ISC's Root System Visualiser

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https://www.isc.org/

What is it?

An interactive map, developed in support of the RSSAC WG "*Tool to Gather a Local Perspective of the Root Server System*".

What does it do?

It plots heat maps representing the latency of the Root System, for individual root letters, or for the n^{th} fastest root letter.

This helps reveal areas that are *potentially* under-served by the Root System.

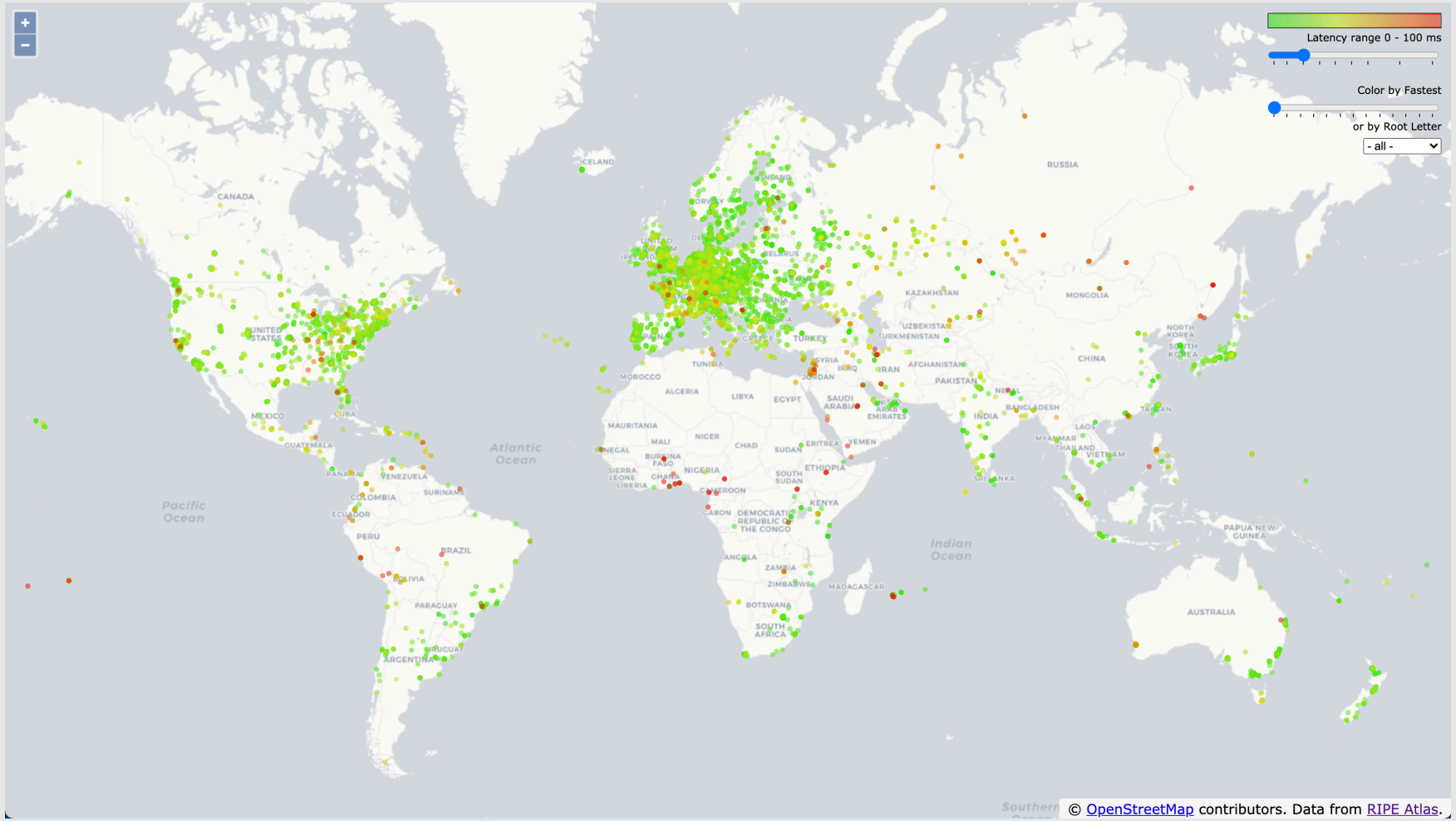
Source Data

- RIPE Atlas
  - 10k+ freely distributed network monitoring devices
  - Ping / Traceroute / DNS Lookups, etc
    - Built-in standard measurements
    - User-specified measurements
  - Centralised collection of results
  - Accessible using a REST API

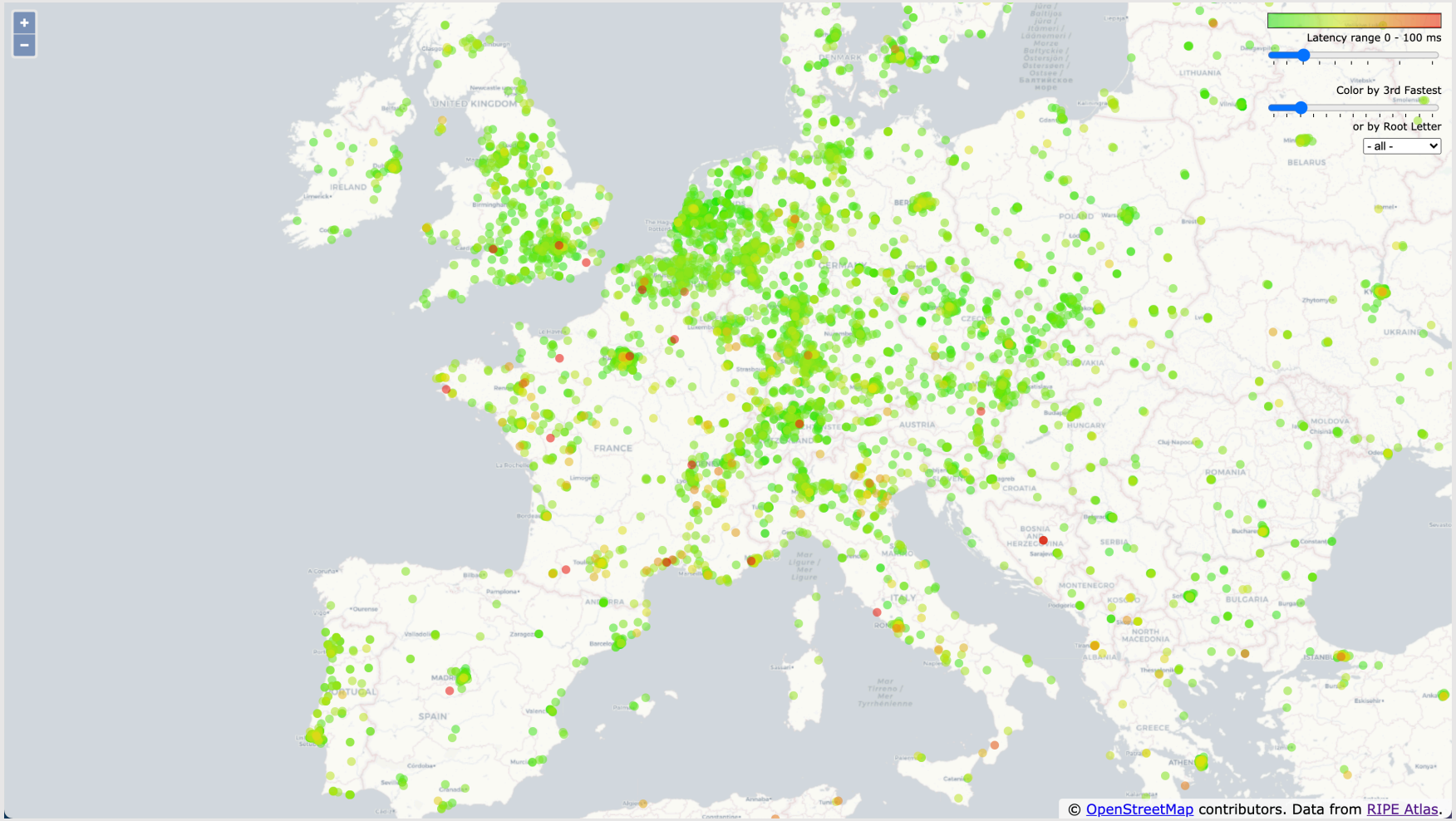
Source Data #2

- At about 10 minute intervals, every RIPE probe sends a “hostname.bind CHAOS TXT” query to each of the root letters
- The response reveals the Anycast instance ID (usually based on IATA airport codes or LO-CODE) and the query latency
- Given the dataset of probe locations, these can be plotted

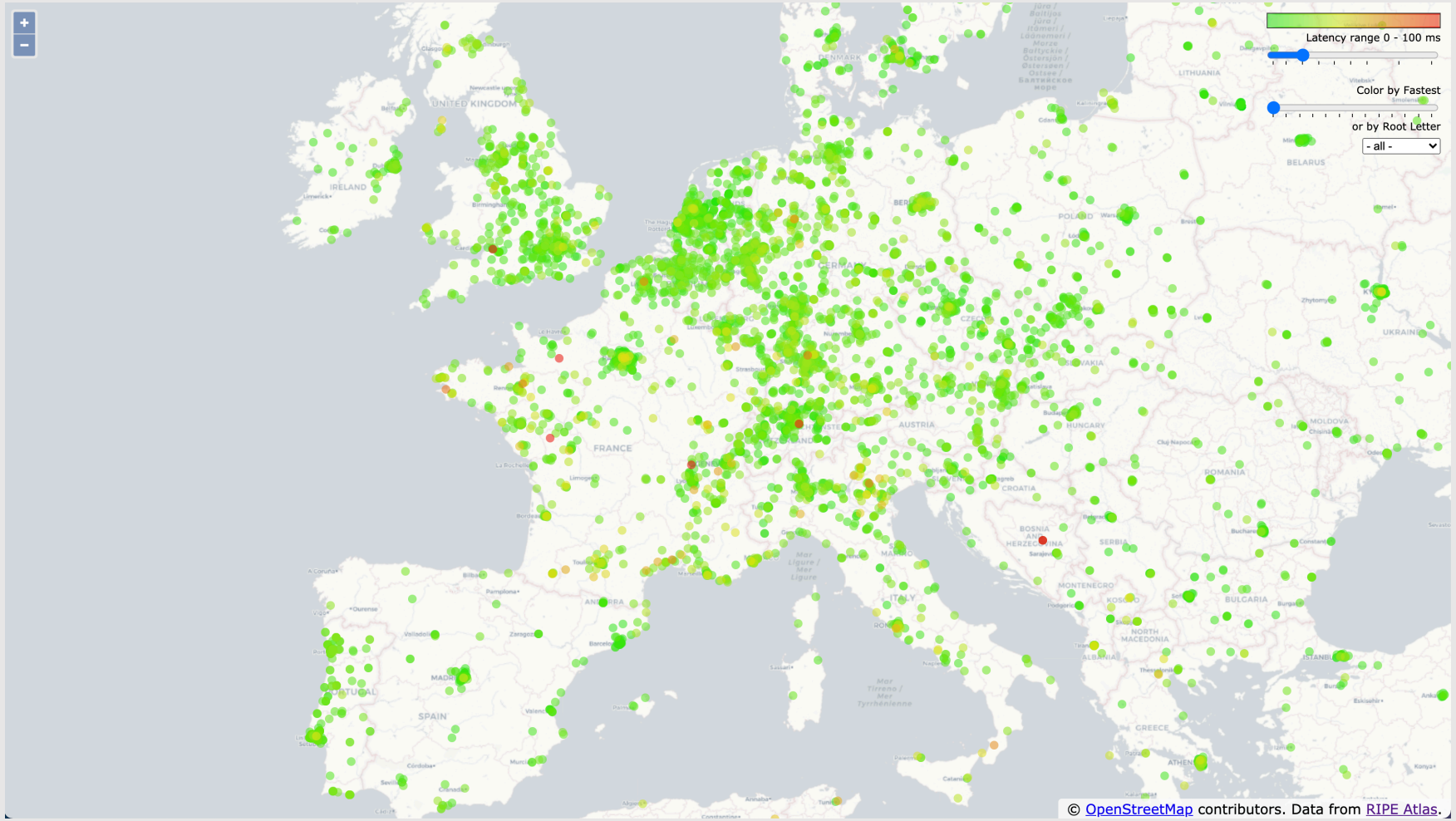
World view, fastest RSI, red >= 100ms



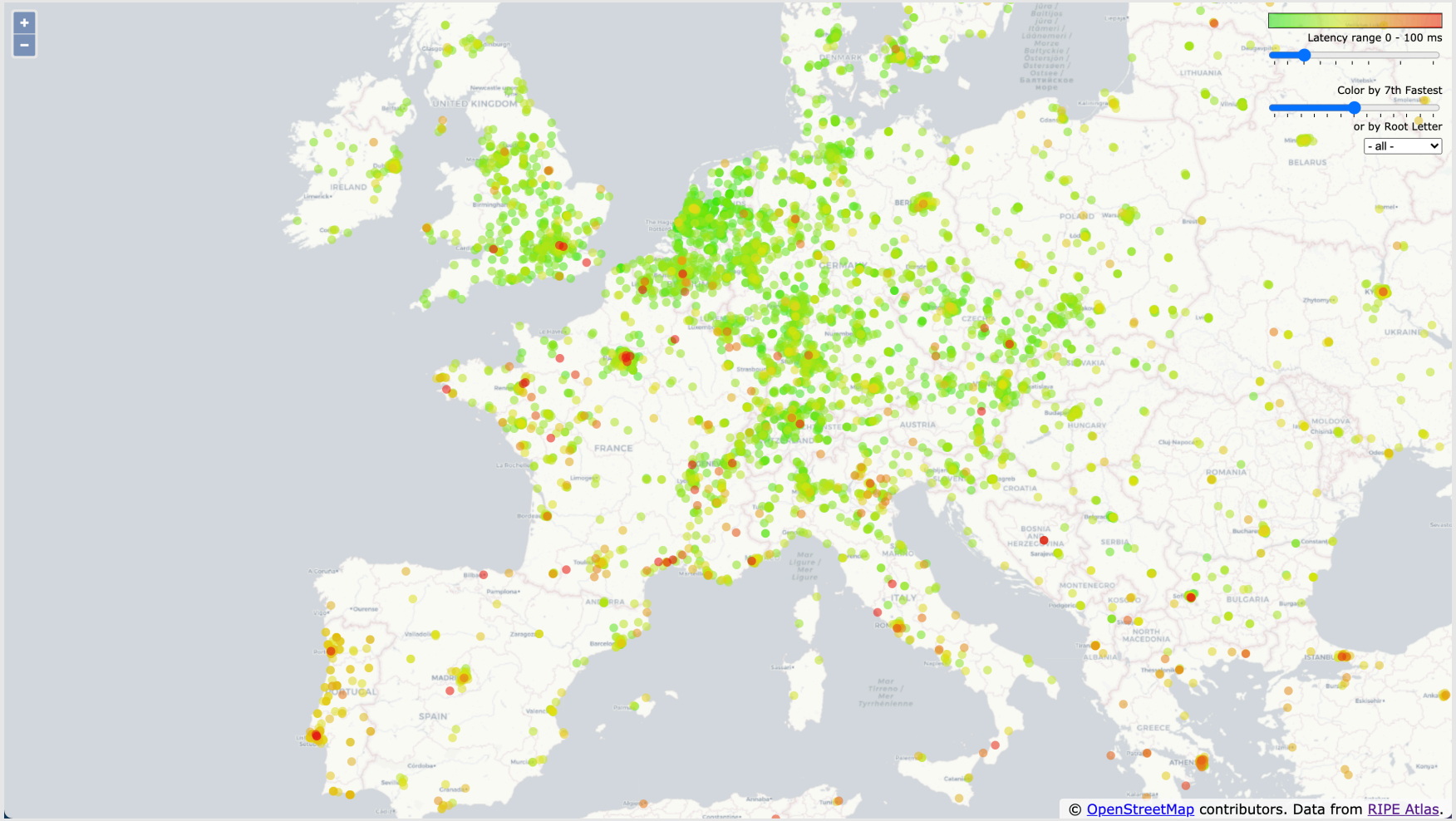
Most of Europe - at least one RSI <100ms



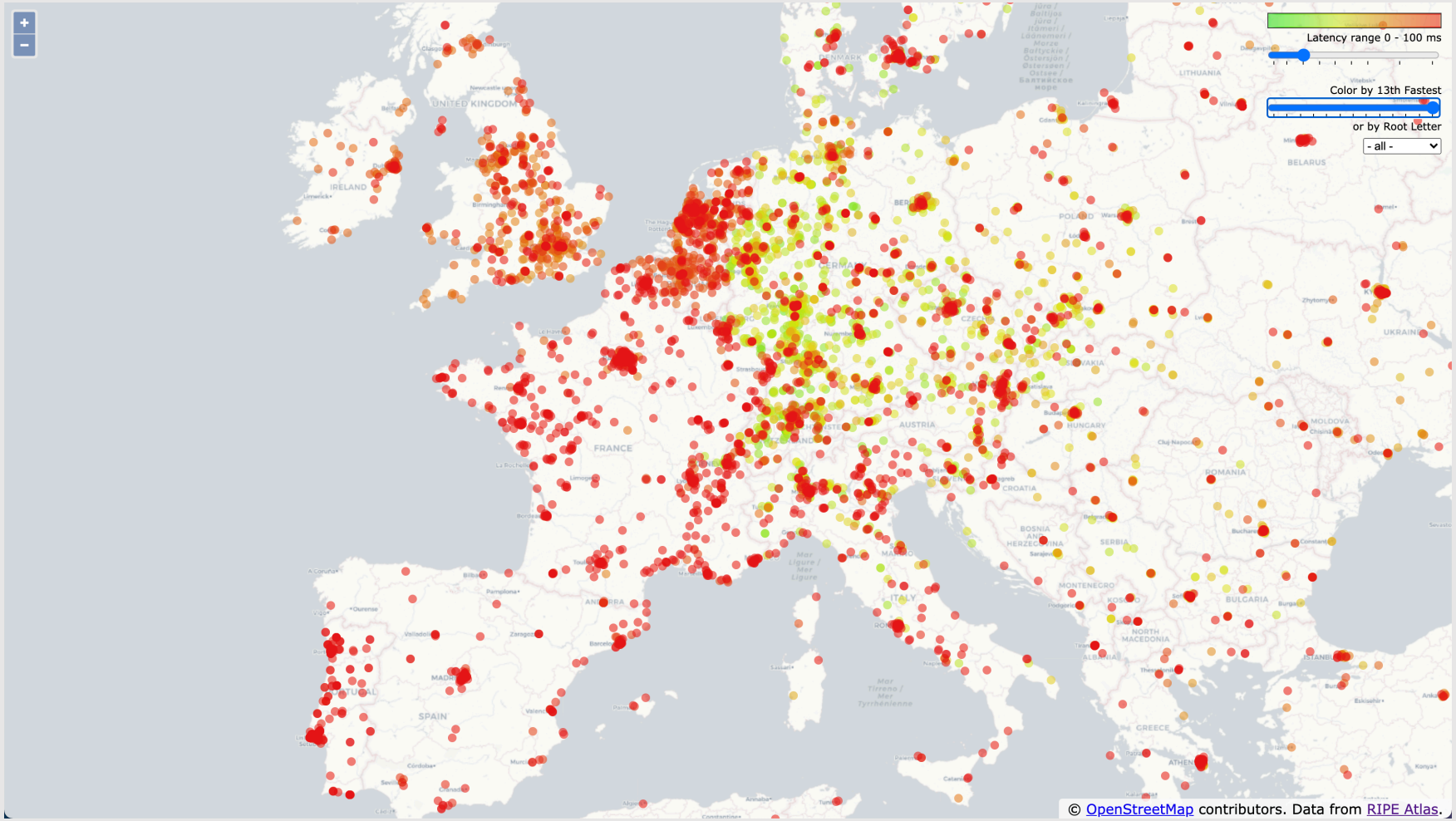
Most of Europe - at least <u>three</u> RSI <100ms



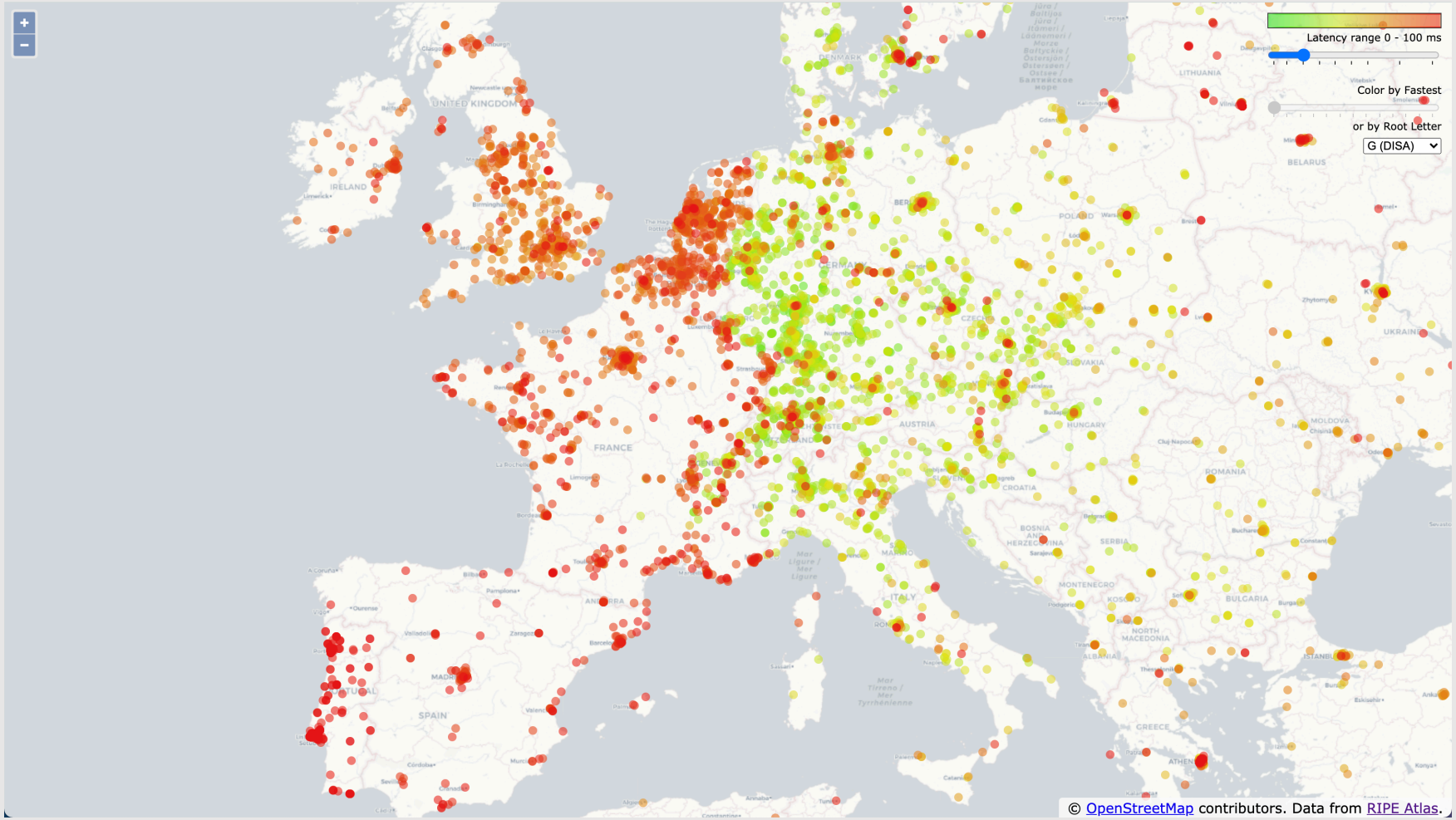
Looking at the 7th Fastest RSI



Looking at the slowest RSI



National borders and Peering



National borders and Peering

Poor RSS latency is sometimes because of a lack of interconnection, not a lack of root server instances.

Peering is vitally important — Regional (international) peering especially so.

However a long-haul intercontinental peering link might send you to a more remote RSI than expected!

Thank you!

URL: https://atlas-vis.isc.org/

Source: https://github.com/isc-projects/atlas-vis

NB: Works best in Google Chrome