



RIPE
NCC

RIPEstat & RIPE Atlas

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Research and Development



RIPE Atlas



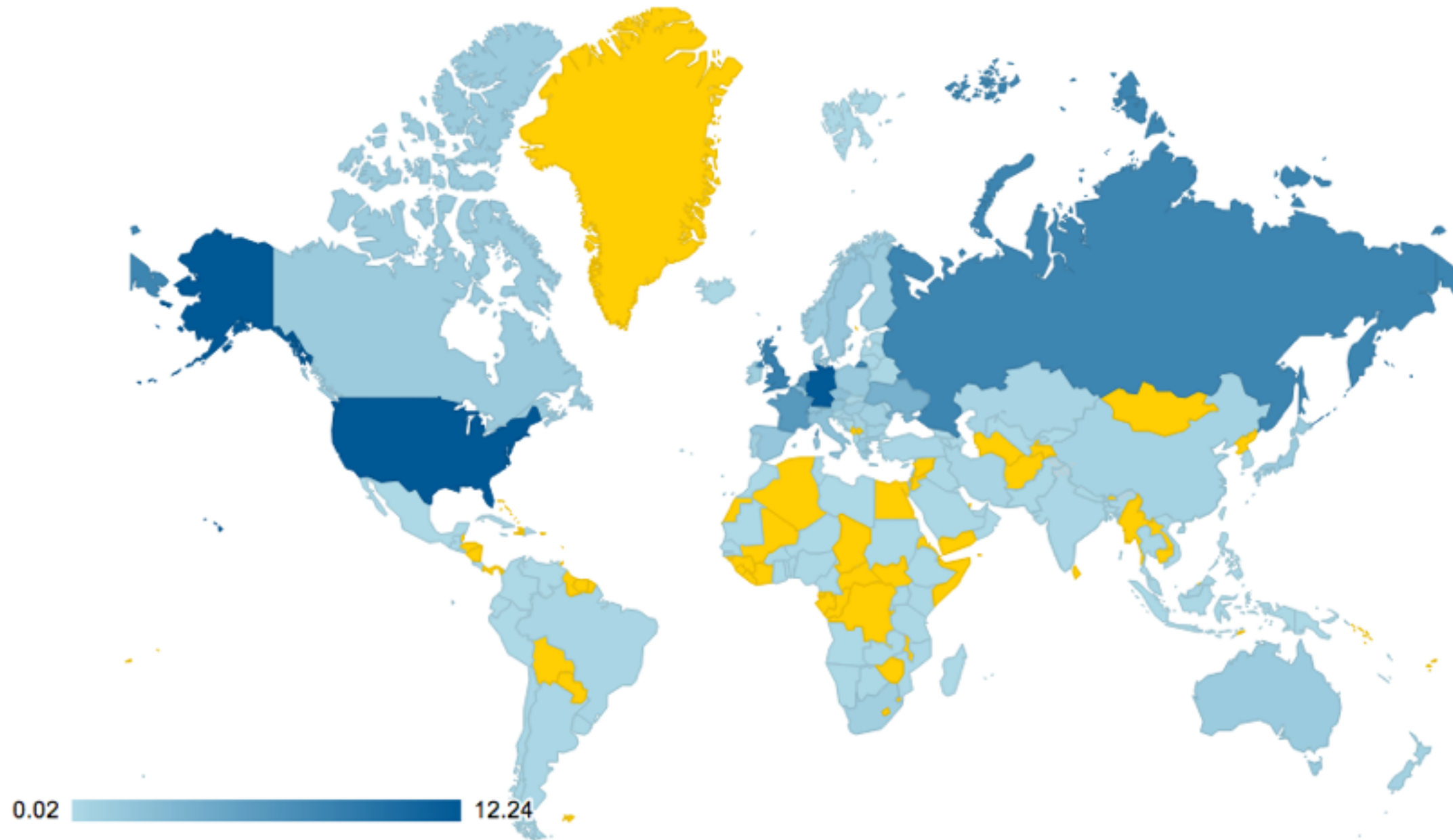
- <https://atlas.ripe.net>
- Next-generation Internet measurement network
 - Thousands of measurement vantage points
 - Probes run different measurements: ping, traceroute, SSL, DNS
- Instead of building small, individual, private infrastructures — build a HUGE common infrastructure that serves both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

- 5000+ active probes
- 7000+ active users



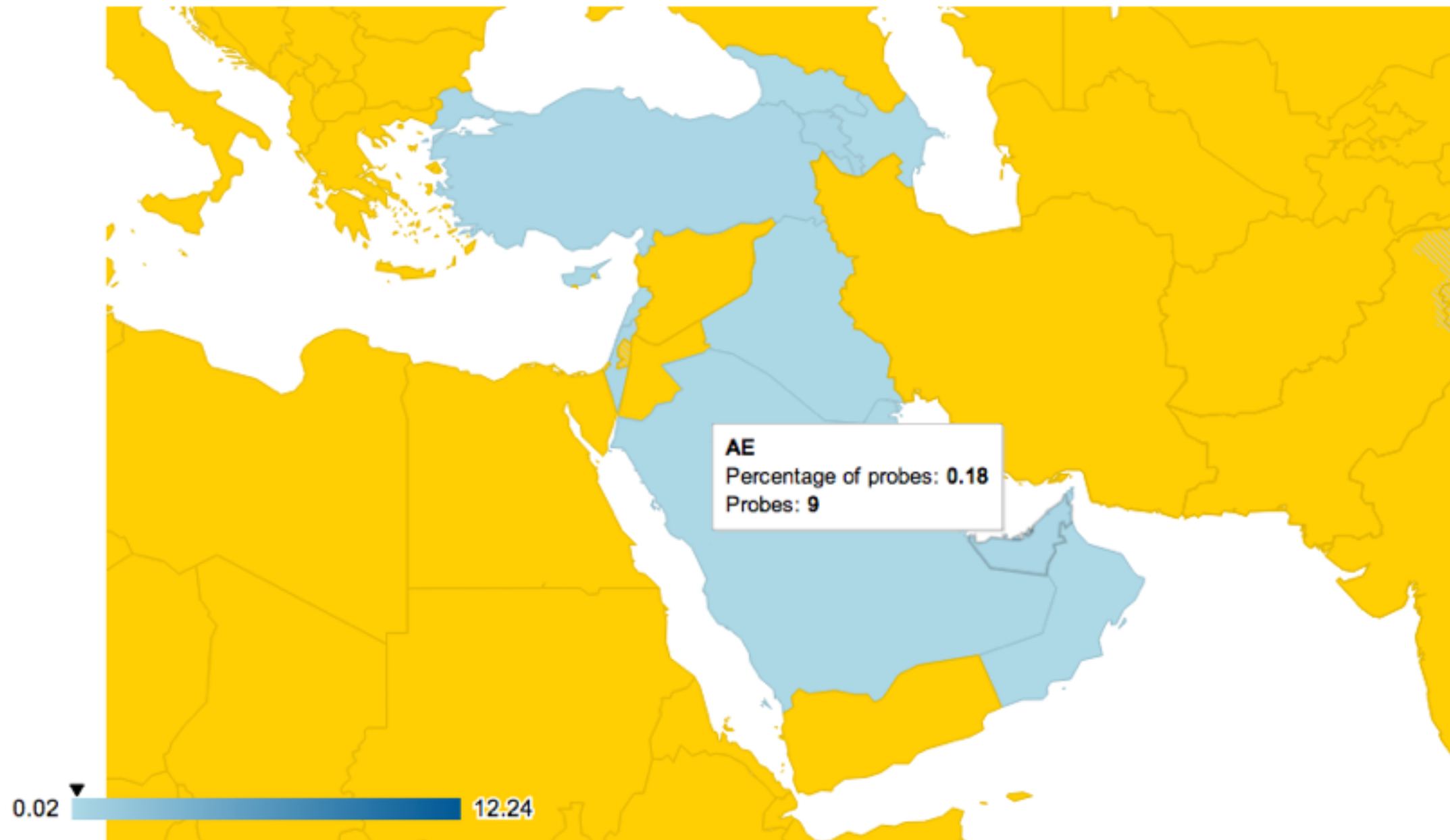
Source: <https://atlas.ripe.net/results/maps/network-coverage/>

As of 05-03-2014



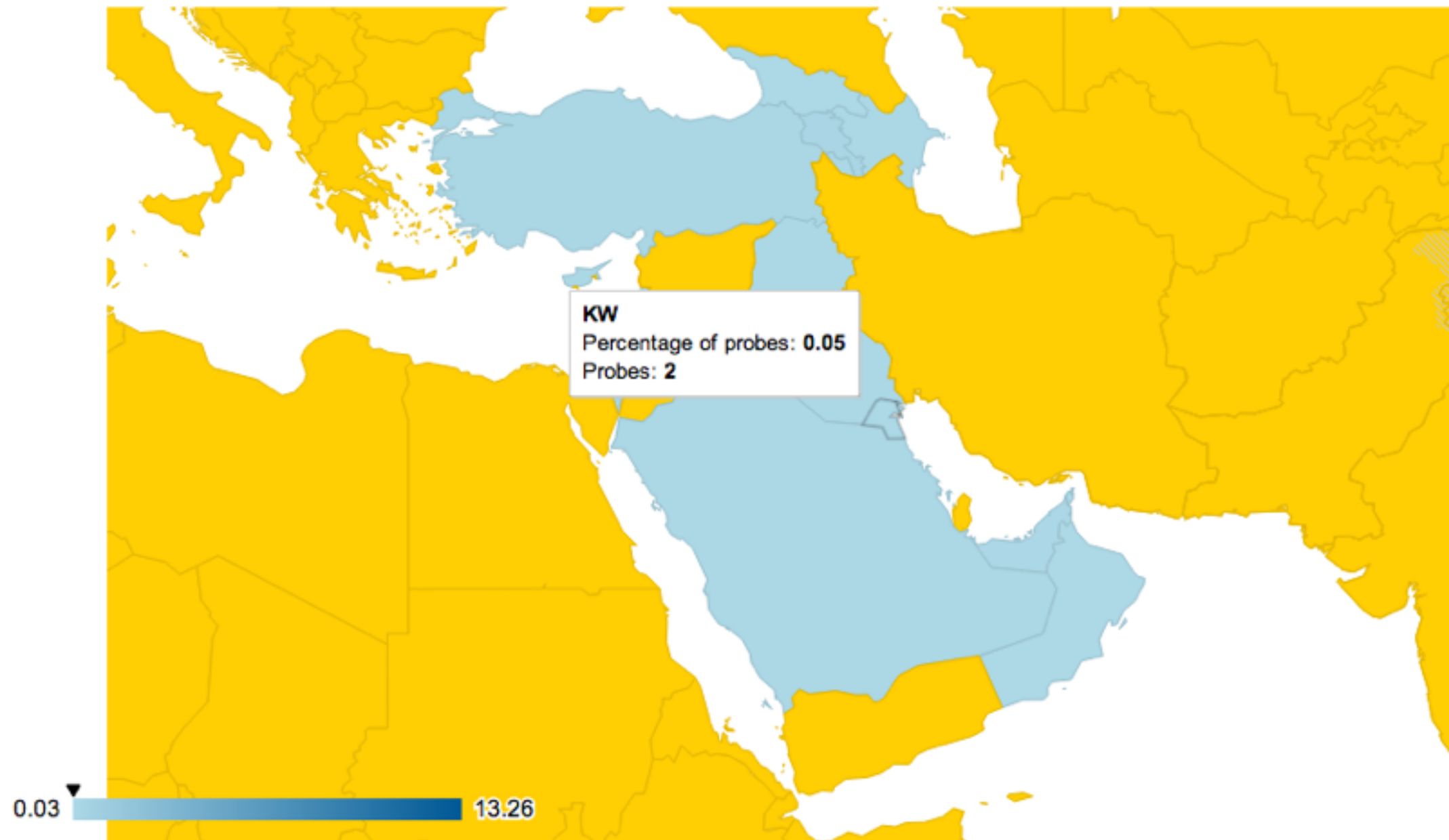
Source: <https://atlas.ripe.net/contrib/density.html>

As of 05-03-2014



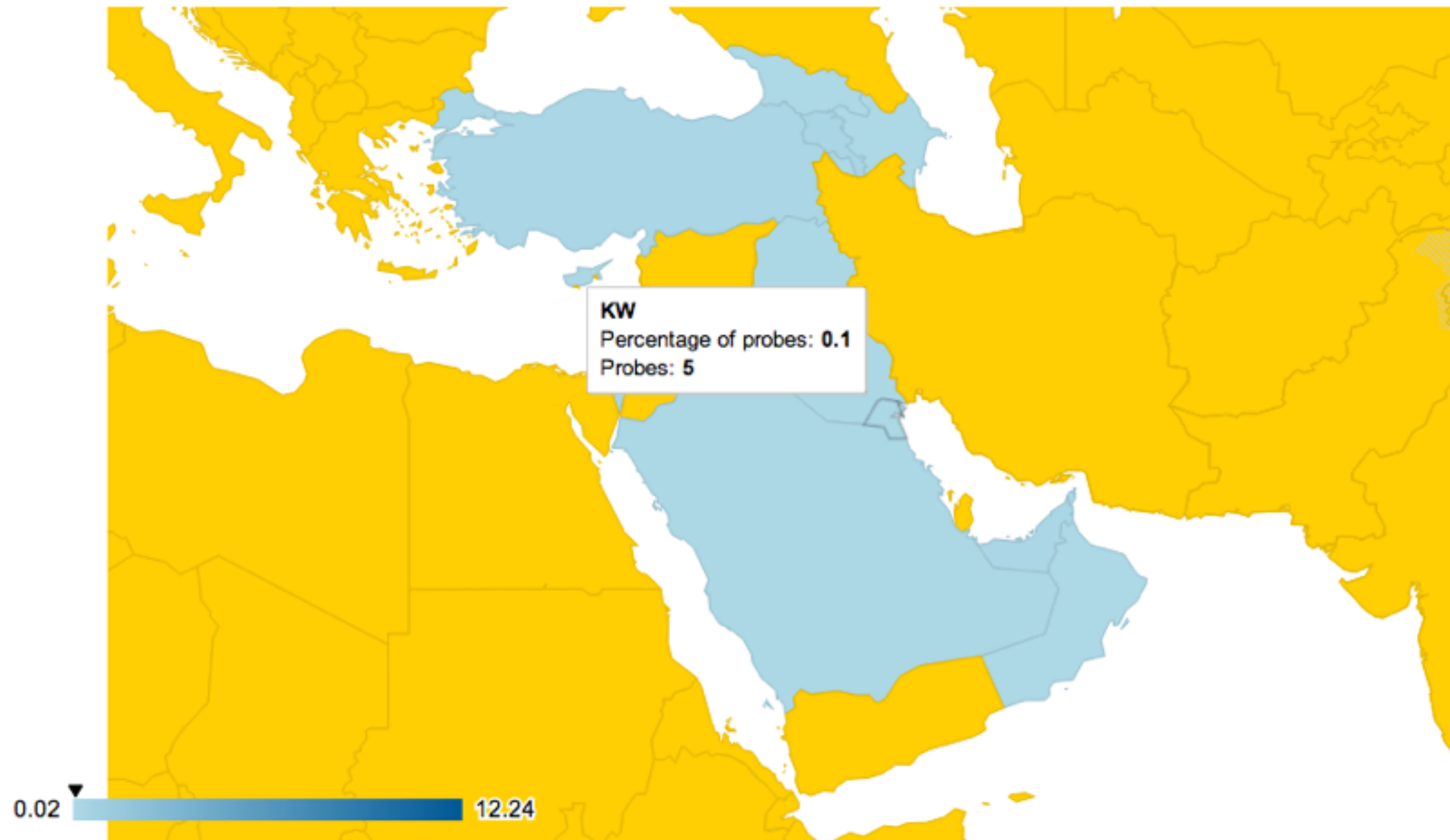
Source: <https://atlas.ripe.net/contrib/density.html>

As of 19-09-2013



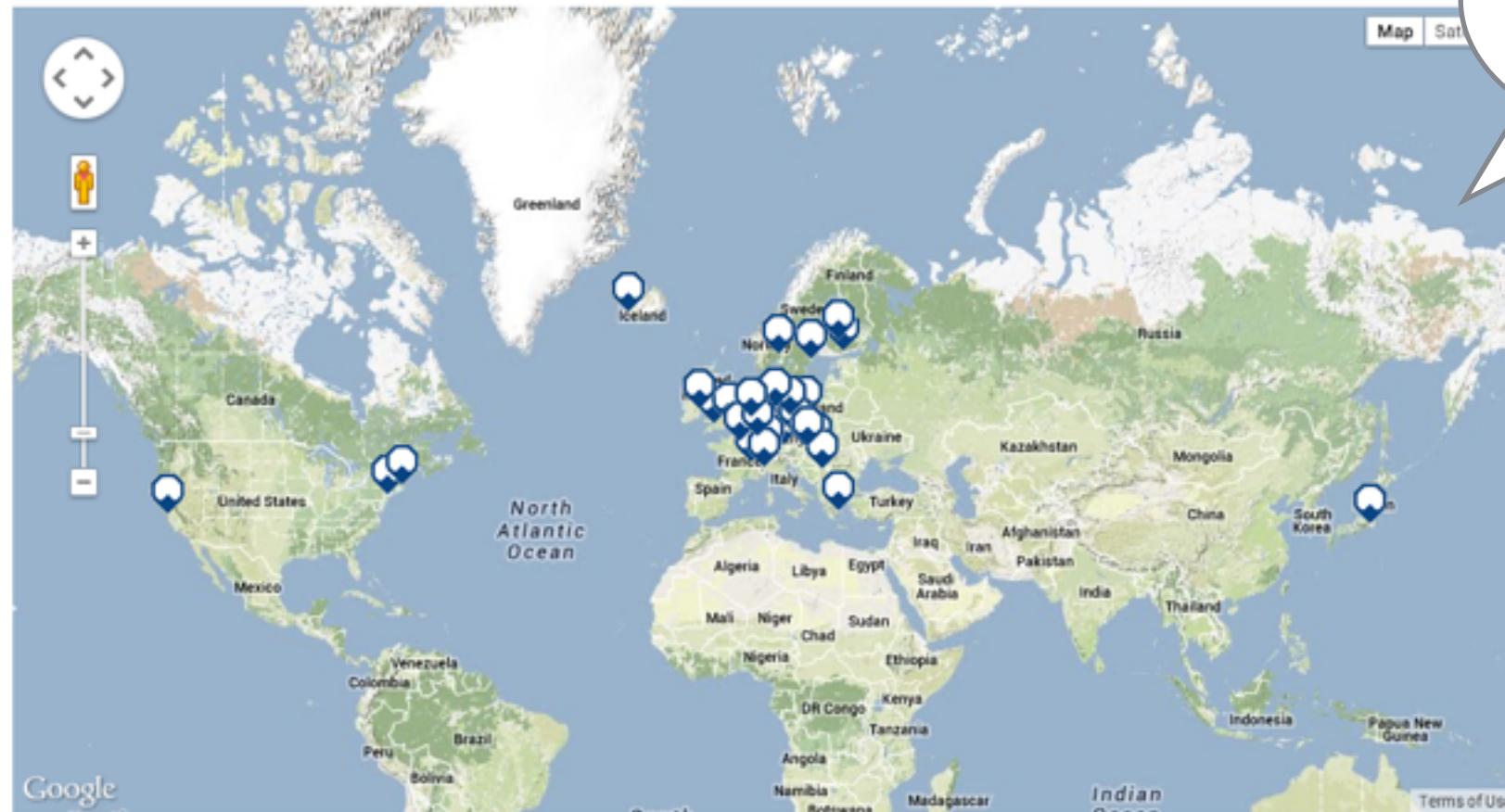
Source: <https://atlas.ripe.net/contrib/density.html>

As of 05-03-2014



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

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



50+ anchors
(March 2014)

Source: <https://atlas.ripe.net/anchors/map/>

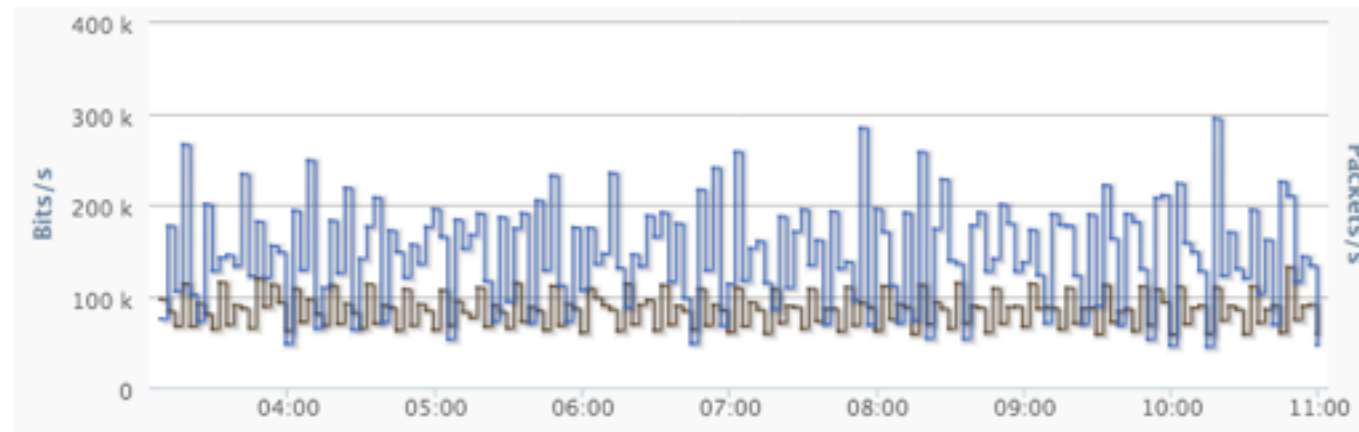
- Anchor locations

As of 05-03-2014



Source: <https://atlas.ripe.net/anchors/map/>

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



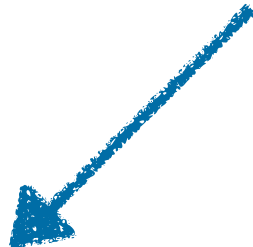
- Status checks

- Use the power of RIPE Atlas to monitor your network

- Simple steps:

1. Create a ping measurement => measurement ID

2. <https://atlas.ripe.net/api/v1/status-checks/<mID>/>



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

- Status checks

- Usable in monitoring applications

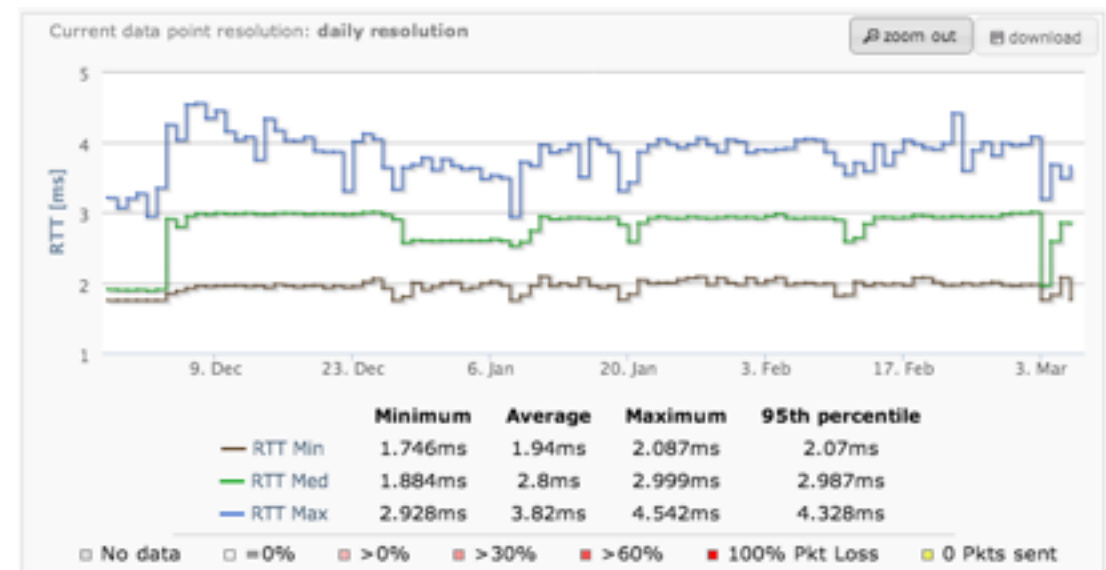
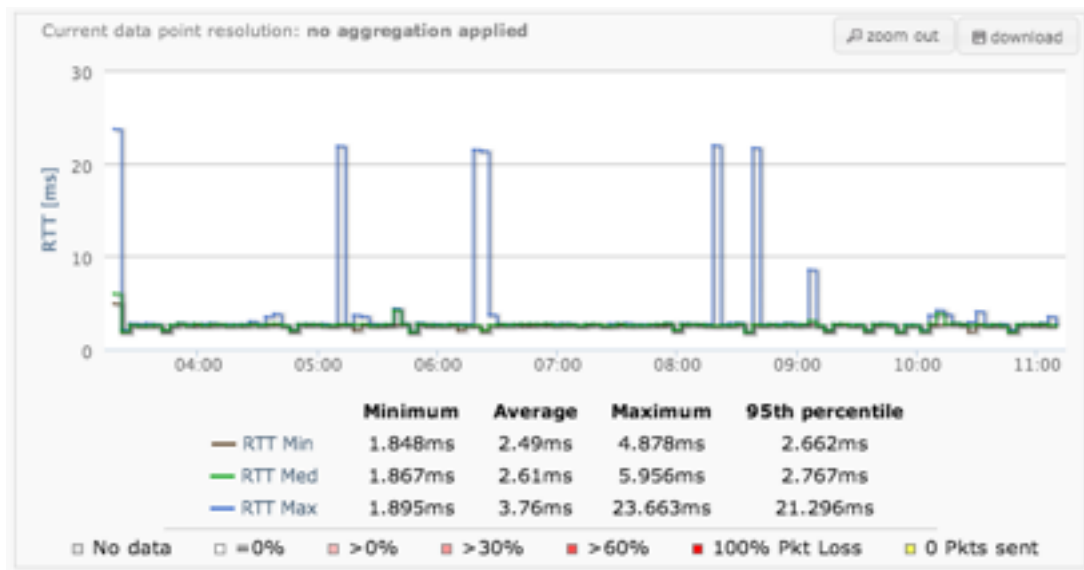


- Options to customise

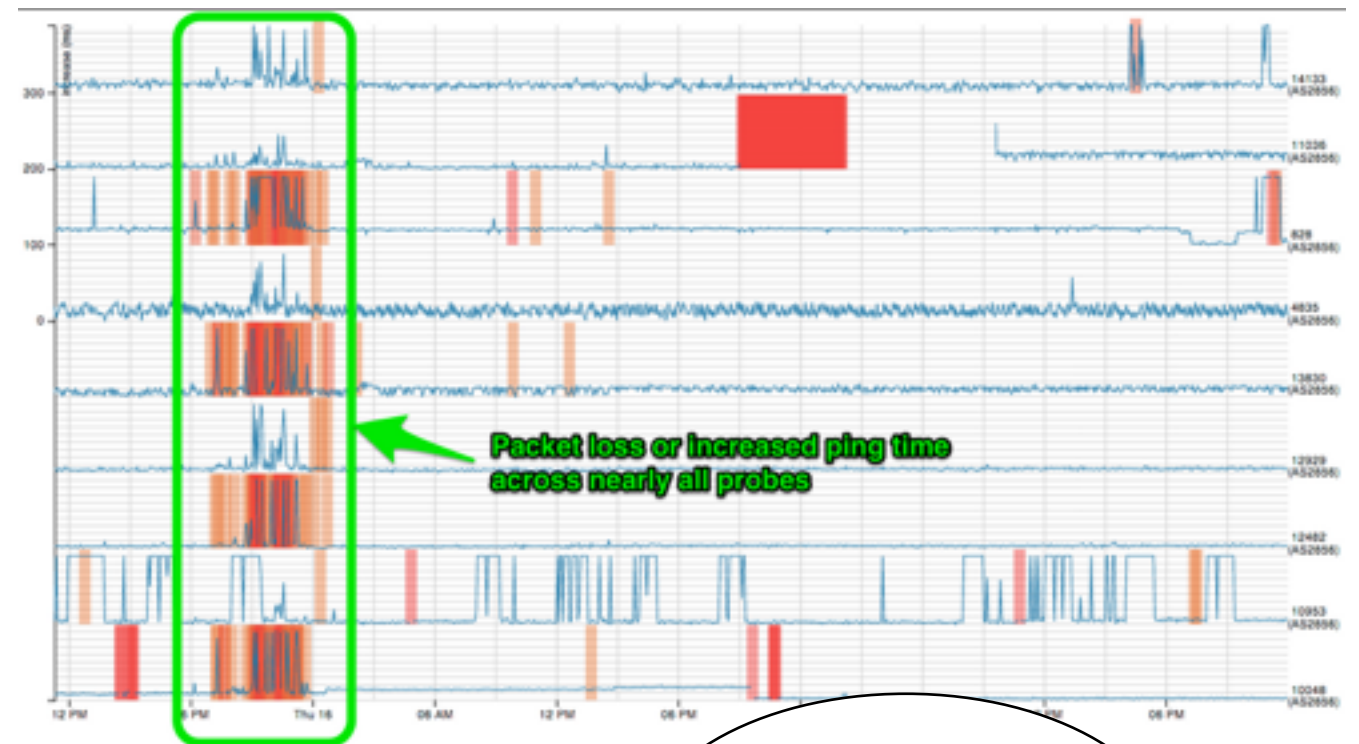
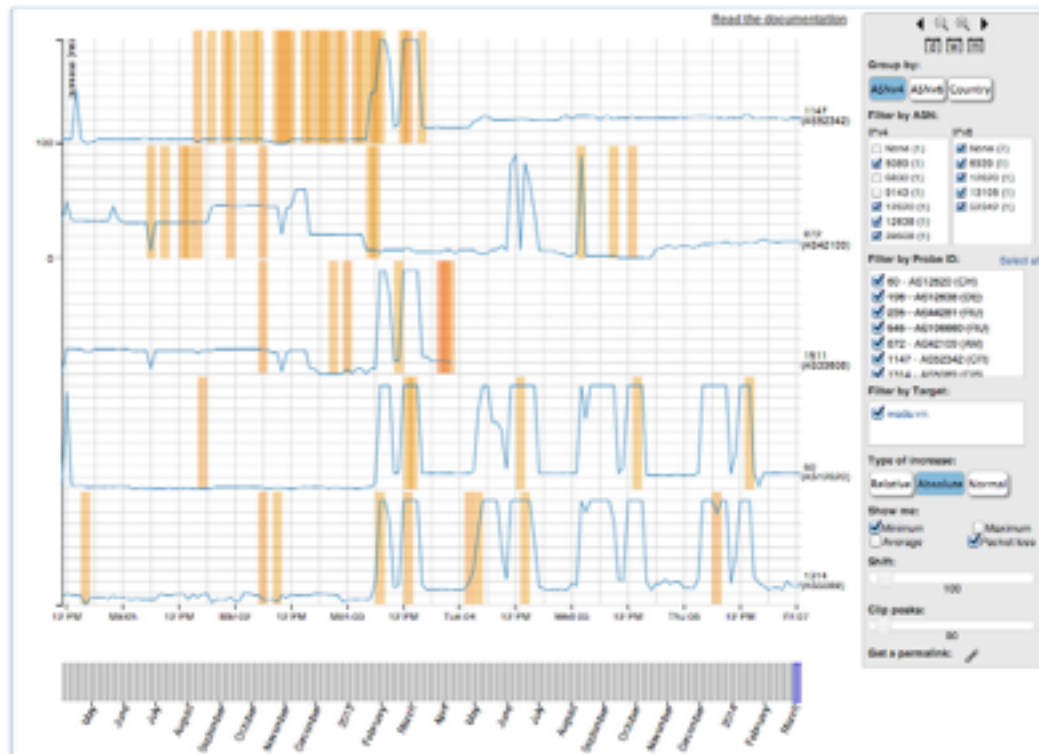
- Maximum packet loss before triggering alarm
- Number of measurements included...
- <https://atlas.ripe.net/docs/status-checks/>
- Beta status!

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

- Zoomable ping graphs (build-ins)



- 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

- Quick Look available for DNS, trace route 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



- Ongoing discussion about HTTP measurement
 - Restricted to anchors as targets

- Reachability

As of 05-03-2014



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

- Instances

As of 05-03-2014



Source: https://atlas.ripe.net/contrib/root_anycast.html?msm_id=1



RIPEstat

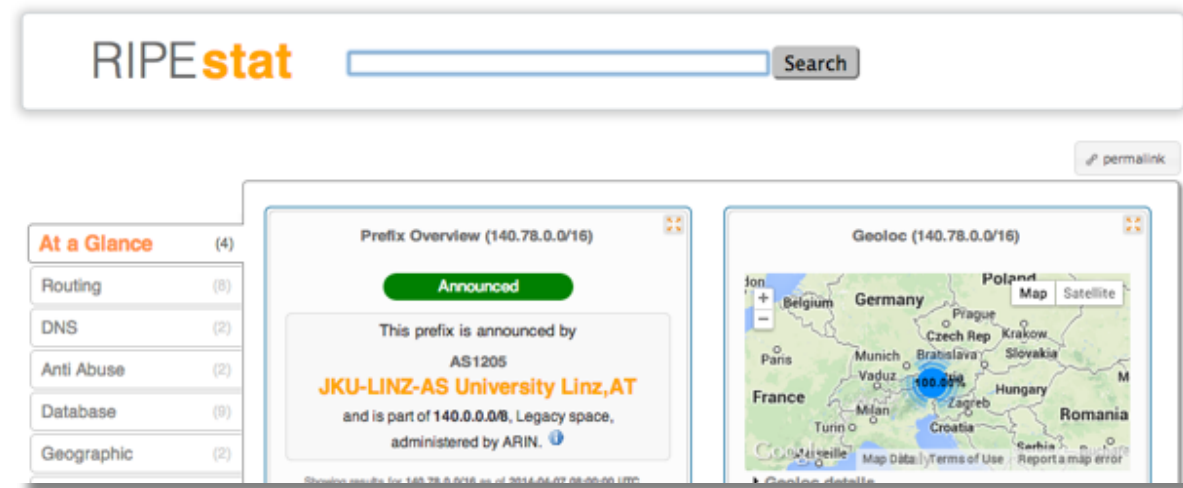


- Modular and extendable toolbox
- Single interface for Internet-related data
 - Routing data (RIS)
 - Registration data
 - DNS data
 - Geolocation data
 - Data collected by Atlas
 - (And more)
- RIPEstat is driven by user feedback

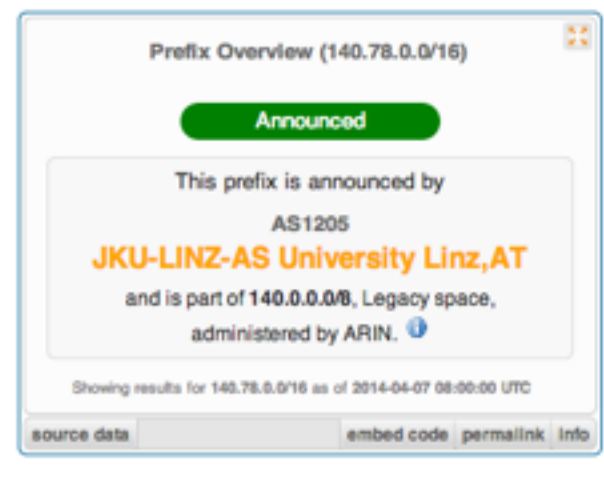
The screenshot shows the RIPEstat interface for the prefix 140.78.0.0/16. The page is titled "RIPEstat" and includes a search bar. The main content is organized into several panels:

- At a Glance (4):** A sidebar menu with categories: Routing (9), DNS (2), Anti Abuse (2), Database (9), Geographic (2), Activity (4), and Suggestions (1).
- Prefix Overview (140.78.0.0/16):** A central panel with a green "Announced" button. It states: "This prefix is announced by AS1205 JKU-LINZ-AS University Linz, AT and is part of 140.0.0.0/8, Legacy space, administered by ARIN." It also shows "Showing results for 140.78.0.0/16 as of 2014-04-07 08:00:00 UTC" and links for "source data", "embed code", "permalink", and "info".
- Geoloc (140.78.0.0/16):** A panel with a map of Europe showing the location of the prefix in Austria. It includes a "Map" button and "Showing results for 140.78.0.0/16 as of 2014-04-07 08:00:00 UTC".
- Registry Browser (140.78.0.0/16):** A panel with a yellow background showing the "inetnum: 140.78.0.0/16" and its details: "netname: JKU-LAN", "descr: Johannes Kepler University", "country: AT", "org: ORG-JKU1-RIPE", "admin-c: ULAC1-RIPE", "tech-c: ULNA1-RIPE", "status: ASSIGNED PI", "mnt-by: AB1205-MNT", and "mnt-by: ACONET-LIR-MNT". It also shows "Last updated on 2013-08-08 at 16:00:18 UTC" and "Showing results for 140.78.0.0/16 as of 2014-04-07 14:41:13 UTC".
- Routing Status (140.78.0.0/16):** A panel with a green checkmark indicating "At 2014-04-07 08:00:00 UTC, 140.78.0.0/16 was 100% visible (by 101 of 101 RIS full peers)." It also notes "First ever seen before Jan 2001." and "Originated by: AS1205 (valid route object in RIPE)". It includes "Showing results for 140.78.0.0/16 as of 2014-04-07 08:00:00 UTC" and a note: "Results exclude routes with very low visibility (less than 3 RIS peers seeing)." and links for "source data", "embed code", "permalink", and "info".

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



- RIPEstat Widget API



- RIPEstat Data API / RIPEstat Text API
 - <https://stat.ripe.net/data/routing-status/data.json?resource=...>

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



DNSMON



- Measures quality of high-level DNS servers
 - Root servers and some TLD servers
- Based on RIPE Atlas anchor measurement data
- Current and historical data
- Public data:
 - <https://atlas.ripe.net/dnsmon/>



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

