

plus a taste of
DNSMON

RIPE Atlas & RIPEstat

MENOG 14

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RIPE Atlas - Active Measurements Network

<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

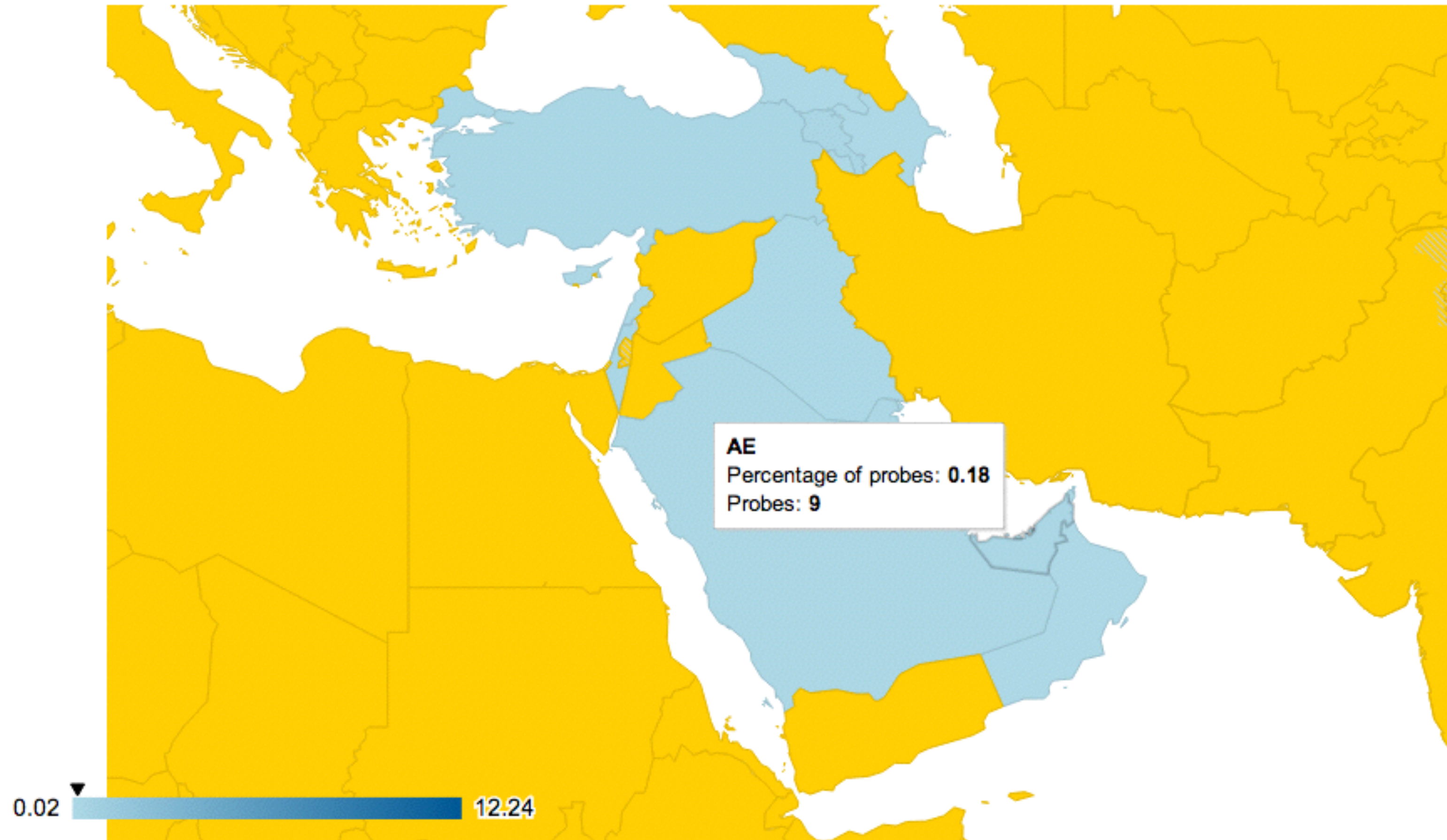
RIPE Atlas Update

- 5000+ active probes
- 7000+ active users worldwide



Source: <https://atlas.ripe.net/results/maps/network-coverage/>

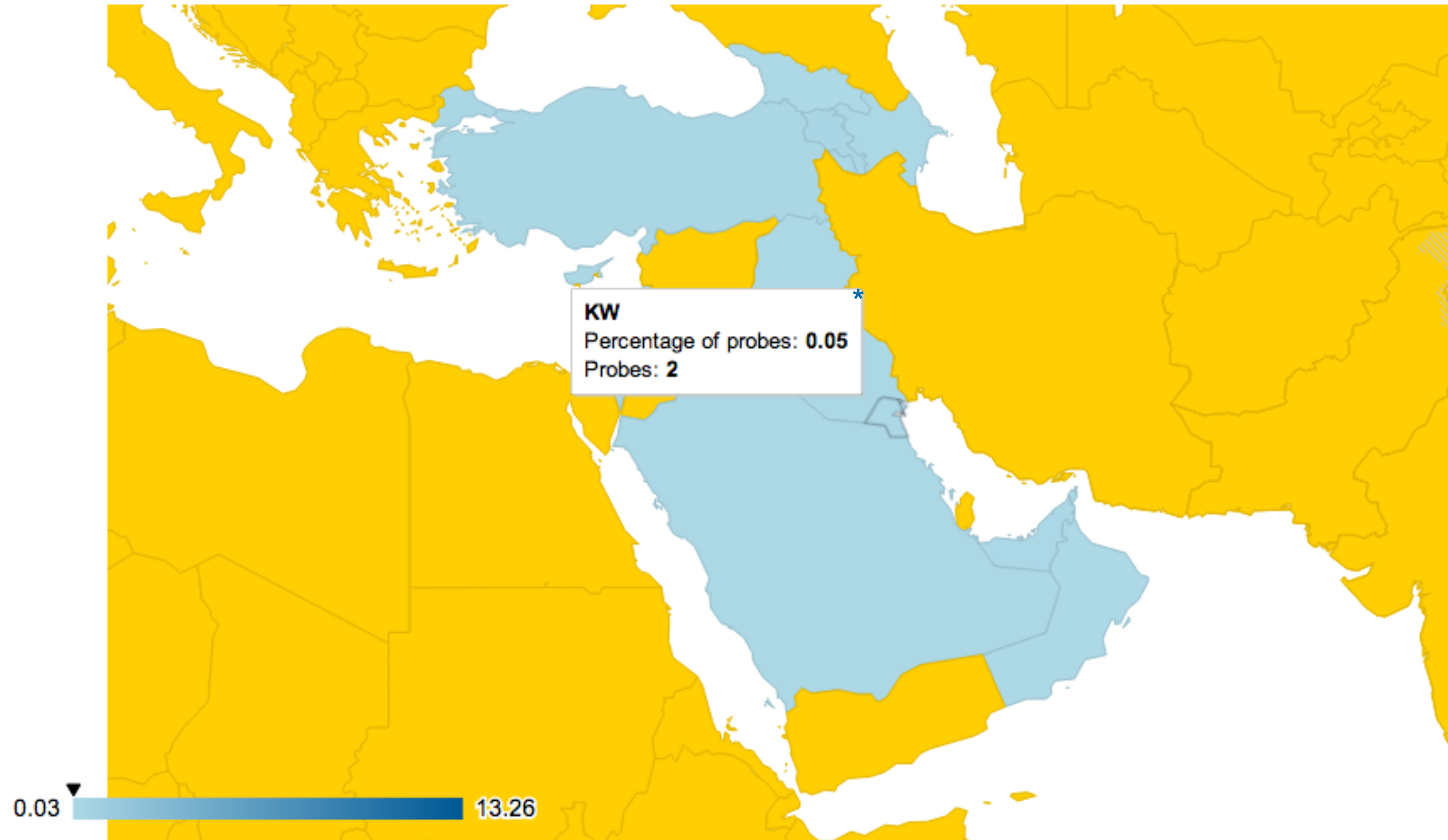
RIPE Atlas Probes per Country



* As of 05-03-2014

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

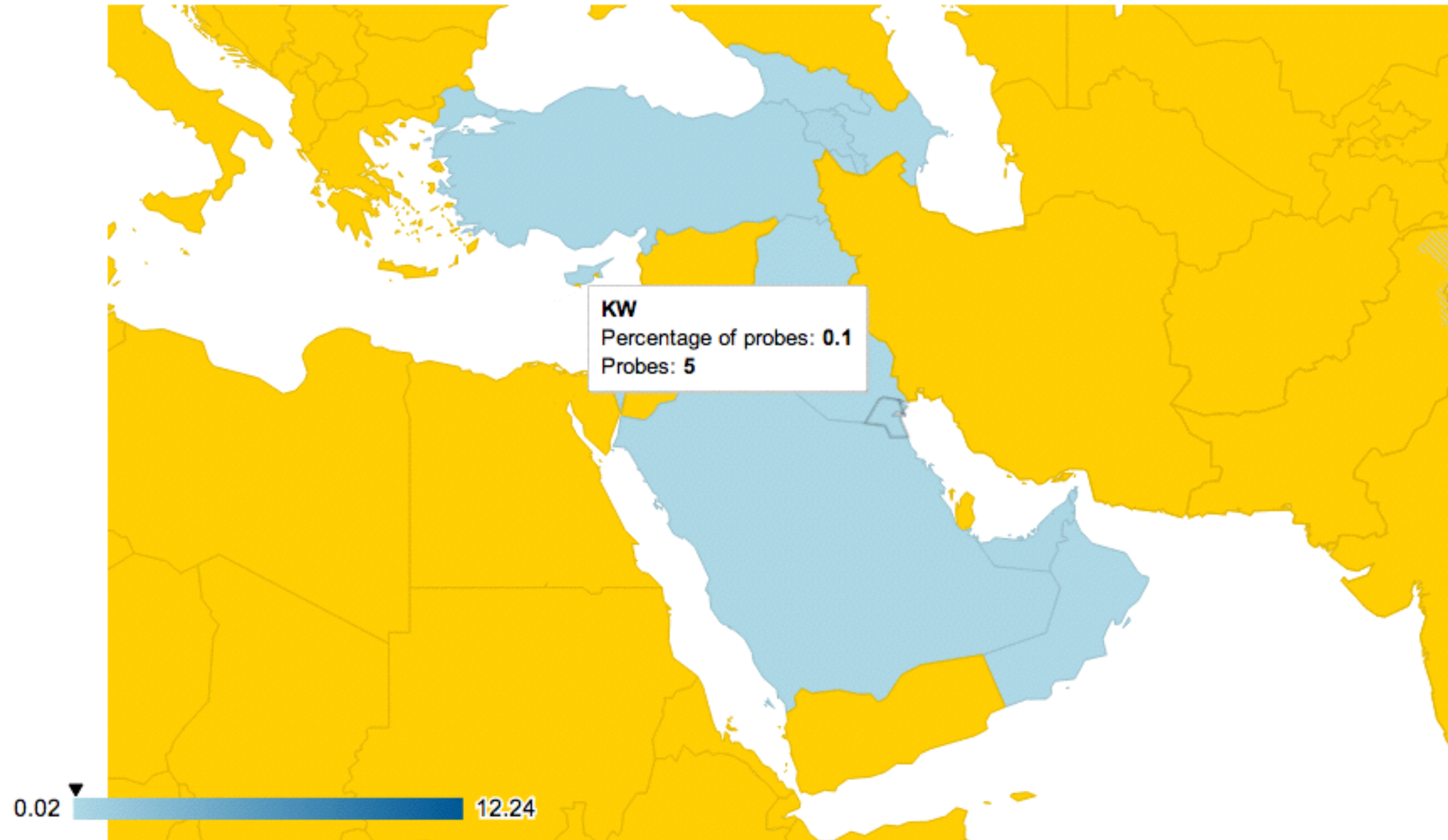
RIPE Atlas Probes per Country



* As of 19-09-2013

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

RIPE Atlas Probes per Country



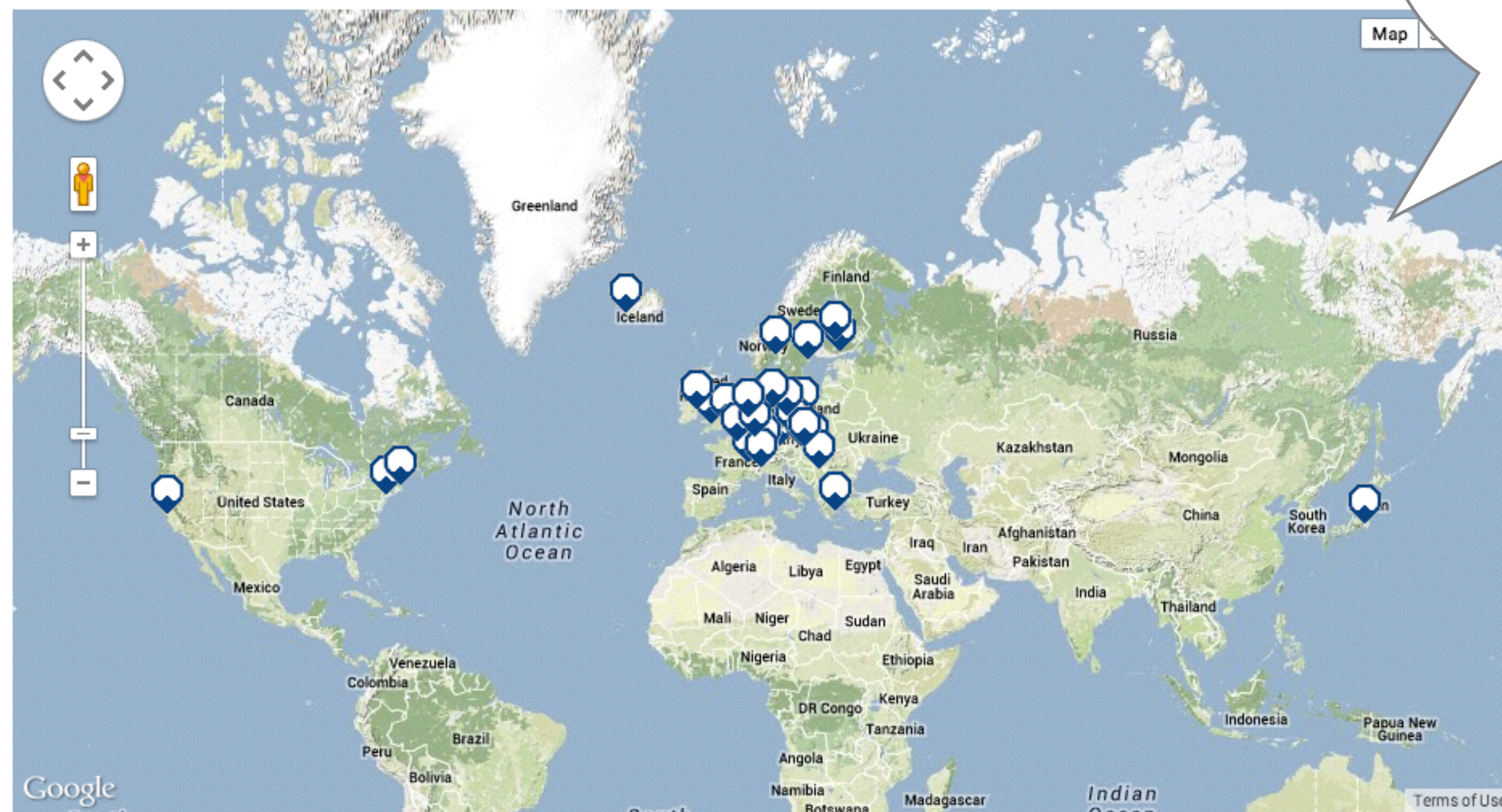
* As of 05-03-2014

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

RIPE Atlas Anchors

- RIPE Atlas anchors
 - Collecting data as enhanced RIPE Atlas probes
 - Acting as targets for regional measurements
 - Production since October 2013

40+ anchors (March 2014)



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

RIPE Atlas Anchors

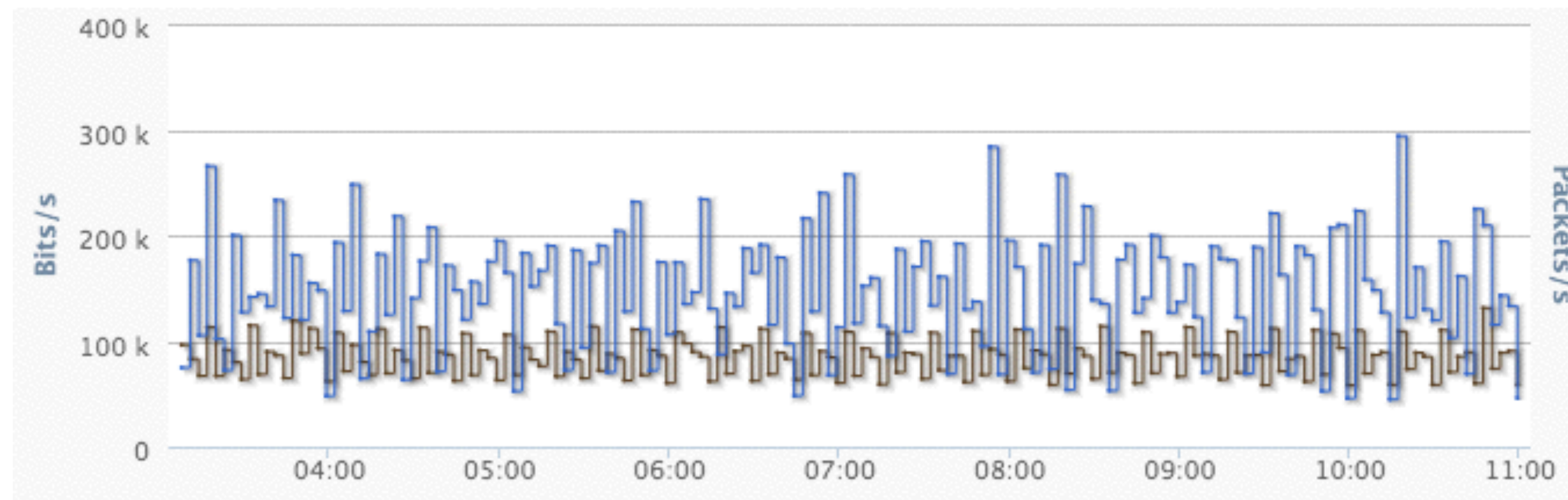
- RIPE Atlas anchors



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

RIPE Atlas Anchors

- RIPE Atlas anchors
 - <https://atlas.ripe.net/get-involved/become-an-anchor-host/>
 - Bandwidth requirements
 - 10 Mbit stated but actually around 200 kbit



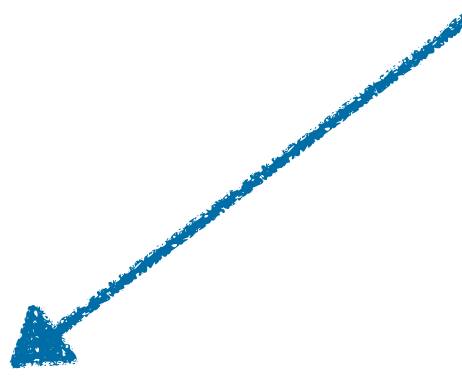
Recent Developments

- Status Checks

- Use the power of Atlas to monitor your network
- Simple steps:

1. Create a ping measurement => measurement ID
2. <https://atlas.ripe.net/api/v1/status-checks/<measurementID>/>

```
{
  total_alerts: 0,
  global_alert: false,
  - probes: {
    - 21: {
      last_packet_loss: 0,
      last: 37.016,
      alert: false
    }
  }
}
```



Recent Developments

- Status Checks

- Usable in monitoring applications



- Options to customise

- maximum packet loss before triggering alarm
- number of measurements included...

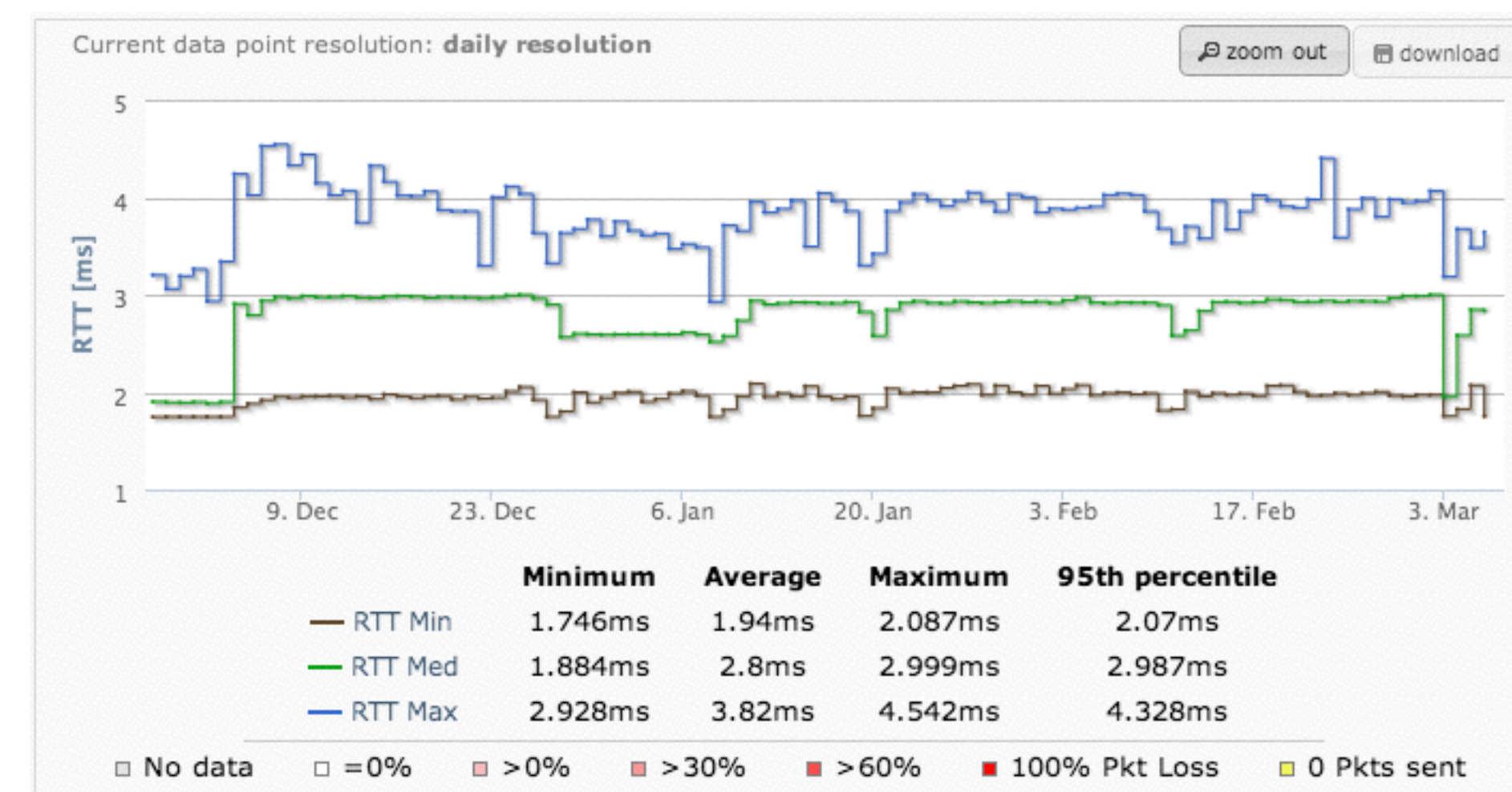
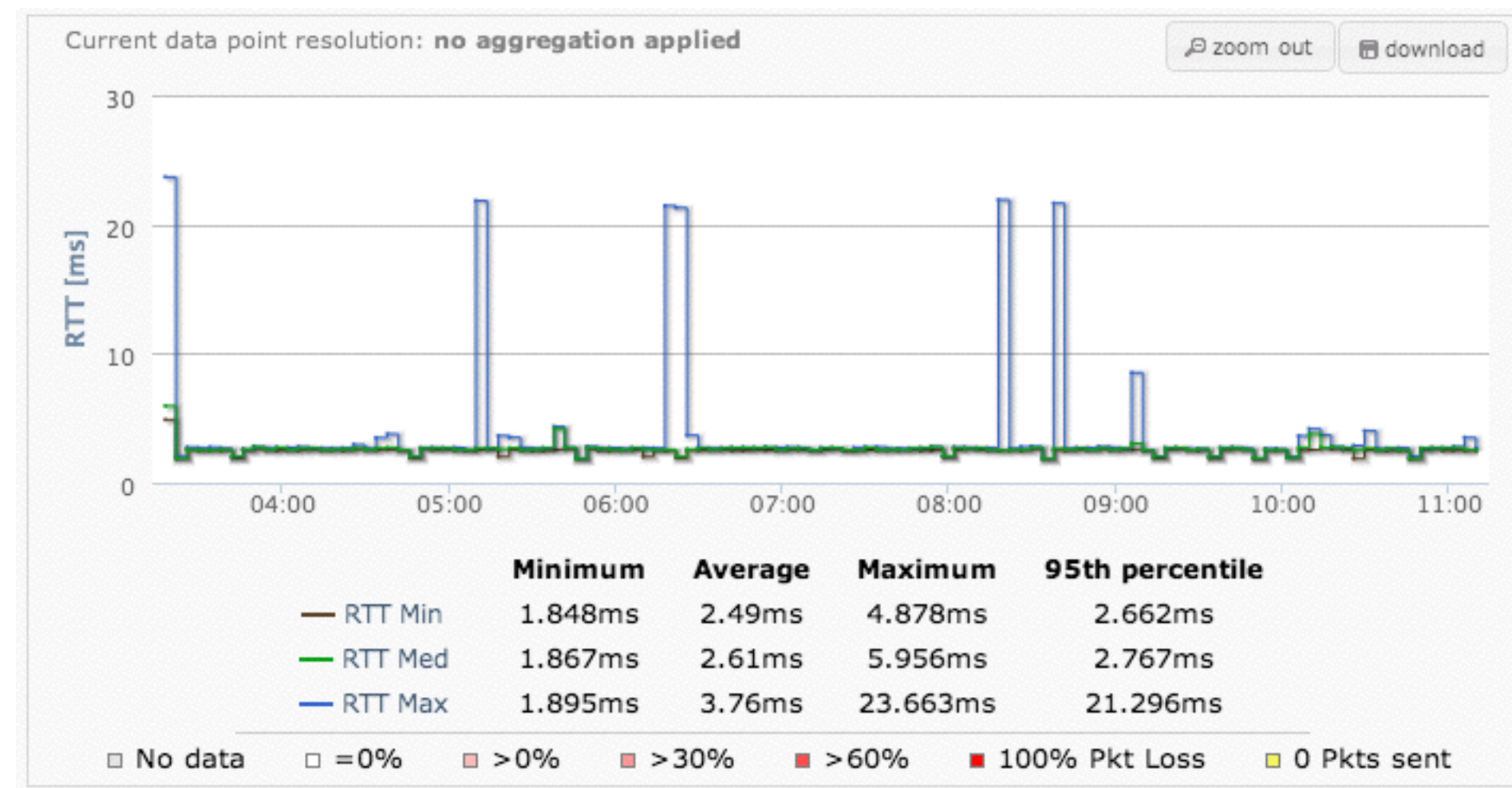
<https://atlas.ripe.net/docs/status-checks/>

- Beta status!

Service ▲▼	Status ▲	La
Current Load	OK	201
Current Users	OK	201
Disk Space	OK	201
HTTP	OK	201
RIPE Atlas Alerts - #1034456	OK	201
RIPE Atlas Alerts - #1309762	OK	201
RIPE Atlas Alerts - #1395076	OK	201
RIPE Atlas Alerts - both checks	OK	201
RIPE Atlas Alerts - both checks +1	OK	201
RIPE Atlas Alerts - both checks +2	OK	201

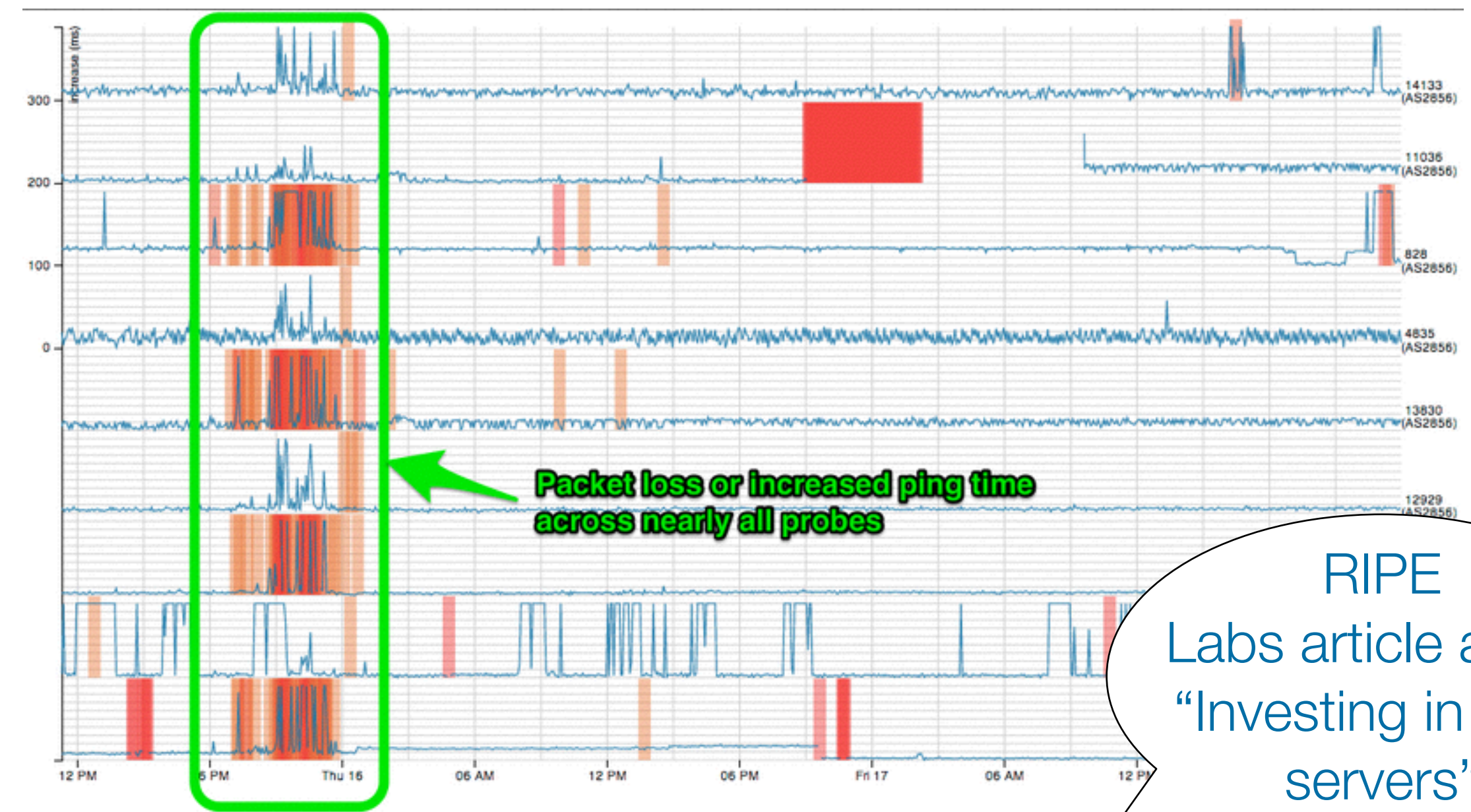
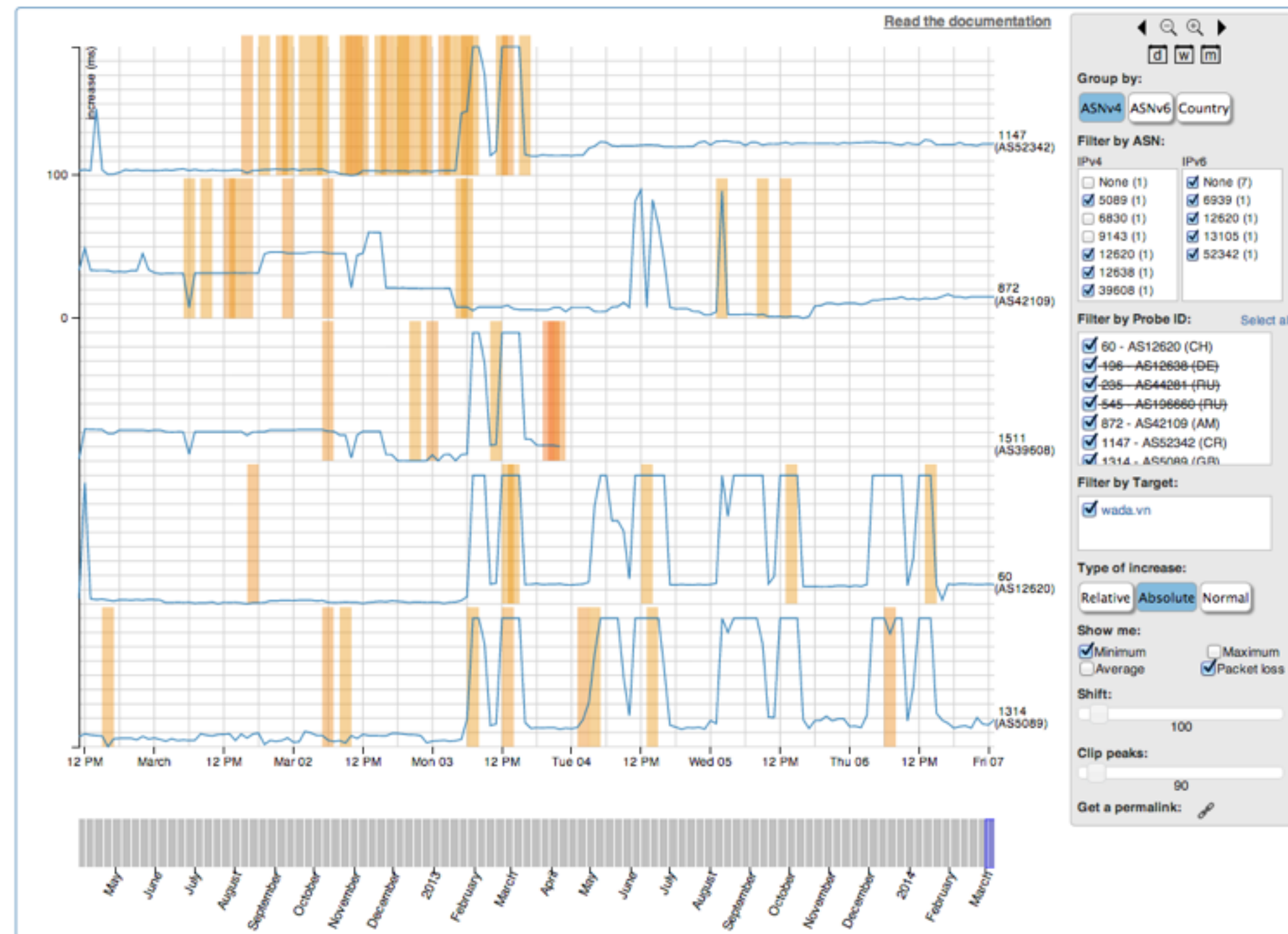
Recent Developments

- Zoomable ping graphs (build-ins)



Recent Developments

- Seismograph (UDMs)



RIPE Labs article about "Investing in slow servers"

Source: https://labs.ripe.net/Members/suzanne_taylor_muzzin/using-ripe-atlas-to-investigate-slow-servers

Recent Developments

- Quick Look available for DNS, traceroute and ping

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 RESTful API.*

IPv4 ▾

Ping
 Traceroute
 DNS A
 DNS AAAA
 DNS SOA

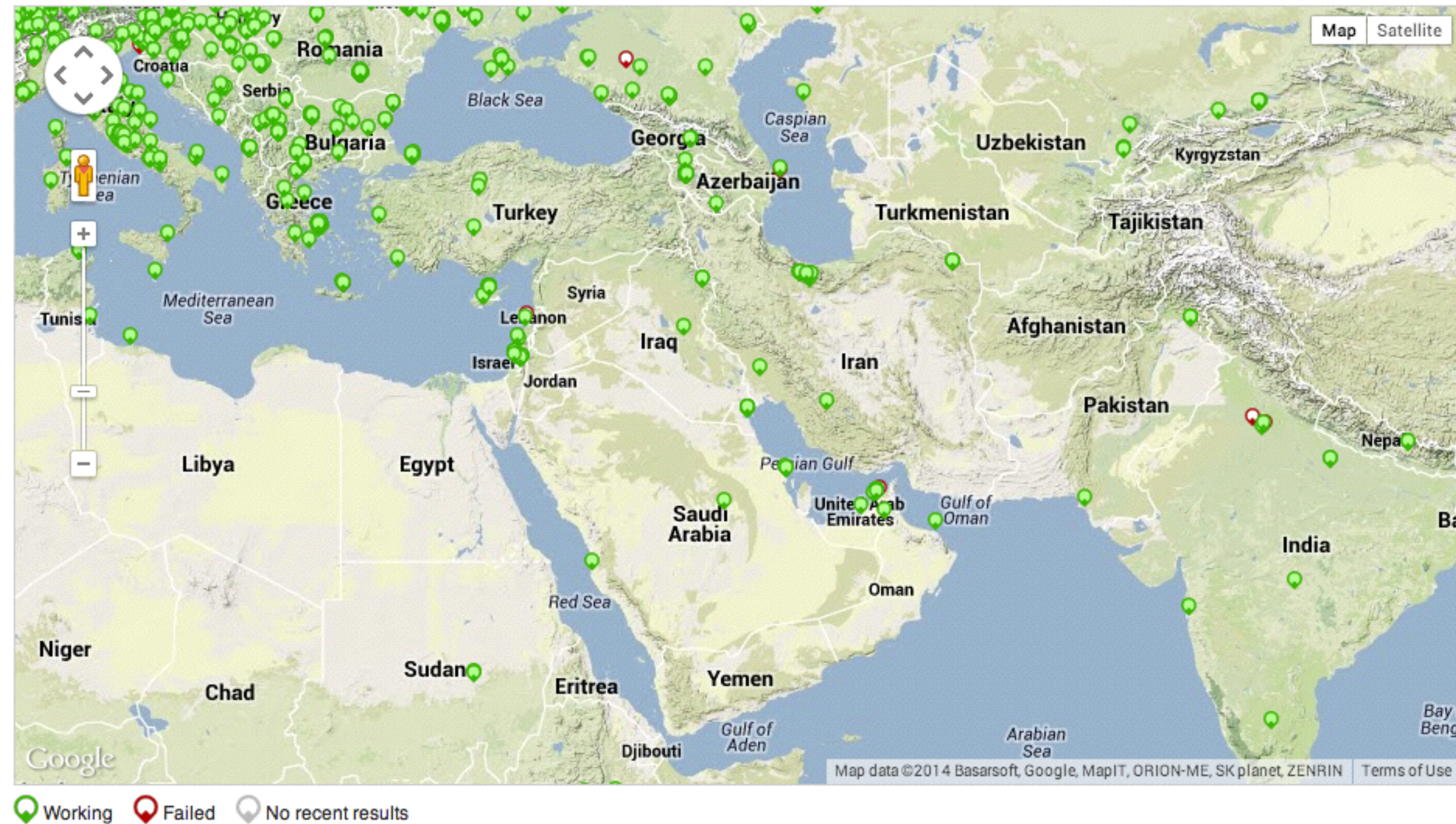
Measure



- On-going discussion about HTTP measurement
 - Restricted to anchors as targets

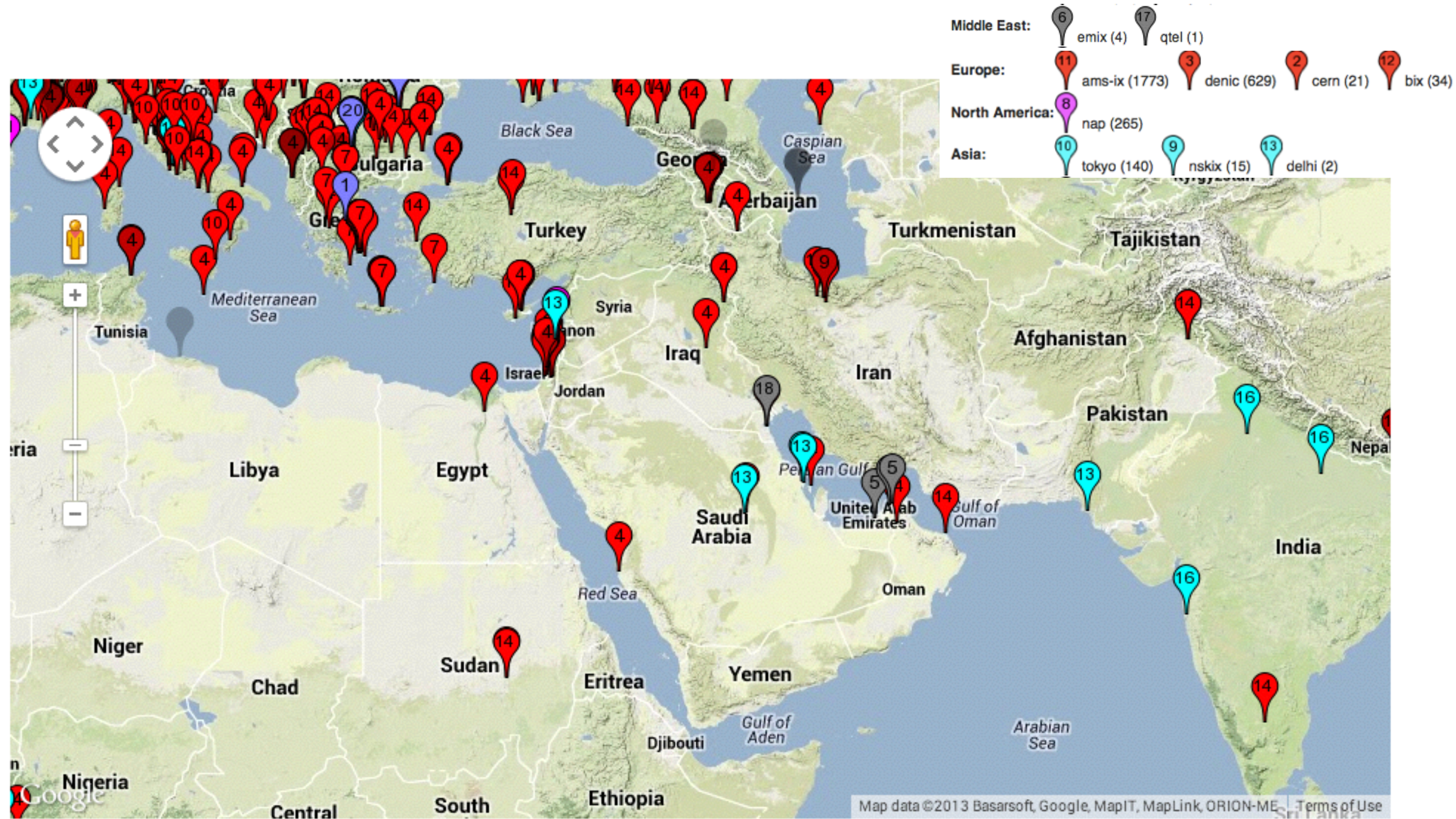
RIPE Atlas Probes Map - Reachability of K-Root

As of 05-03-2014



Source: <https://atlas.ripe.net/results/maps/reachability/?id=1001>

RIPE Atlas Probes Map - DNS K-Root Instances



Source: 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 the search bar, there is a "Your network" field with the value "AS3333, 2001:67c:2e8::/48" and an "e.g.: IPv4 prefix/range, IPv6, ASN" example. Below the search bar, there is a "RIPEstat is your source for Internet-related stats & status — stat! learn more..." link.

The main content area is divided into several sections:

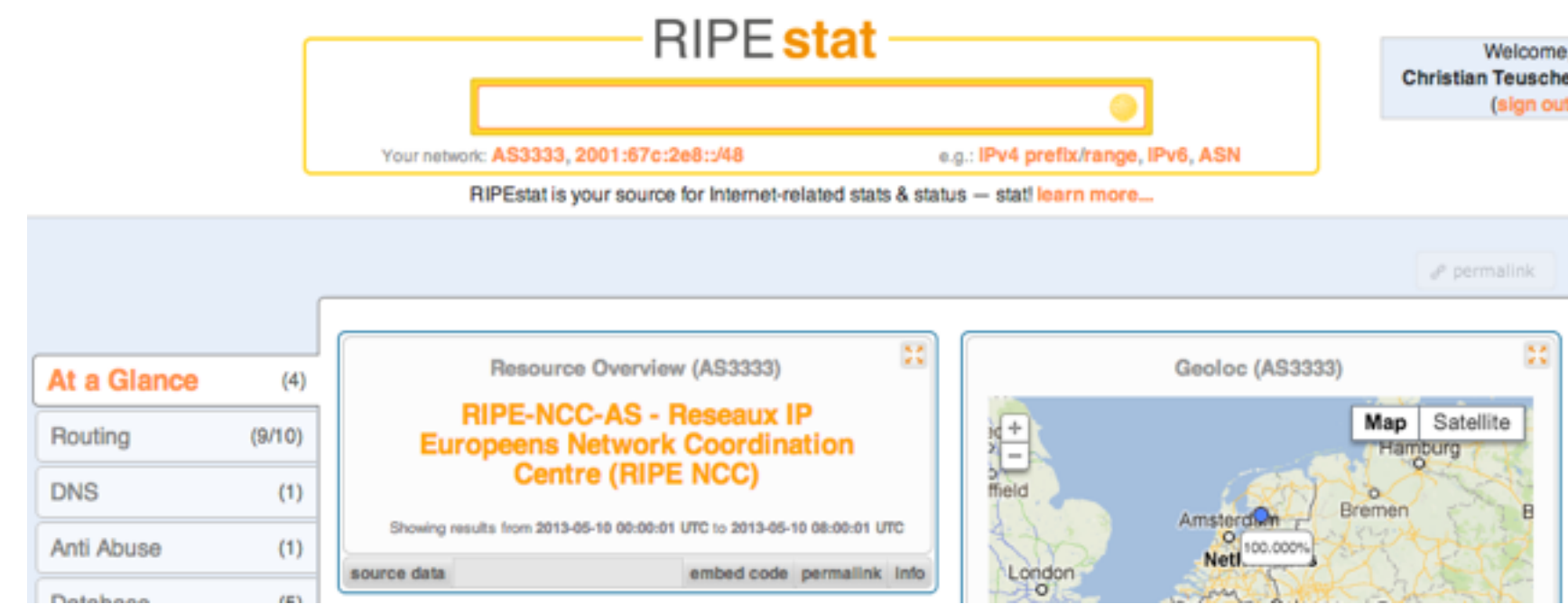
- At a Glance (4)**: A sidebar menu with links to Routing (5/7), DNS (1/2), Anti Abuse (1), Database (8/9), Geographic (2), and Activity (2).
- Resource Overview (2001:67c:2e8::/48)**: A section titled "This prefix is announced by" with the value "3333 RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)". It also shows "Showing results for 2001:67c:2e8::/48 as of 2013-03-25 00:00:00 UTC" and links for "source data", "embed code", "permalink", and "info".
- Geoloc (2001:67c:2e8::/48)**: A section with a map showing the geographic distribution of the prefix. It includes a "Map" button and a "Satellite" button. Below the map, it shows "Address space without geographic information: 100.00%" and "Geoloc details". It also shows "Showing results for 2001:67c:2e8::/48 as of 2013-03-26 00:00:00 UTC" and links for "source data", "embed code", "permalink", and "info".
- Registry Browser (2001:67c:2e8::/48)**: A section showing the registry information for the prefix. It includes "Last updated on 2012-03-12 at 08:53:46 UTC" and a table of registry information:

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

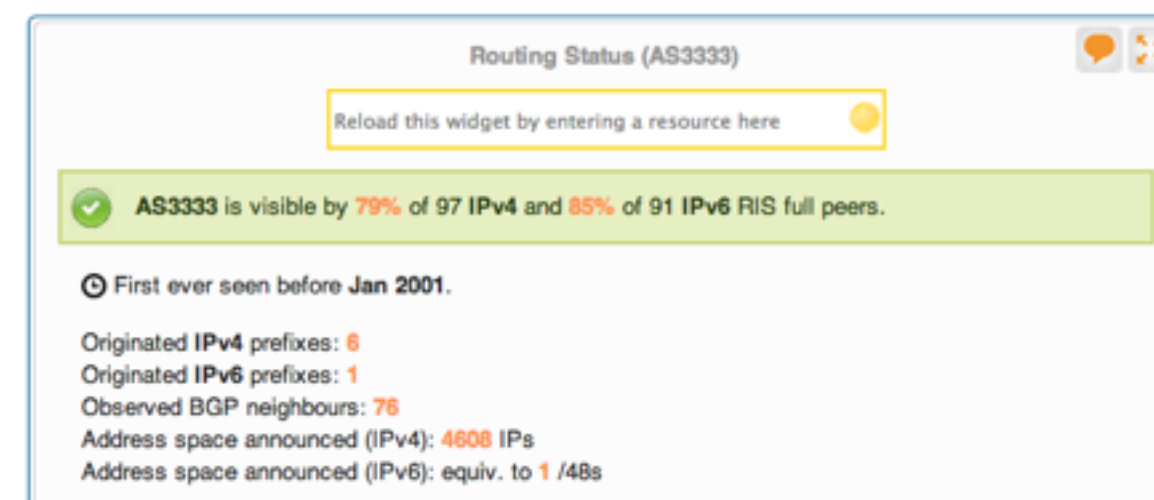
- Routing Status (2001:67c:2e8::/48)**: A section showing the routing status of the prefix. It includes a green checkmark and the text "2001:67c:2e8::/48 is 99% visible (by 90 of 91 RIS full peers)". It also shows "First ever seen announced by AS3333, on 2010-09-28 16:00:00 UTC" and "Originated by: AS3333 (valid route object in RIPE)". It also shows "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

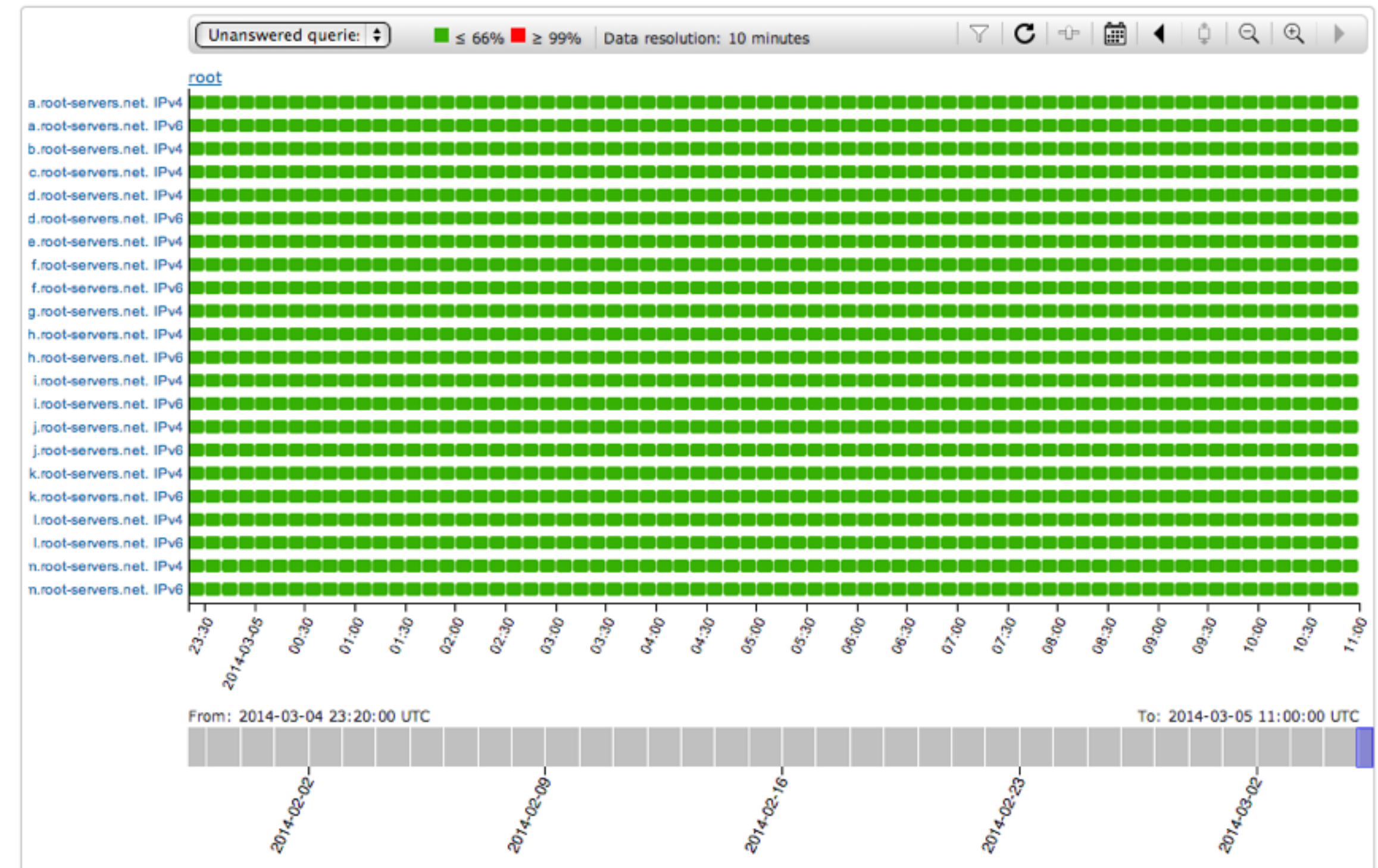
<https://stat.ripe.net>

Live Demo

Update on DNSMON

- Measures quality of high-level DNS servers
 - root servers & some TLD servers
- Based on Atlas anchor measurement data
- Current and historical data
- Public beta:

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



Feedback

- RIPE Atlas
 - atlas@ripe.net
- RIPEstat
 - stat@ripe.net
- DNSMON
 - dnsmon@ripe.net
- Past/Current/Future Developments
 - <http://roadmap.ripe.net/>

