

# RIPE Atlas & RIPEstat

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MENOG 13

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# RIPE Atlas - Active Measurements Network

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**<https://atlas.ripe.net>**

- Next-generation Internet measurements network
  - Thousands of measurement vantage points
  - Probes run different measurements: ping, traceroute, SSL, DNS
- Instead of building small, individual, private infrastructures, build a HUGE common infrastructure that serves both private and community goals

# RIPE Atlas Update

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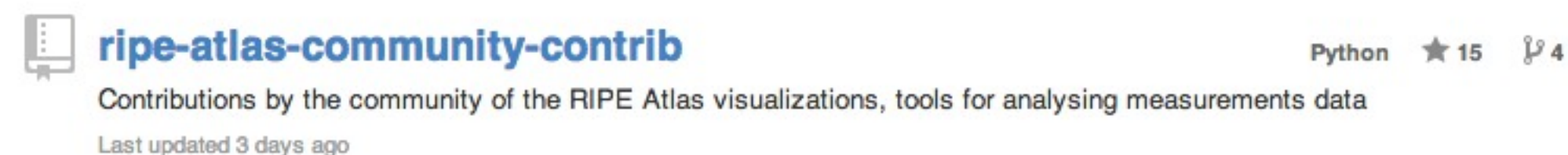
- 3,800 active probes and 8,400 users worldwide
  - Increasing number of requests
  - Working on next version of probes
- RIPE Atlas anchors pilot started
  - Collecting data as enhanced RIPE Atlas probes
  - Acting as targets for regional measurements
- New generation probes
  - TP-LINK TL-MR 3020
  - (No WiFi capabilities for privacy reasons)



# Recent Developments

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- REST APIs to interact with the system
  - Probe API: info about vantage points
  - Measurement API: info about measurements
  - API for starting measurements
- Code released
  - For measurements and analysis
  - <https://github.com/ripe-atlas-community>





# Recent Developments

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- One-off measurements & Quick Look (members)
  - Allow for immediate, one-time measurements
  - In addition to user-defined measurements

## Quick Look BETA

RIPE Atlas Quick Look measurements allow RIPE NCC members to get a virtually instantaneous snapshot of how the RIPE Atlas network sees a target of their choice -- whether an IPv4 or IPv6 address or hostname -- anywhere in the world. This is a special RIPE Atlas feature available to RIPE NCC members, regardless of whether they host a RIPE Atlas probe.

Please enter the destination of your choice, and the system will randomly select up to 100 probes from across the RIPE Atlas network to ping the chosen target. Results are displayed in real time as they come in.

This interface is intended for ad-hoc, interactive use. *For regular and automated measurements including scripted one-off measurements, please use the standard UDM interface or the (beta) RESTful API.*

IPv4 ↓

Measure

# RIPE Atlas Use Cases



Effects Hurricane Sandy had on parts of the Internet

<https://labs.ripe.net/Members/mirjam/sandy-2012>

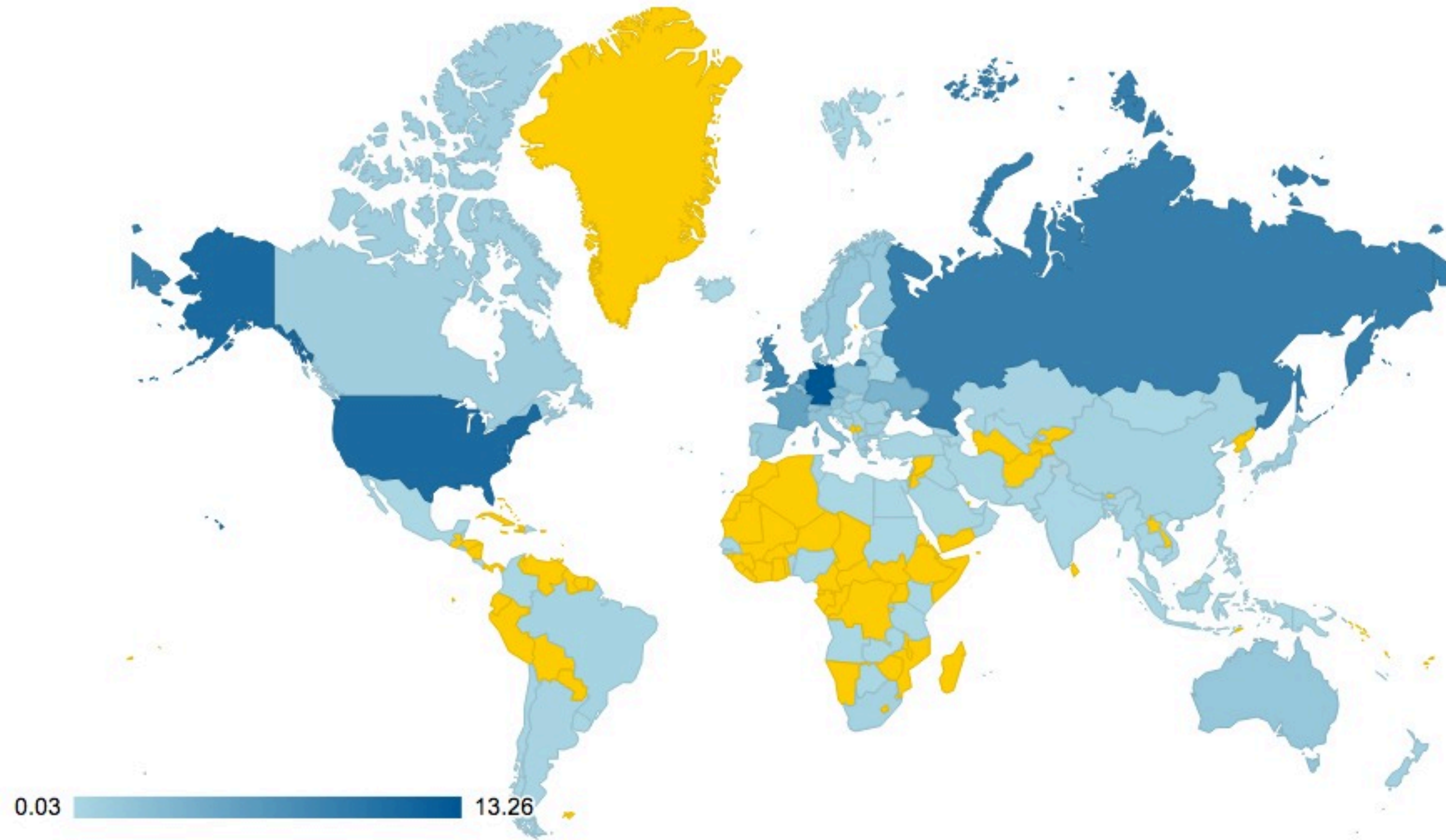
Find most popular instances of DNS anycast servers

Name server instance	Nr. of probes connecting to instance	Percentage
dns.th2.nic.fr	173	36%
dns.fra.nic.fr	173	36%
dns.lon.nic.fr	47	10%
dns.lyn2.nic.fr	29	6%
dns.lyn1.nic.fr	25	5%
dns.bru.nic.fr	19	4%
dns.ix1.nic.fr	18	4%



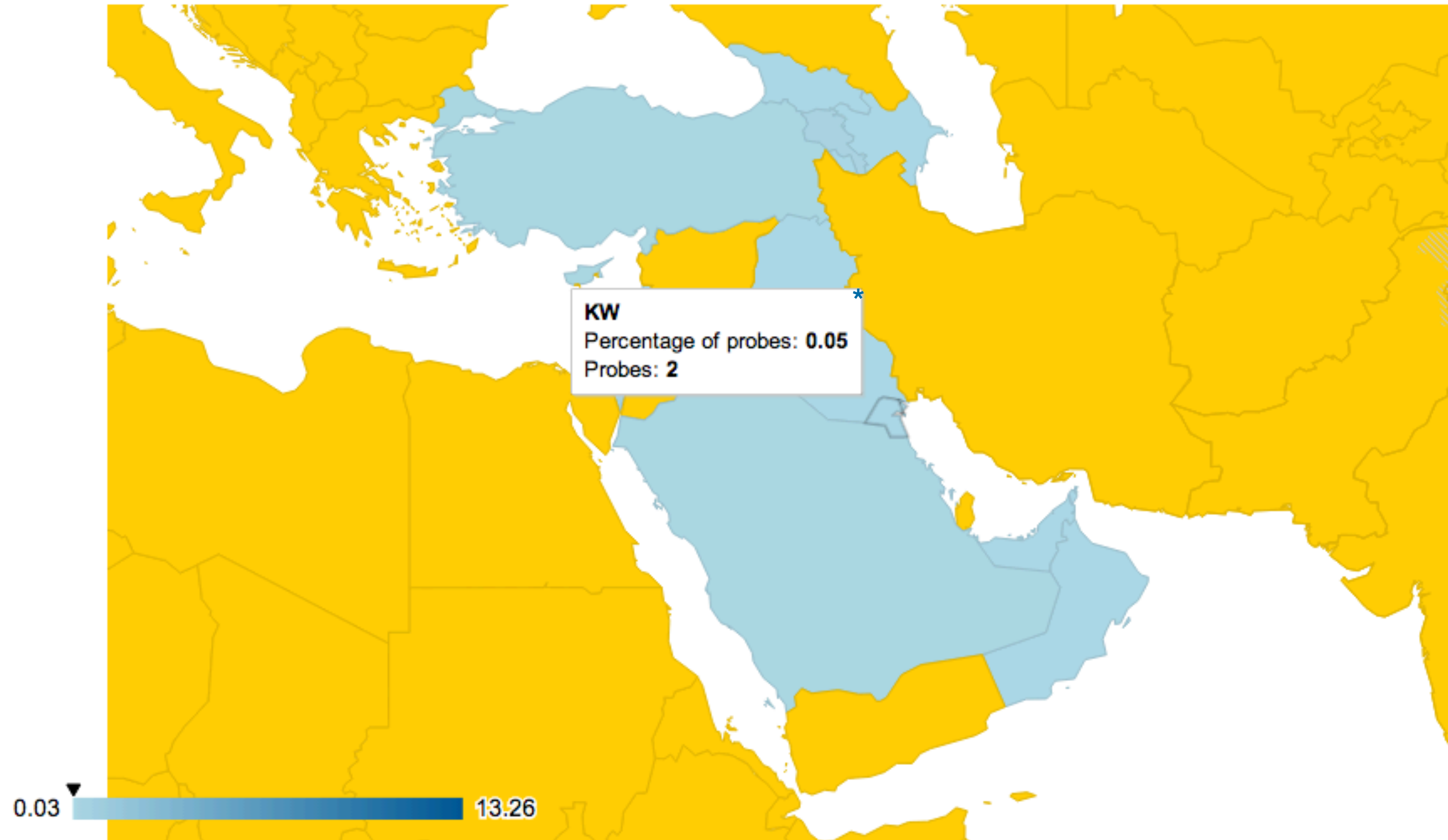
# RIPE Atlas Probes per Country

As of 19-09-2013



**Source:** <https://atlas.ripe.net/contrib/density.html>

# RIPE Atlas Probes per Country



\* As of 19-09-2013

Source: <https://atlas.ripe.net/contrib/density.html>



# RIPE Atlas Probes Map - Reachability of K-Root

As of 19-09-2013

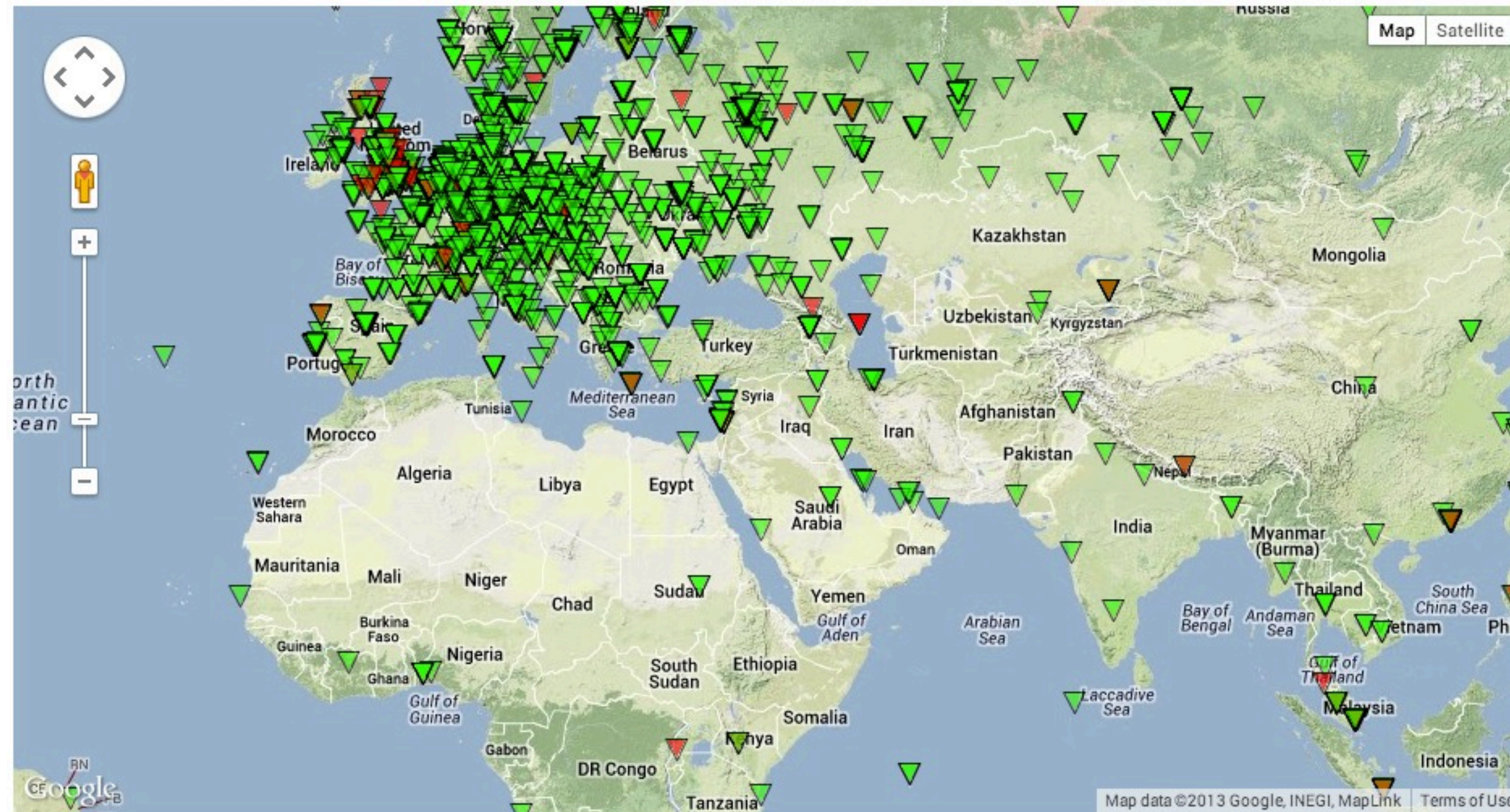


**Source:** [https://atlas.ripe.net/contrib/msm\\_reachability.html?msm\\_id=1](https://atlas.ripe.net/contrib/msm_reachability.html?msm_id=1)



# RIPE Atlas Probes Map - Reachability

As of 19-09-2013



**Source:** [https://atlas.ripe.net/contrib/msm\\_reachability.html?msm\\_id=1](https://atlas.ripe.net/contrib/msm_reachability.html?msm_id=1)



# RIPE Atlas Probes Map - DNS K-Root Instances



**Source:** [https://atlas.ripe.net/contrib/root\\_anycast.html?msm\\_id=1](https://atlas.ripe.net/contrib/root_anycast.html?msm_id=1)



# Introduction to RIPEstat

- Modular & extendable toolbox
- Single interface for Internet-related data
  - Routing data (collected by RRC network)
  - Registration data
  - DNS data
  - Geolocation data
  - Data collected by Atlas
  - ...
- RIPEstat is driven by user feedback

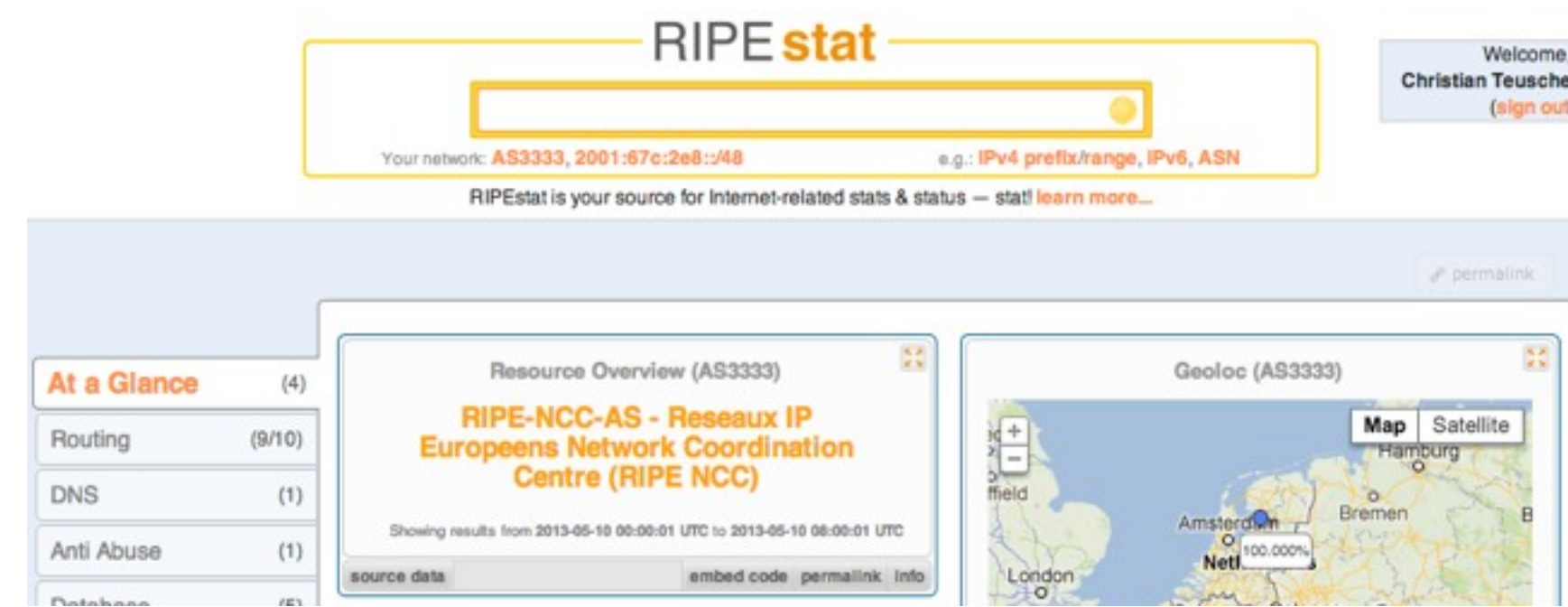
The screenshot displays the RIPEstat website interface. At the top, there is a search bar with the text "RIPEstat" and a "Sign In" button. Below the search bar, a search input field contains the text "Enter an IP address/prefix, ASN, country code or hostname". Below this, the search results for the network "AS3333, 2001:67c:2e8::/48" are shown. The main content area is divided into several panels:

- At a Glance (4):** A sidebar menu with links to Routing (5/7), DNS (1/2), Anti Abuse (1), Database (8/9), Geographic (2), and Activity (2).
- Resource Overview (2001:67c:2e8::/48):** A panel stating "This prefix is announced by 3333 RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)". It also shows "Showing results for 2001:67c:2e8::/48 as of 2013-03-25 00:00:00 UTC" and options for "source data", "embed code", "permalink", and "Info".
- Geoloc (2001:67c:2e8::/48):** A panel featuring a map of Europe and Africa. It includes a "Map" button and "Satellite" view. Below the map, it states "Address space without geographic information: 100.00%". It also has "source data", "embed code", "permalink", and "Info" options.
- Registry Browser (2001:67c:2e8::/48):** A panel showing registry information for the prefix. It includes a table with the following data:

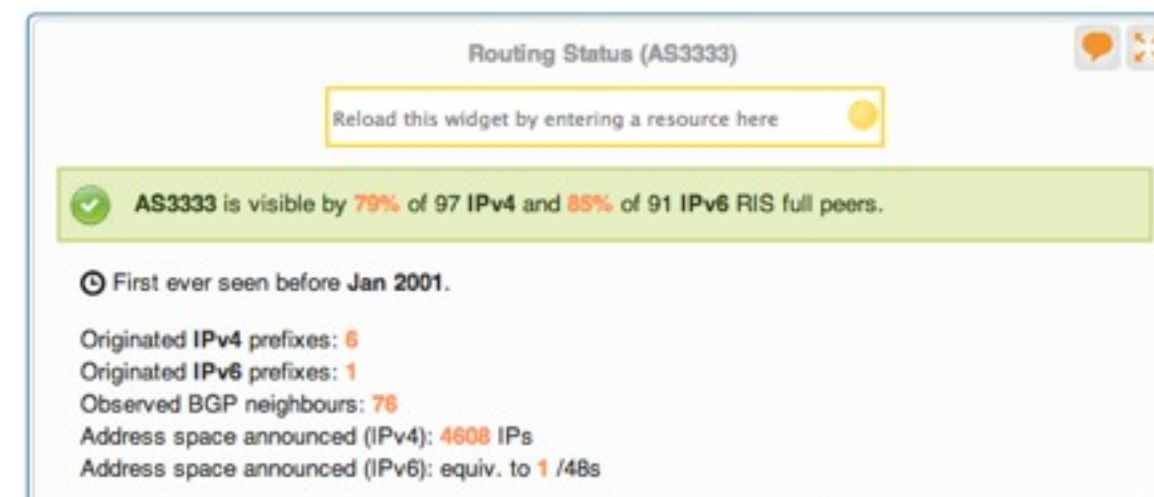
inet6num: 2001:67c:2e8::/48	
netname	RIPE-NCC-NET
descr	Reseaux IP Europeens Network Coordination Centre (RIPE NCC)
org	ORG-RIEN1-RIPE
country	NL
admin-c	JDR-RIPE
admin-c	BRD-RIPE
tech-c	OPS4-RIPE
status	ASSIGNED PI
- Routing Status (2001:67c:2e8::/48):** A panel showing routing information. It includes a green checkmark and states "2001:67c:2e8::/48 is 99% visible (by 90 of 91 RIS full peers)". It also notes "First ever seen announced by AS3333, on 2010-09-28 16:00:00 UTC" and "Originated by: AS3333 (valid route object in RIPE)". It concludes with "No less-specific covering prefixes."

# Introduction to RIPEstat

- <https://stat.ripe.net>



- RIPEstat Widget API



- RIPEstat Data API / RIPEstat Text API

<https://stat.ripe.net/data/routing-status/data.json?resource=AS3333>

# RIPEstat

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<https://stat.ripe.net>

## Live Demo



# Feedback

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- RIPE Atlas
  - [atlas@ripe.net](mailto:atlas@ripe.net)
- RIPEstat
  - [stat@ripe.net](mailto:stat@ripe.net)
- Future Developments
  - <http://roadmap.ripe.net/>

