

# Some interesting results from RIPE Atlas

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# Intro

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- For some measurements you need as many sources as possible, dozens are just not enough.
- RIPE Atlas provides measurement capability from close to 2000 (and growing) vantage points.
- Here are some results about what we can see...

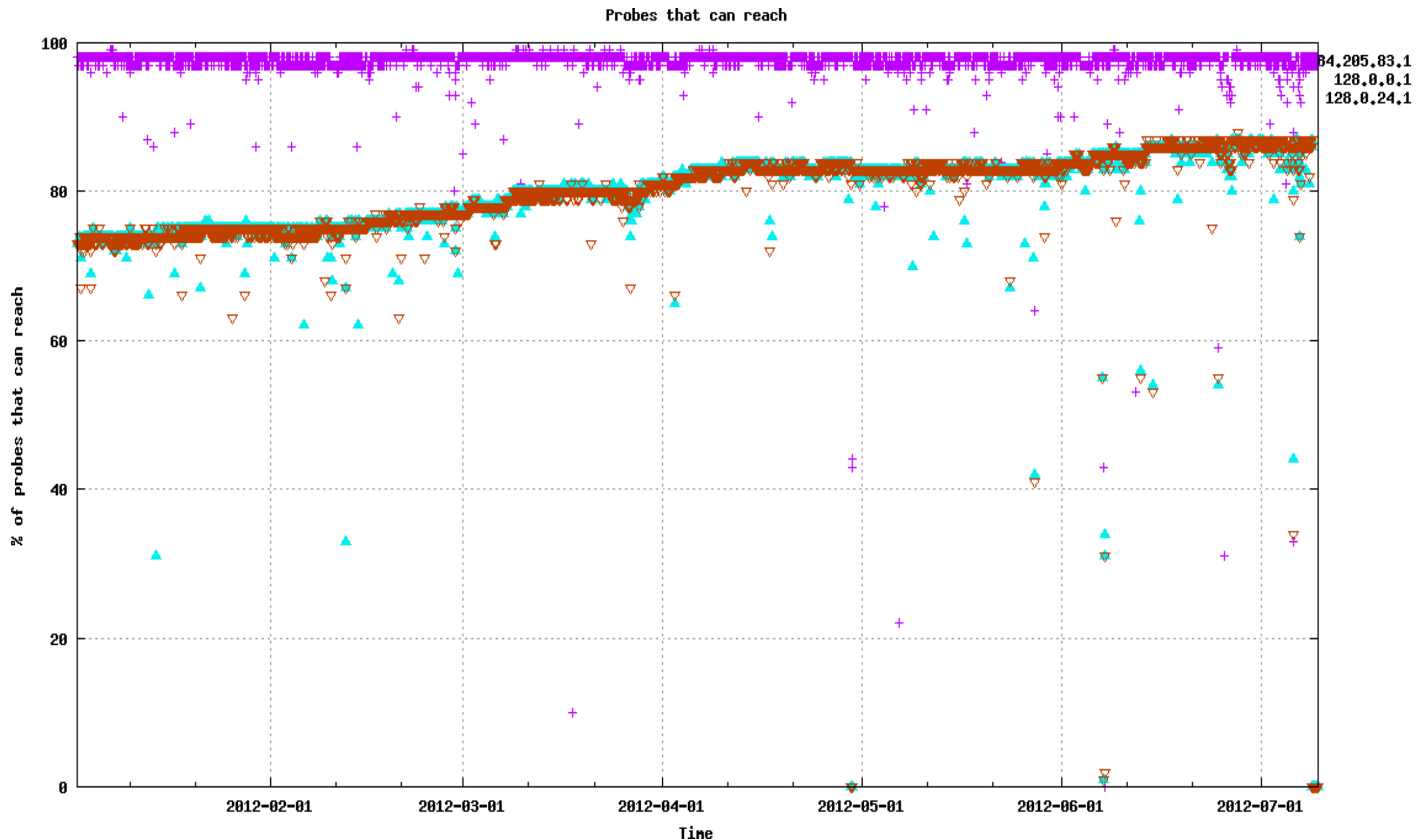


# Connectivity to 128.0/16

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- The prefix 128.0/16 is filtered in Juniper devices up to and including JUNOS version 11.1.
- We looked at three ways to get a rough estimate on how much filtering of 128.0/16 is going on on the Internet.
- We tracked this over time (2011-12 – 2012-07).
- We contacted holders of AS-es where we detected filtering.

# Connectivity to 128.0/16



# Visualising IPv6 traceroutes

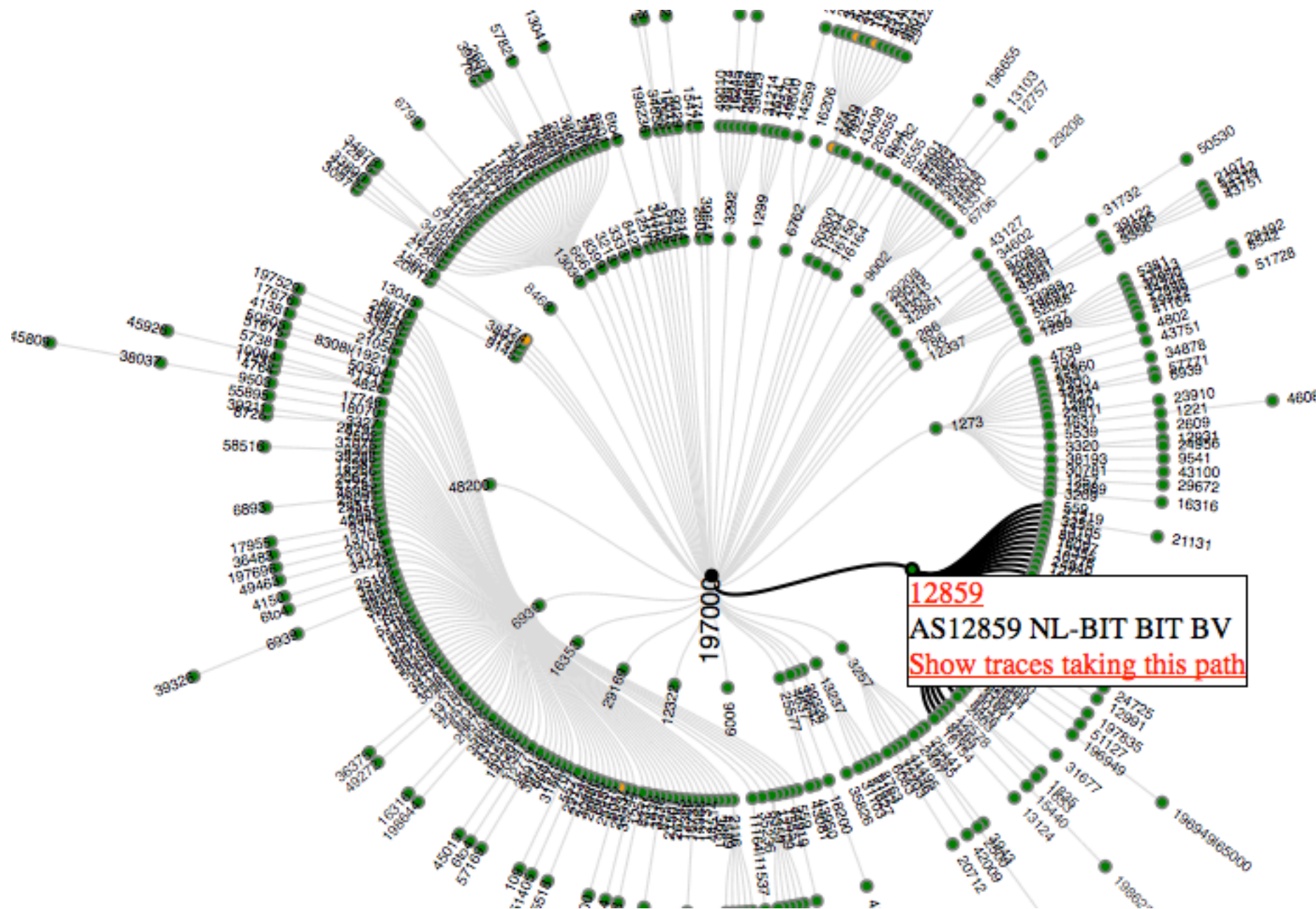
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- Atlas allows any RIPE NCC member to trace to their IPv6 targets from all IPv6 capable probes
- We added a (prototype) visualisation for these results
  - It's interactive, you can explore the successful and unsuccessful paths, look at the actual traces, etc.
- One example shown here: traceroute to `ns.ripe.net`



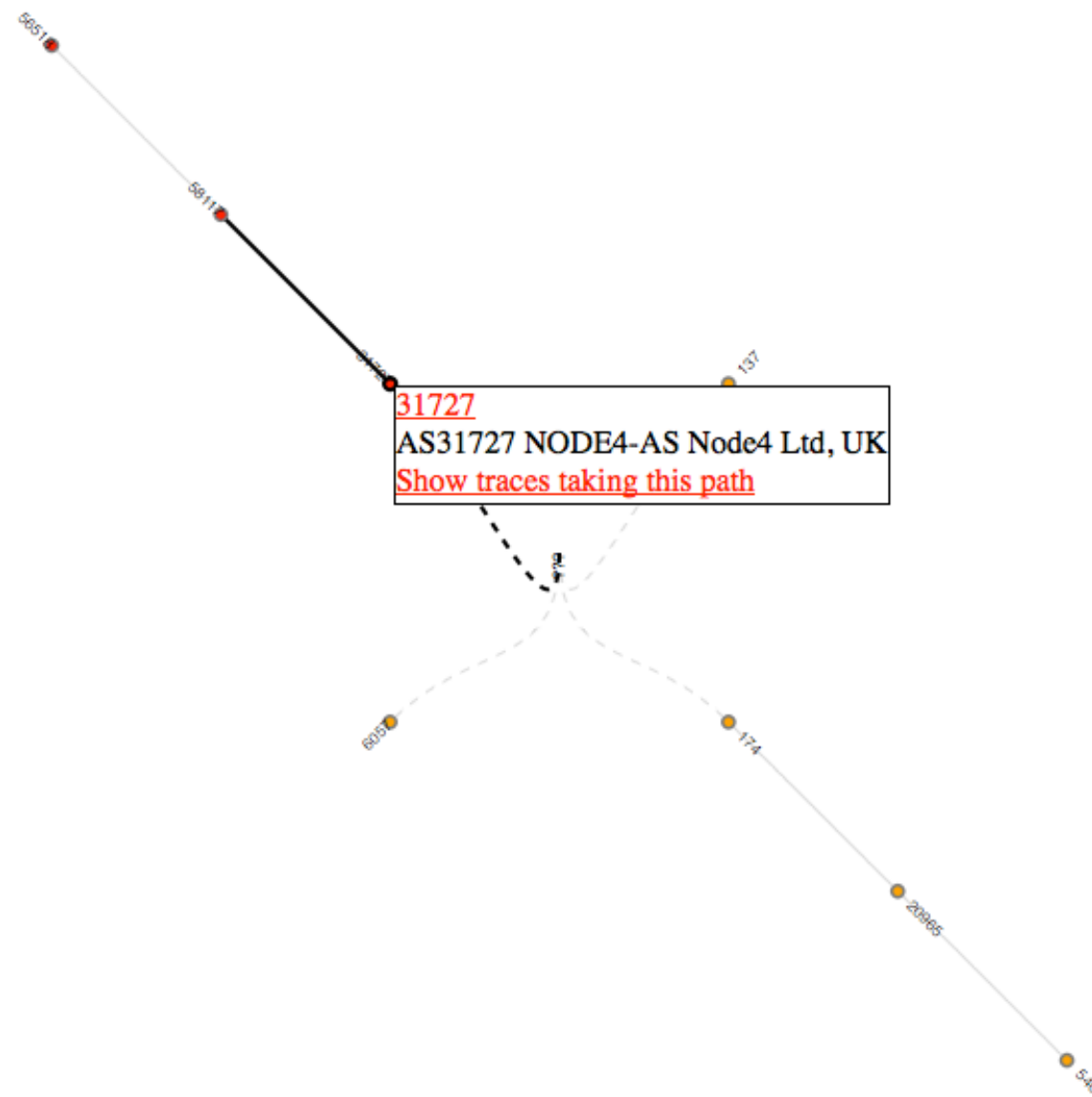
# Visualising IPv6 traceroutes

Successful paths (ASNs):



# Visualising IPv6 traceroutes

Unsuccessful paths (ASNs):



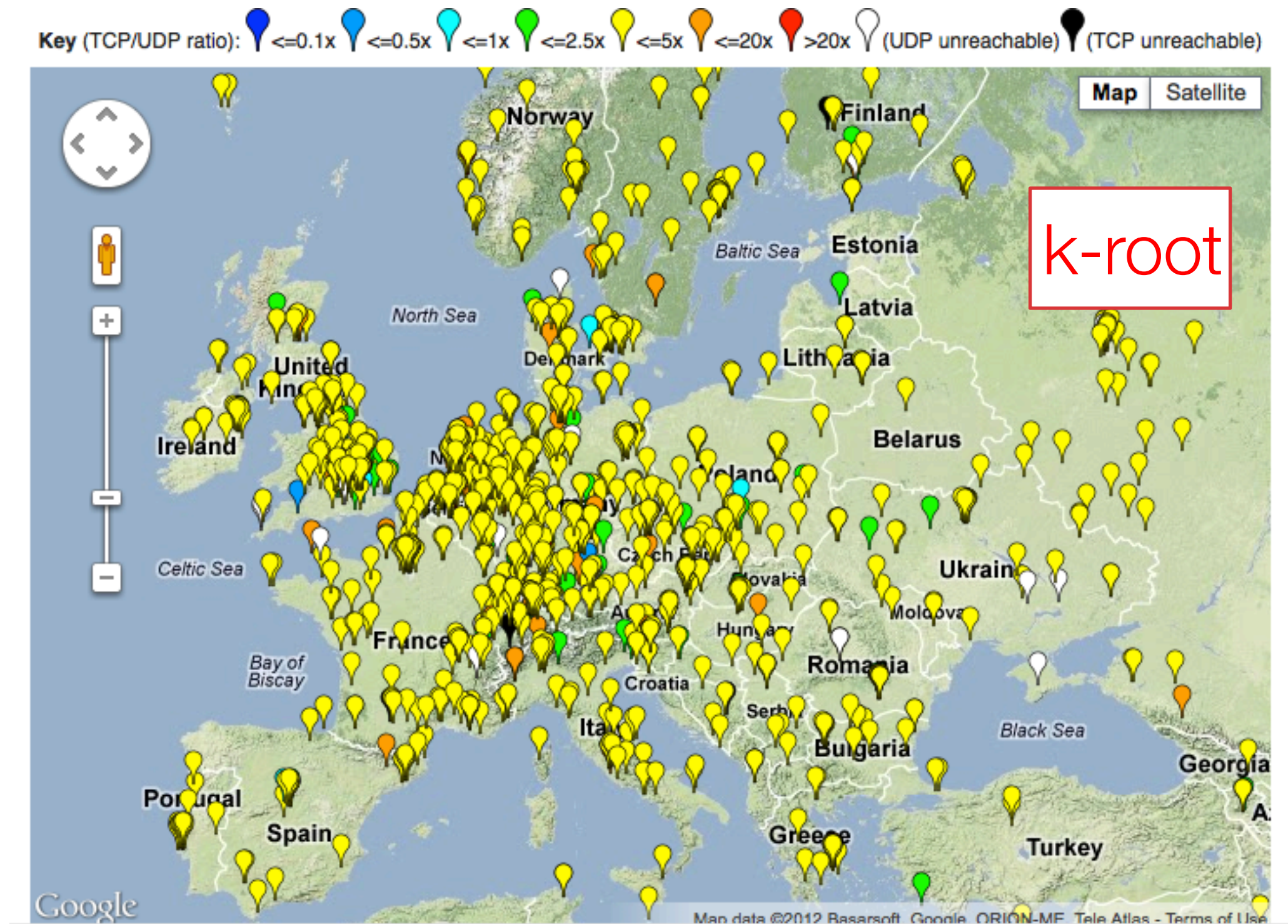
# Comparing UDP and TCP on root servers

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- We've been measuring performance of UDP and TCP against root DNS servers for a long time.
- Some of you asked us to compare them, so we did!
- Performance expectation for the same query, against the same server, UDP vs. TCP:
  - $\text{response\_time(TCP)} = 2 * \text{response\_time(UDP)}$
- With UDMs, it's possible to do this against any name server!

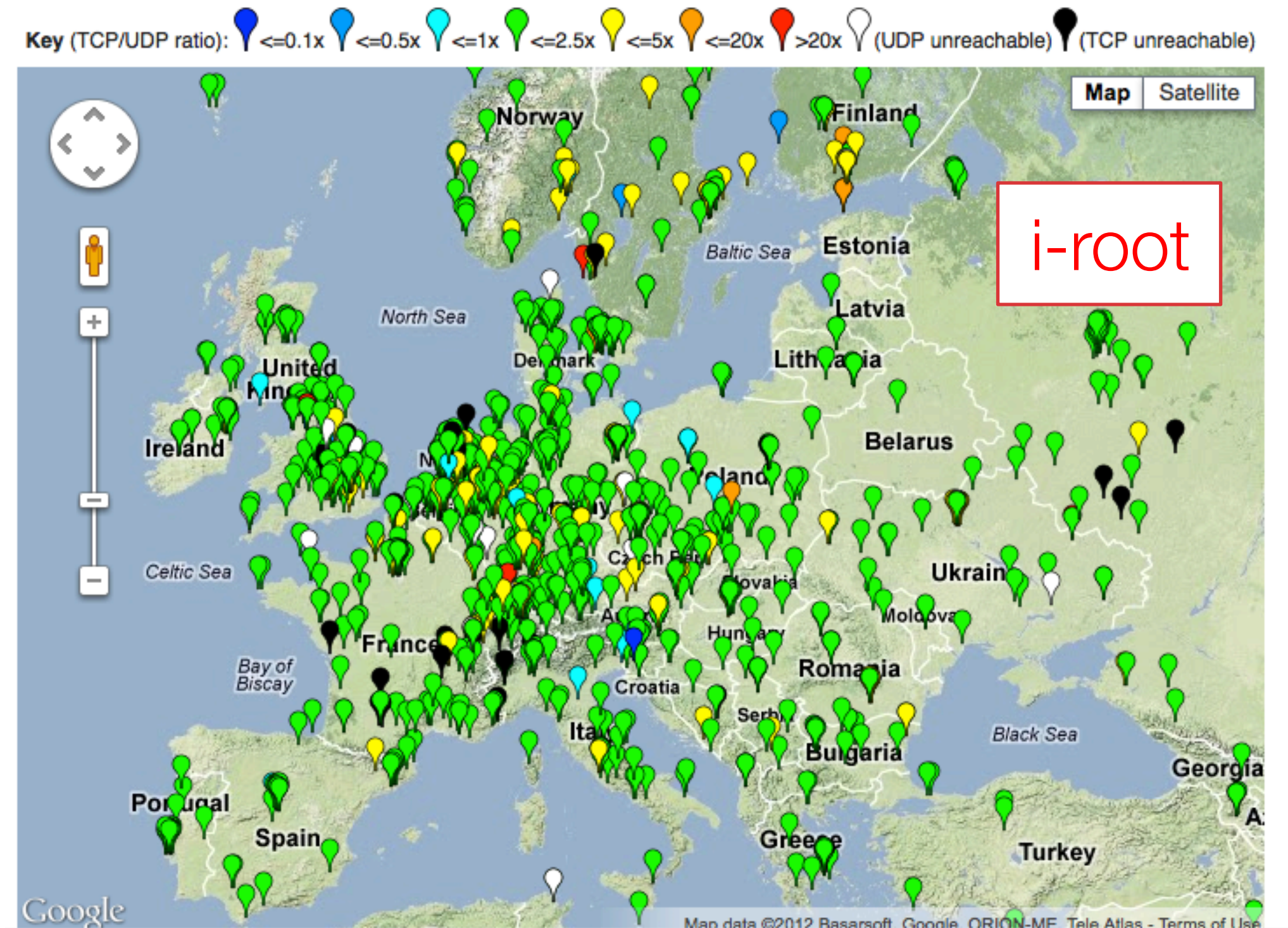


# Comparing UDP and TCP on root servers



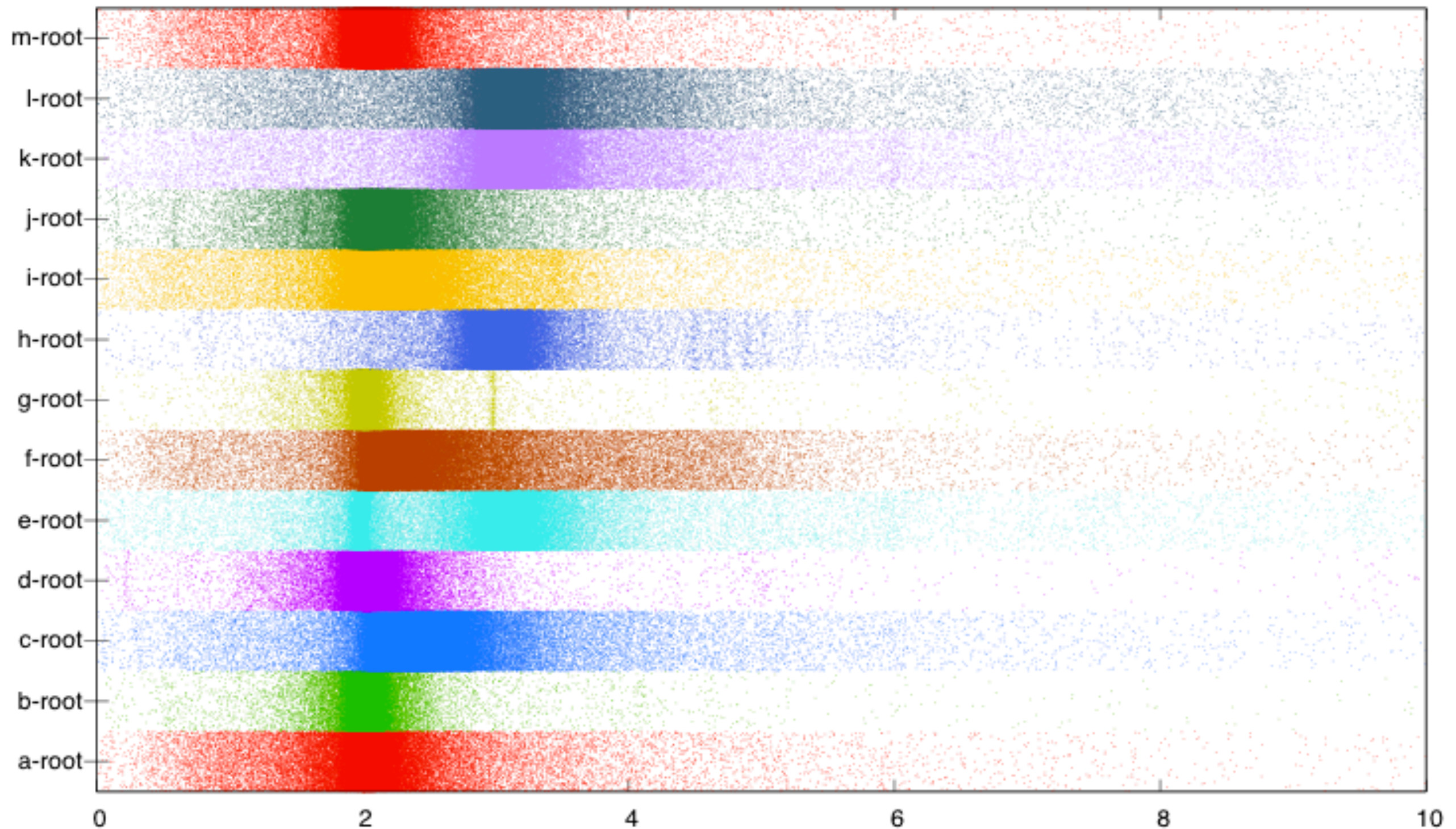


# Comparing UDP and TCP on root servers





# Comparing UDP and TCP on root servers





# In-transit Modification of DNS Responses



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## Further information:

- <https://atlas.ripe.net/>
- <https://labs.ripe.net/Members/dfk/128.0-16-seen-by-atlas>
- <https://labs.ripe.net/Members/emileaben/visualise-your-ipv6-connectivity-using-ripe-atlas>



# Questions?

