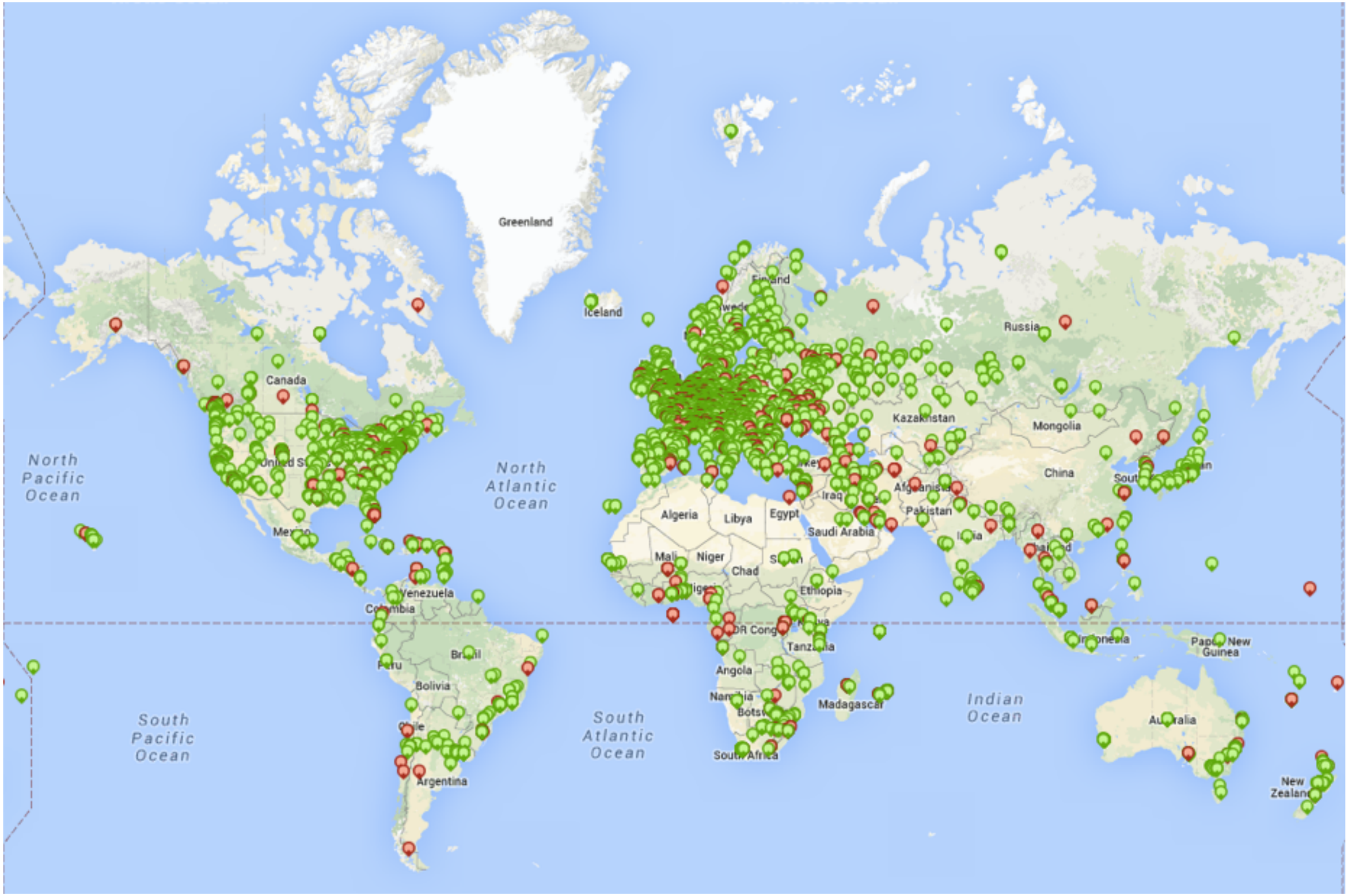
Considerations

- You can analyse your network from external points of view, or watch notable network events
- You can download the data used by the widgets in JSON format (“source data” in the footer)
- There is some delay before the data becomes available

It would be nice to be able to constantly monitor the network in real time

RIPE Atlas



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Some numbers (March 2015)

- 7,900+ probes connected (110+ Anchors)
- 2,600+ active users this month
- 2,500+ results collected per second
- 35,000+ user-defined measurements weekly
  - **Five** types of user-defined measurements available to probe hosts and RIPE NCC members: ping, traceroute, DNS, SSL, **NTP** (new)

Find measurements

Measurements

+ Create a Measurement

Filter by target and/or description | Any Status | IPv4/v6 | All types | Of all time

My Measurements | My Favourite Measurements | My Hidden Measurements | Public Measurements | All Measurements

Id		Type	Target	Description	Probes	Time (UTC)
1411455	Todor Yakimov	IPv4 trace...	fremaks01.ring.nlnog.net	de-fra-as5580.anchors.atlas.ripe.net	0	2019-11-14 00:30 - No Stop Defined
1411440	Todor Yakimov	IPv4 trace...	de-muc-as5539.anchors.atlas...	de-muc-as5539.anchors.atlas.ripe.net	0	2019-08-01 00:15 - No Stop Defined
1891035	Stanislav Bondarenko	IPv4 ping	mx.epss36.ru	Ping measurement to mx.epss36.ru	Calculating...	2015-03-10 15:00 - 2015-04-10 1...
1891037	Stanislav Bondarenko	IPv4 dns		DNS measurement to ns2.epss36.ru.	57	2015-03-10 12:48 - 2015-04-15 1...
1891036	Stanislav Bondarenko	IPv4 dns		DNS measurement to ns1.epss36.ru.	30	2015-03-10 12:46 - 2015-04-10 1...
1891034	Steffen Weinreich	IPv6 dns	2a02:ad0:15::35	DNS measurement to 2a02:ad0:15::35	50	2015-03-
1891033	FANOU Roderick	IPv4 trace...	212.199.219.221	UDP Af-tr4 to 212.199.219.221 id:Gg_cache_in_...	185	2015-03-
1891032	Atlas Anchoring Measurements	IPv6 trace...	fr-cdg-as2486.anchors.atlas...	Calibration for anchoring measurement: IPv6 Tra...	2741	2015-03-
1891031	Atlas Anchoring Measurements	IPv4 trace...	fr-cdg-as2486.anchors.atlas...	Calibration for anchoring measurement: IPv4 Tra...	7742	2015-03-10 12:25 - 2015-03-10 1...

Focus on “search before create”

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Create new measurements

Costs summary

Define a measurement first

Step 1 Definitions

Please select the type of measurement you want to create

+ Ping | + Traceroute | + DNS | + SSL | + HTTP

Step 2 Probe Selection

Worldwide 50 ×

+ New Set - wizard | +New Set - manual | + IDs List | + Reuse a set from an old measurement

Step 3 Timing

This is a One-off: ☐

Start time: *As soon as possible*

Stop time: *Never*

› Measurement API Compatible Specification

Create My Measurement(s)

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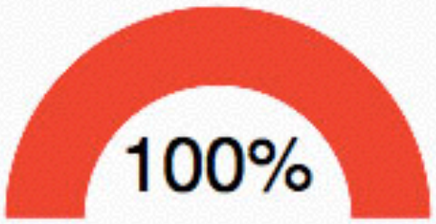
Define new measurements

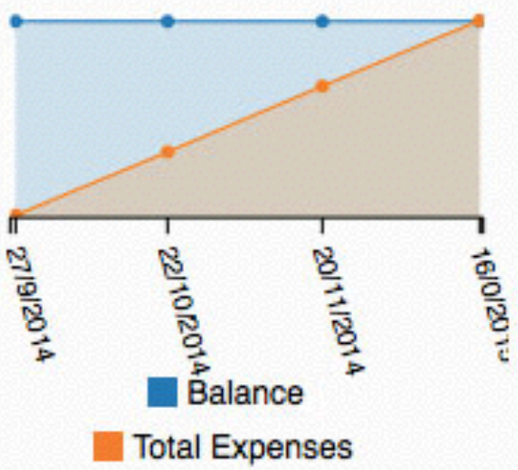
Summary

Daily costs



By scheduling this measurement, your total daily consumption will be 100.0% of your daily income

You will run out of credits in about 81 days



Step 1 Definitions

Ping measurement

Target

An IP address or hostname

Description

Ping measurement

A free-form description of this measurement

Address Family

IPv6

Interval

240

How often this should be done (seconds between samples). Note that this value is ignored for one-off measurements.

Packets

3

Resolve on Probe

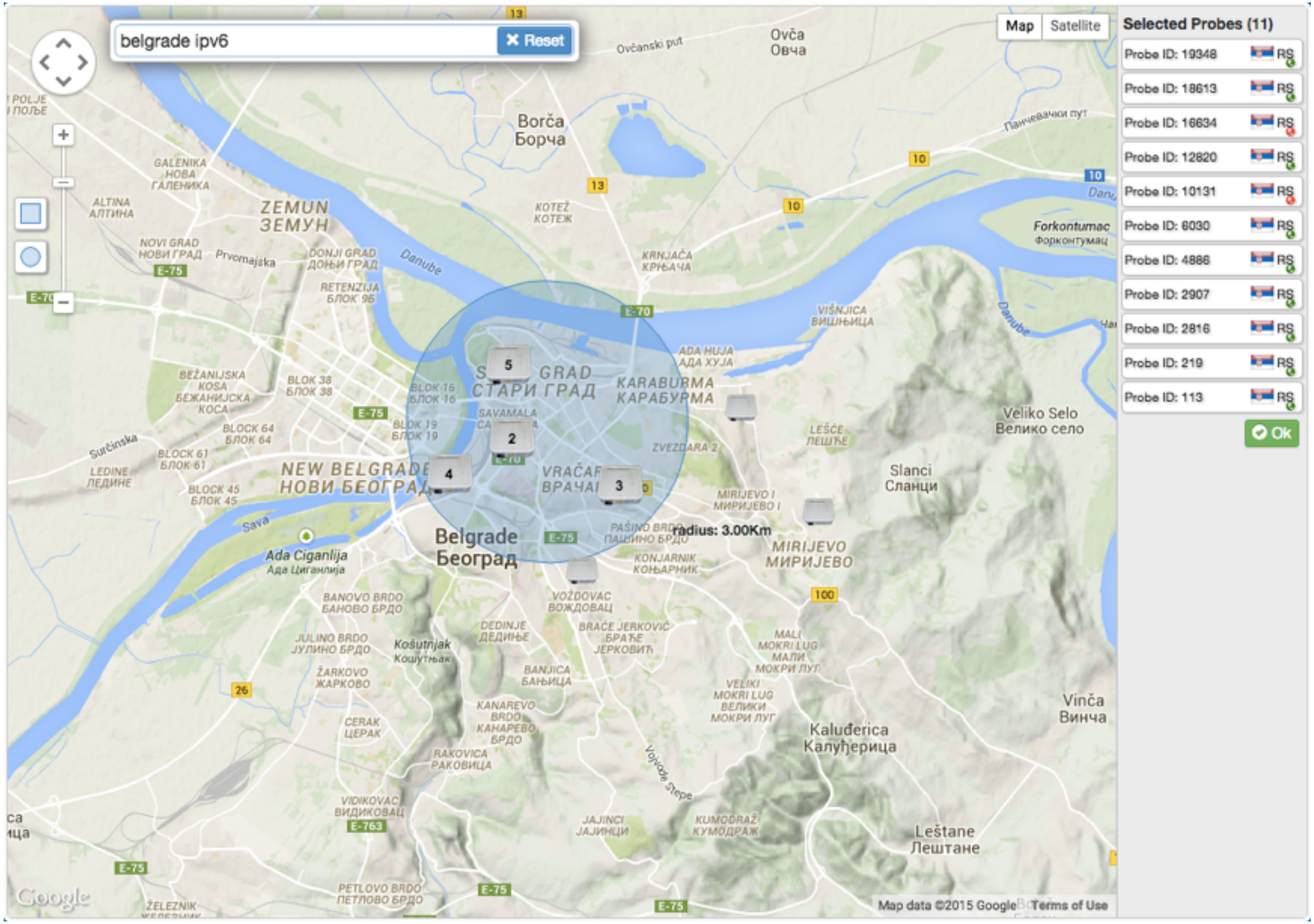
Force the probe to do DNS resolution

Size

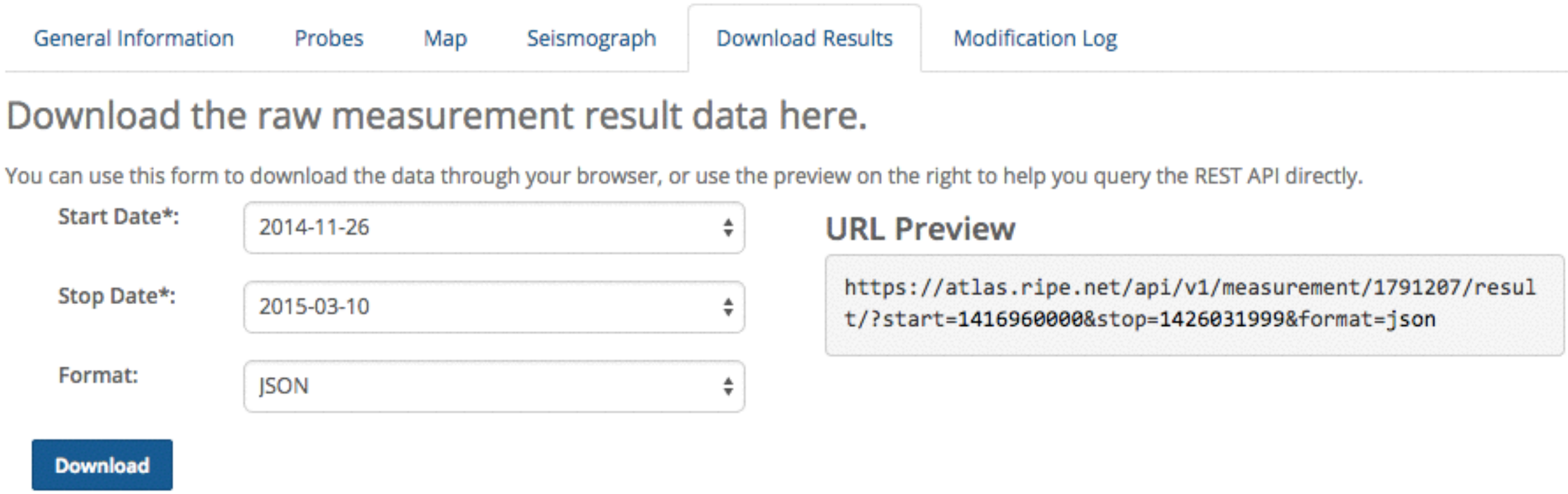
48

+ Ping + Traceroute + DNS + SSL

Select probes

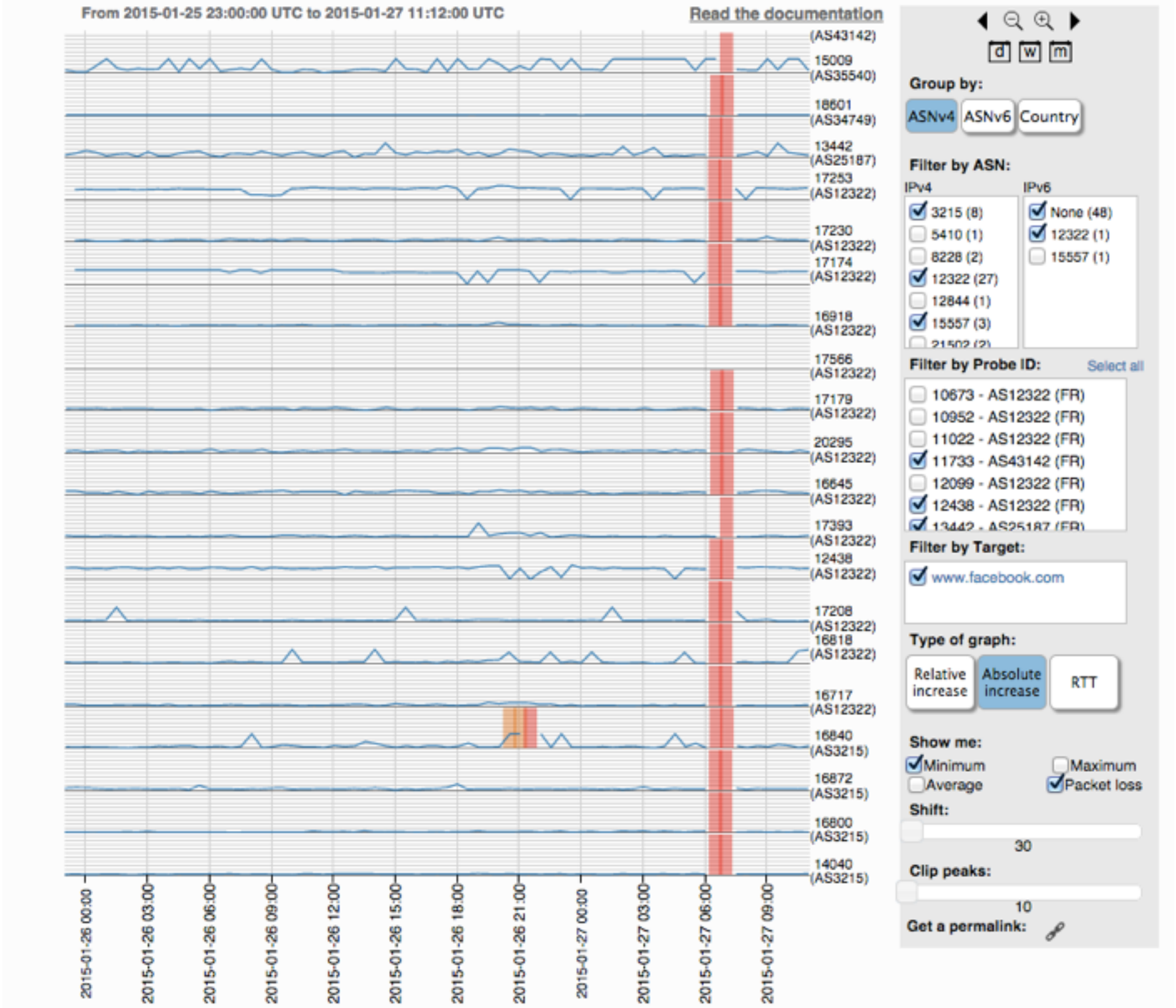


Download results



- After the data is processed and stored, it is **downloadable** in JSON format or **visualisable** some minutes later

Seismograph: #facebookdown



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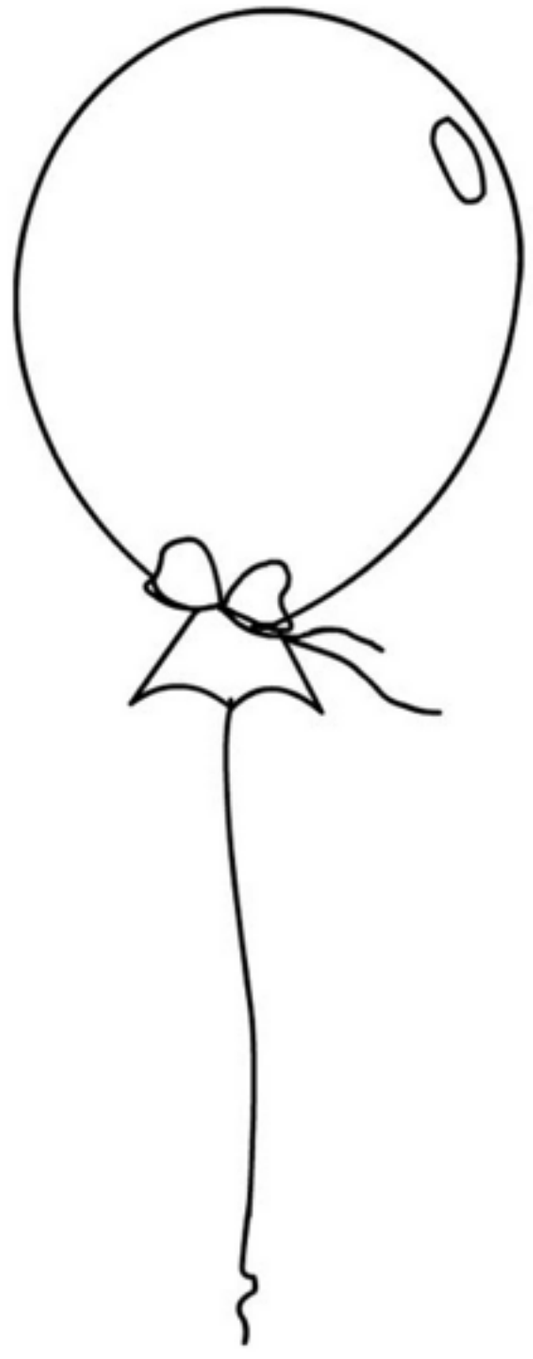
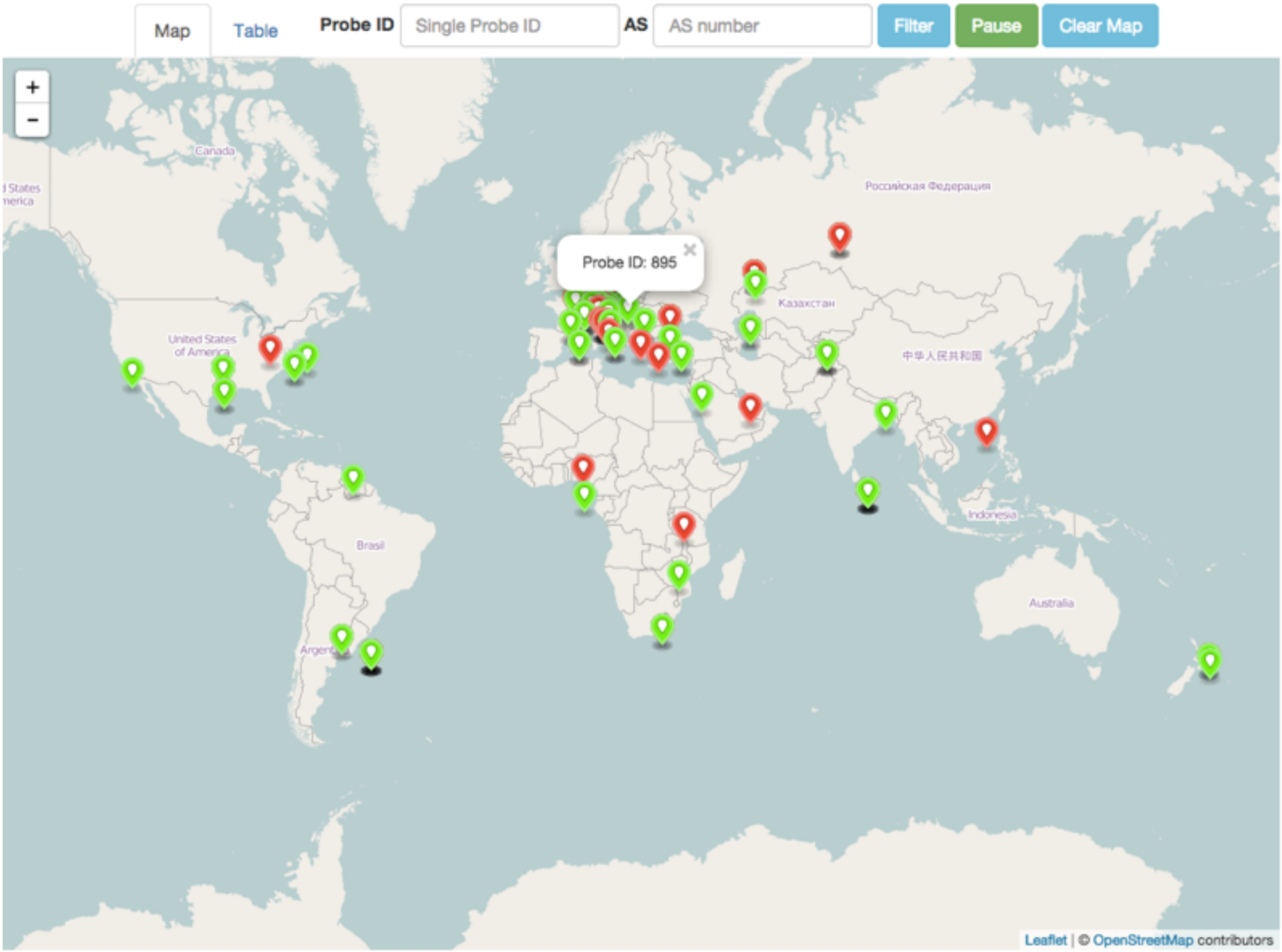
It would be nice to receive the results as soon as they are sent by the probes!

New: RIPE Atlas streaming

- **RIPE Atlas streaming** is a new architecture that allows users to receive the measurement results as soon as they are sent by the probes
  - Publish/subscribe through sockets
  - Measurement results and connection status events
  - Possibility to replay history (prototype)



Probe connection events



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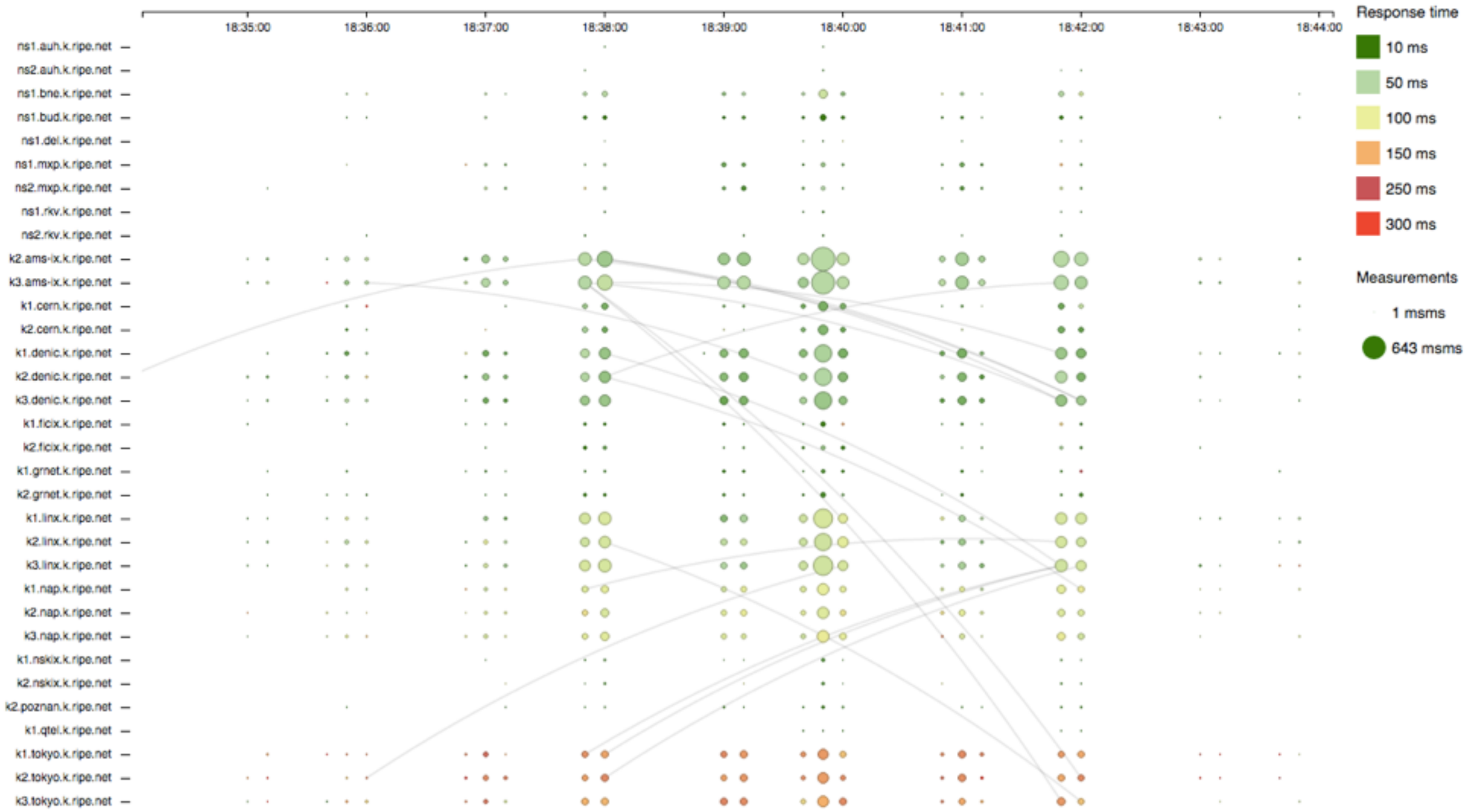
DNS Root server results



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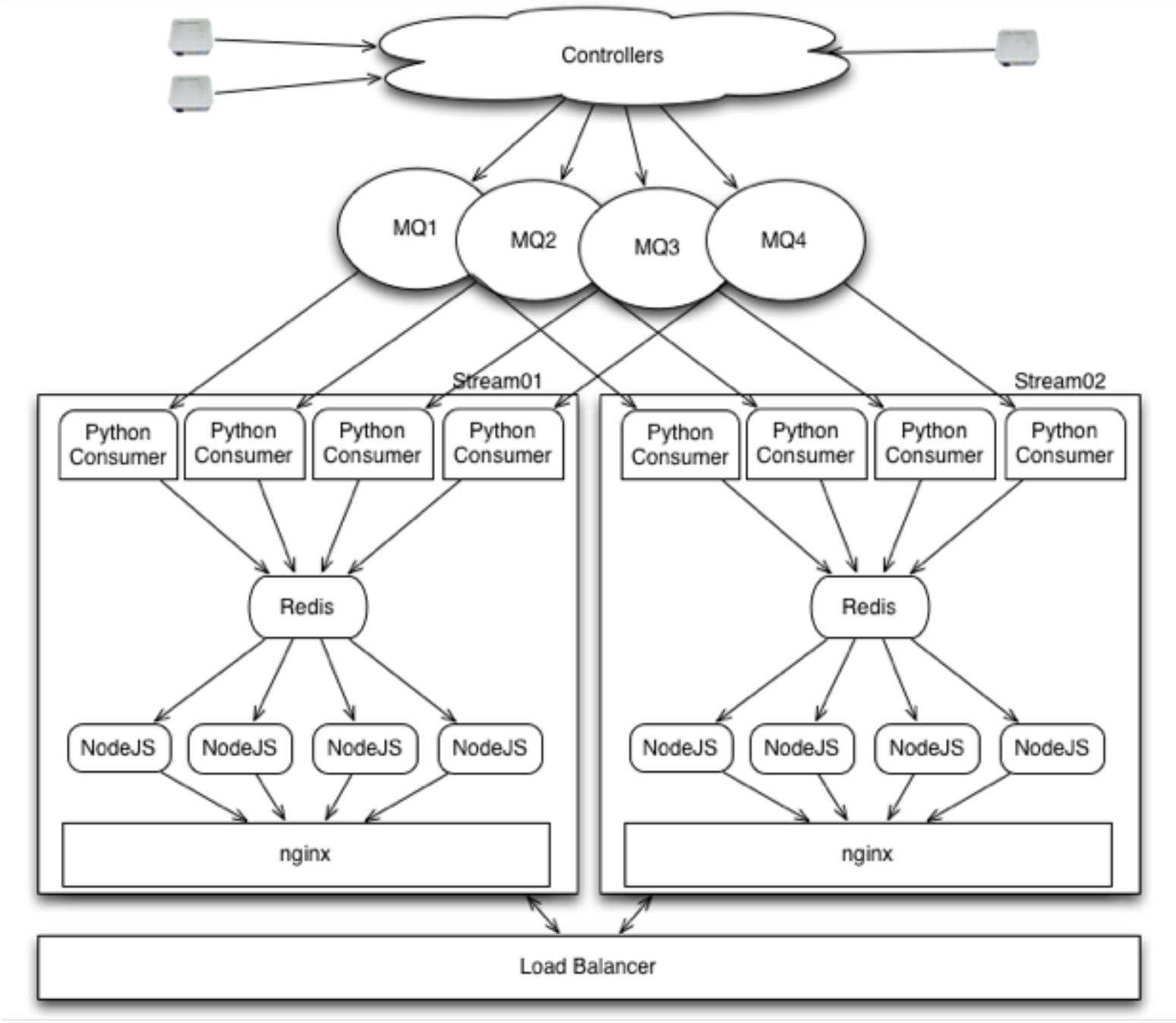
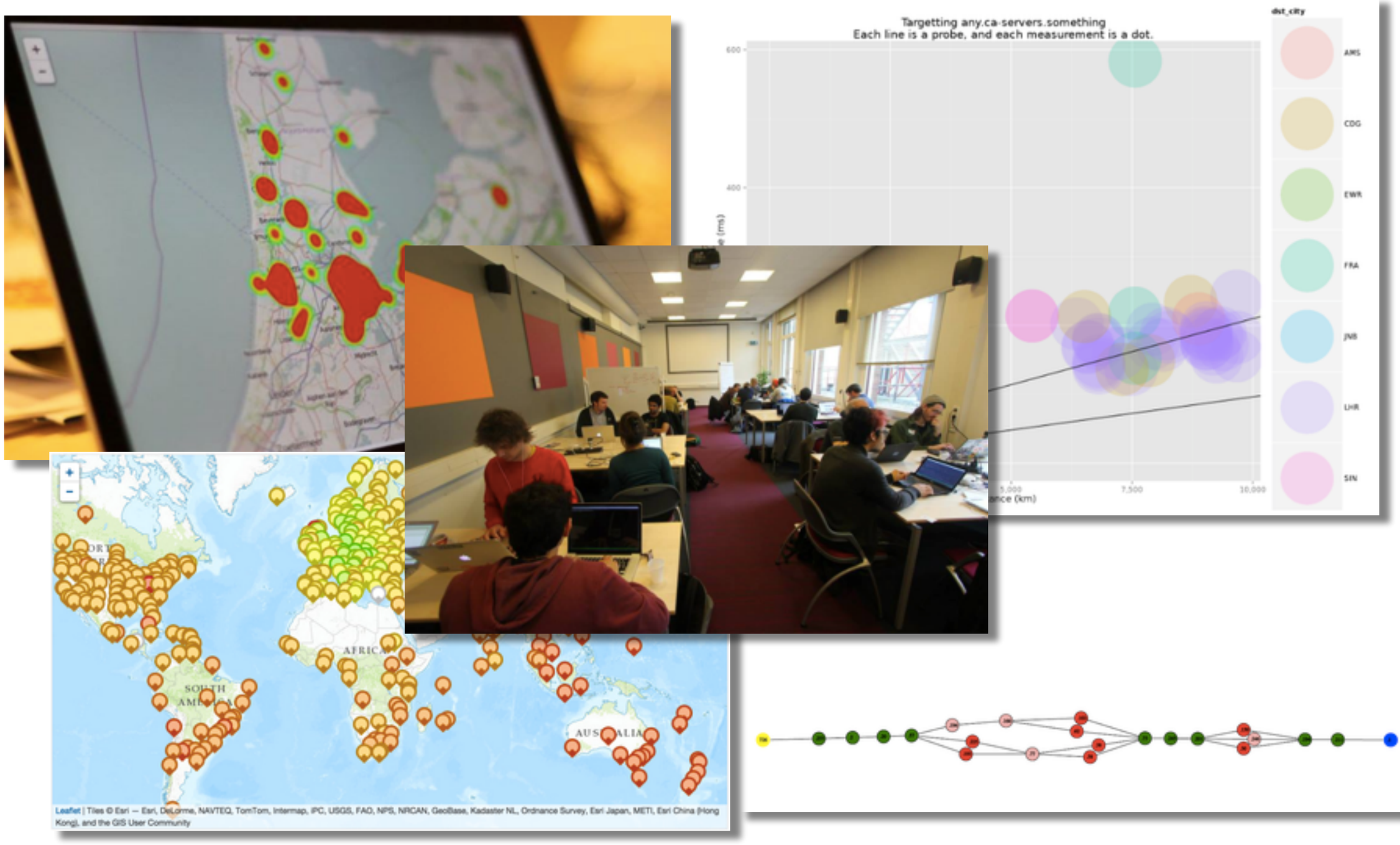
Streaming architecture



Possible client: a browser with socket.io and five lines of JS code

RIPE Atlas hackathon 2015



https://labs.ripe.net/Members/becha/ripe-atlas-hackathon-results

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Resources

- Take part on GitHub
  - https://github.com/RIPE-NCC/
  - https://github.com/RIPE-Atlas-Community/

- RIPE Atlas streaming documentation
  - https://atlas.ripe.net/docs/result-streaming/

- Roadmaps:
  - http://roadmap.ripe.net/

Give us feedback

- RIPE Atlas: https://atlas.ripe.net
  - atlas@ripe.net
- RIPEstat: https://stat.ripe.net
  - stat@ripe.net
- On Twitter
  - @RIPE_Atlas, #RIPEAtlas & #RIPEstat
- On RIPE Labs: https://labs.ripe.net

Questions?