



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

RIPE NCC Operator Tools

Mirjam Kühne | 12 November 2019 | LUNOG 2

Tools on RIPE Labs



- List of tools and prototypes
- Current status of the tool
 - Prototype
 - Pre-production
 - Production
- Short description and link to tool
- Give us feedback!
- <https://labs.ripe.net/tools>

The screenshot shows a web browser window at labs.ripe.net/tools. The page is titled "Tools" and contains a list of four tools, each with a thumbnail, title, status, description, and interaction options (comments, likes, dislikes).

- IXP Country Jedi** (PROTOTYPE): Provides visualisations of Internet traffic paths (traceroutes) between RIPE Atlas probes located in the same country to show whether those paths take out of country detours, and what IXPs they pass through.
- RIPE IPmap** (PRODUCTION): The RIPE NCC's tool for mapping core Internet infrastructure. Through collaboration with various researchers, RIPE IPmap integrates several ground breaking methods for geolocation whilst also using crowd-sourced data to modify and correct its results.
- User to User Connections** (PROTOTYPE): These visualisations sketch out the different ways in which end-users are interconnected within the same country. Each sketch represents a snapshot of user to user connections at a single given point in time to provide insight into how networks interconnect their users.
- RIS Live** (PRE-PRODUCTION): RIS Live is a feed that offers BGP messages in real-time. It collects information from the RIS Route Collectors (RRCs) and uses a WebSocket JSON API to monitor and detect routing events around the world. A non-interactive full stream ("firehose") is also available.



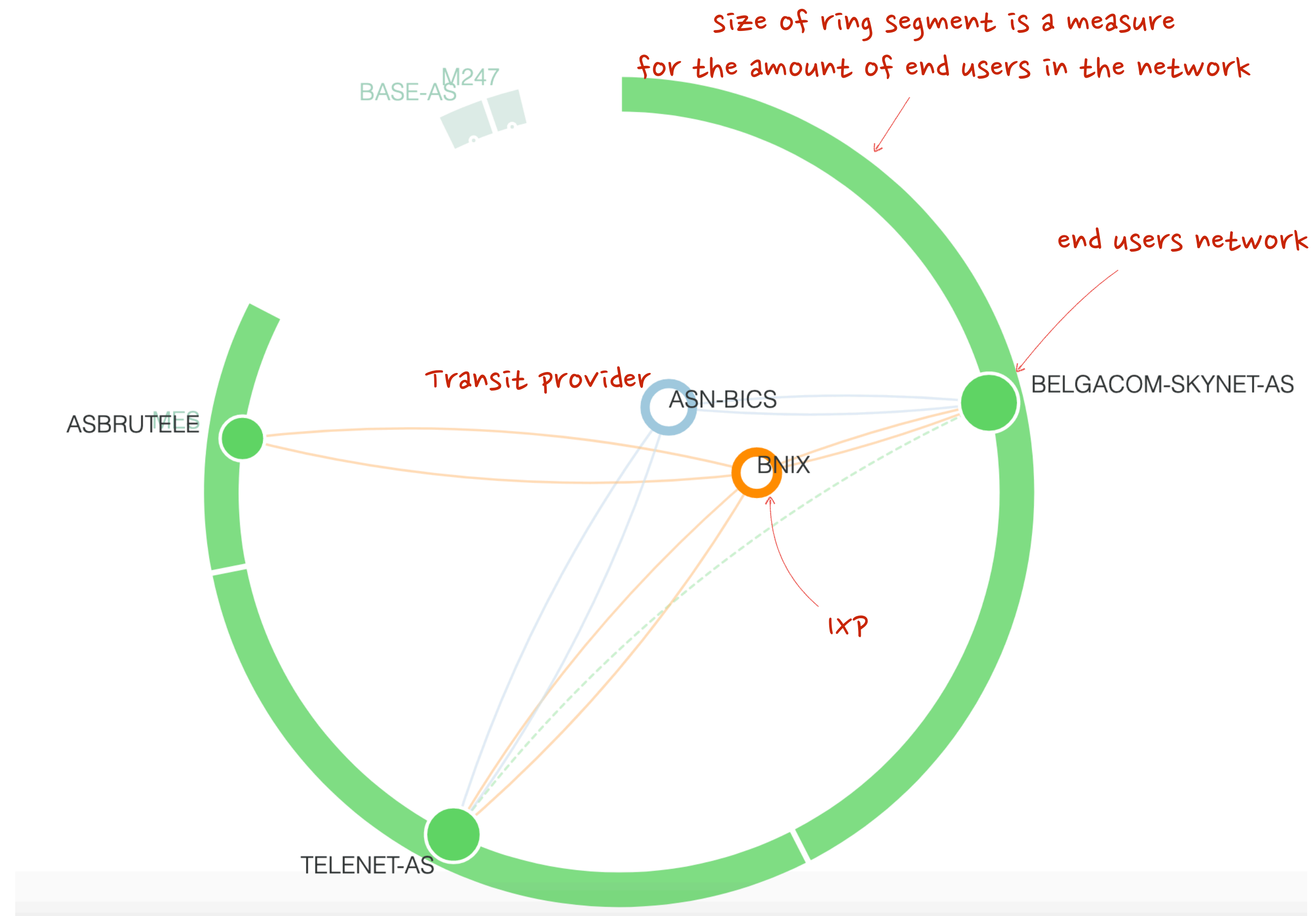
User-to-user measurements

Motivation

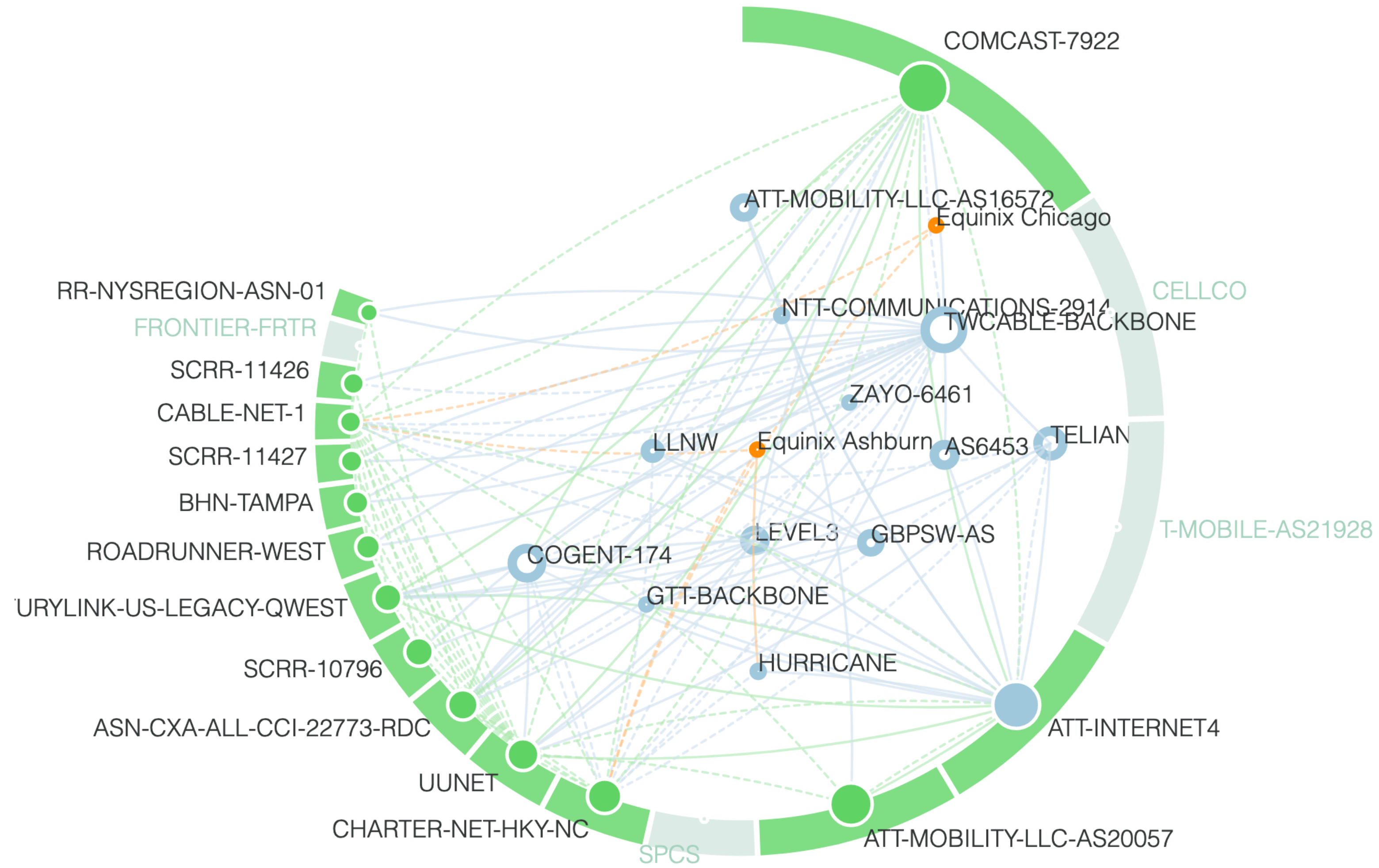


- Usually client-to-server gets measured
 - For traffic and cost optimisation
- What about de-centralised, peer-to-peer, server-less connections?
- Sketches Internet eco system of a country
- Combines RIPE Atlas, user population estimates (APNIC)
- <http://sg-pub.ripe.net/ixp-country-jedi/de/2019/10/01/>

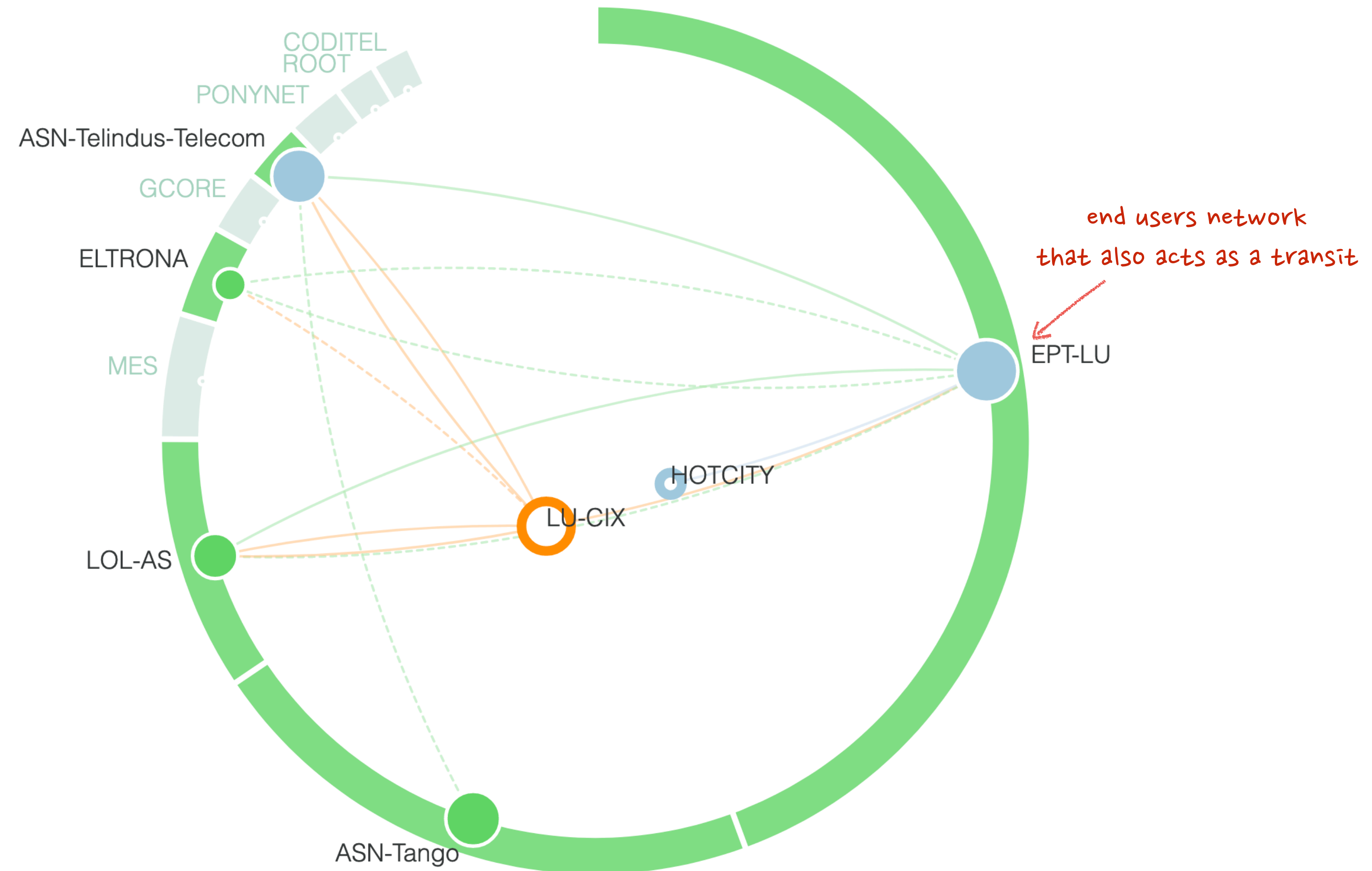
Belgium



USA



Luxembourg



RIS Live



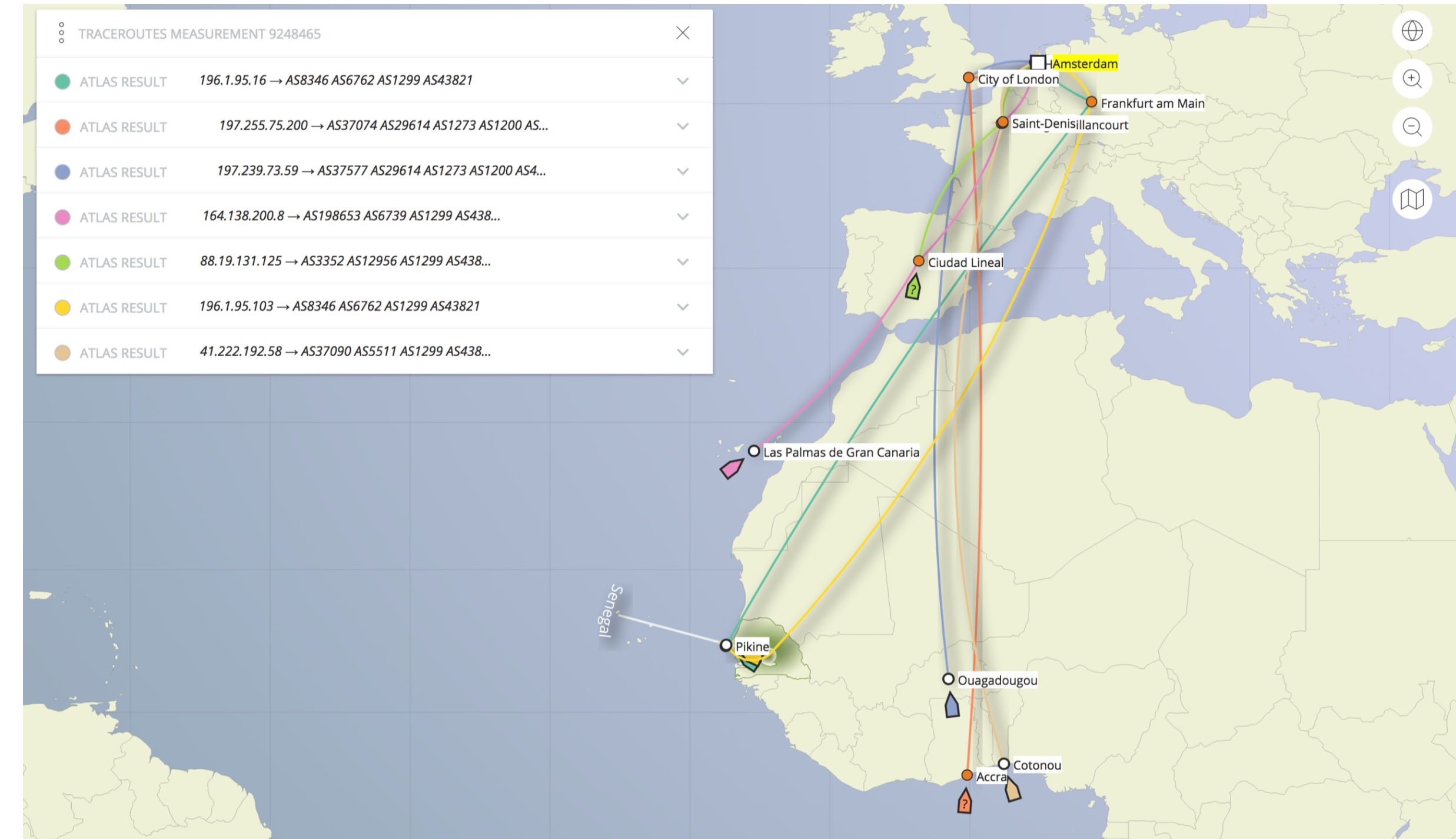
- BGP messages in real time
- Monitors and detects routing events from around the world
- RIS collectors + WebSocket JSON API
- <1s latency end to end
- <https://ris-live.ripe.net/>

```
ive RIS BGP messages
▶ Connected 6165 matching messages ⓘ
/ Received at 14:05:05 (0.25 second delay)
{"timestamp": 1550235905.09,
 "peer": "91.206.52.130",
 "peer_asn": "58299",
 "id": "91.206.52.130-1550235905.09-3854212",
 "host": "rrc20",
 "type": "UPDATE",
 "path": [58299, 6939, 2914, 12859, 12654],
 "community": [[58299, 1100]],
 "origin": "igp",
 "announcements": [
  {
    "next_hop": "2001:7f8:24::82",
    "prefixes": [
      "2001:7fb:ff02::/48"
    ]
  },
  {
    "next_hop": "fe80::4e5e:cff:fe25:40c4",
    "prefixes": [
      "2001:7fb:ff02::/48"
    ]
  }
 ]
}
```


RIPE IPmap



- Mapping core Internet infrastructure
- Combines several sources, including crowd-sourced data
- <https://ipmap.ripe.net/api>
- Work in progress



RPKI Test



- Does the network you are on drop invalid BGP announcements?
- <https://sg-pub.ripe.net/jasper/rpki-web-test/>

```
RPKI TEST a RIPE Labs experiment
testing valid ROA...[passed]
testing invalid ROA (5sec)...[passed]
AS2121 drops RPKI invalid BGP routes from prefix 2001:67c:64::/48 as witnessed
by your public IP 2001:67c:64:42:84ae:5b00:a129:e85c
```

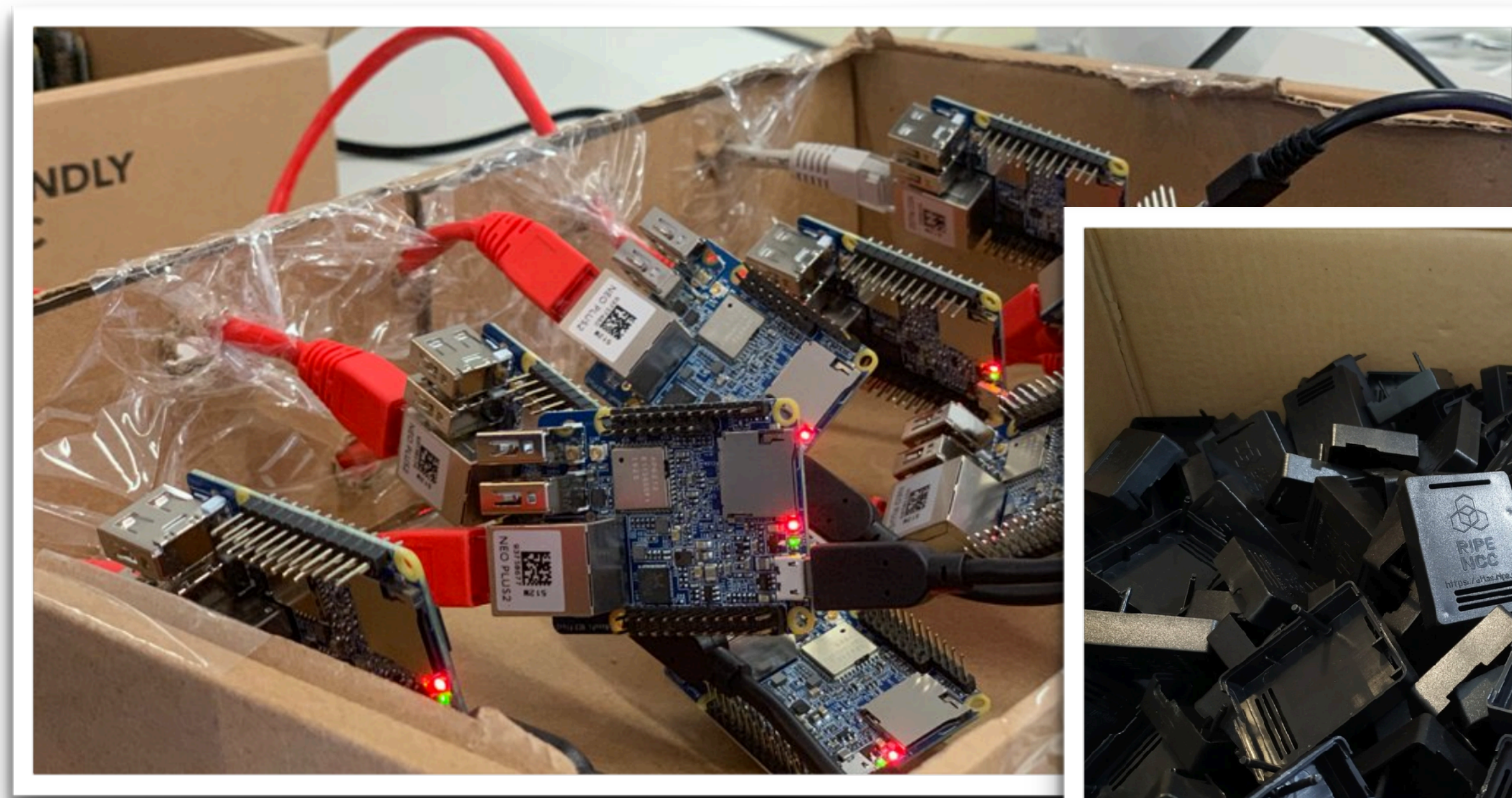



RIPE Atlas

At a Glance



- Probe population is stable at 10K+
- 500 connected anchors
 - 145 are virtual
 - Apply at <https://atlas.ripe.net/get-involved/become-an-anchor-host/>
- Working on new version



Software Probes

- Software tags
- In test phase now
 - Until end of 2019
- If you are interested:
 - <https://www.ripe.net/participate/forms/apply/atlas-probes/>



Randy/Seattle Deb10

General Network Built-ins UDMs Status (beta)

General Information

Id	1000004
MAC Address	N/A
Architecture	software
Host	Randy Bush
Sponsor	RIPE Atlas
Firmware Version	5000
Router Type	
Bandwidth Limit	Not set
DNS Entry	Off
Shared Publicly	Yes

User Tags

- Fibre
- Datacentre
- Academic
- No NAT
- Native IPv6
- dual-stack
- IPv4
- IPv6
- Multihomed
- Native IPv4
- iwantbcp38compliancetesting

System Tags

- Resolves A Correctly
- Resolves AAAA Correctly
- IPv4 Works
- IPv6 Works
- IPv4 Capable
- IPv6 Capable
- Software

Connection & Traffic

No data available for Probe # 1000004 for this time period

Connected Time 3 days, 17 hours

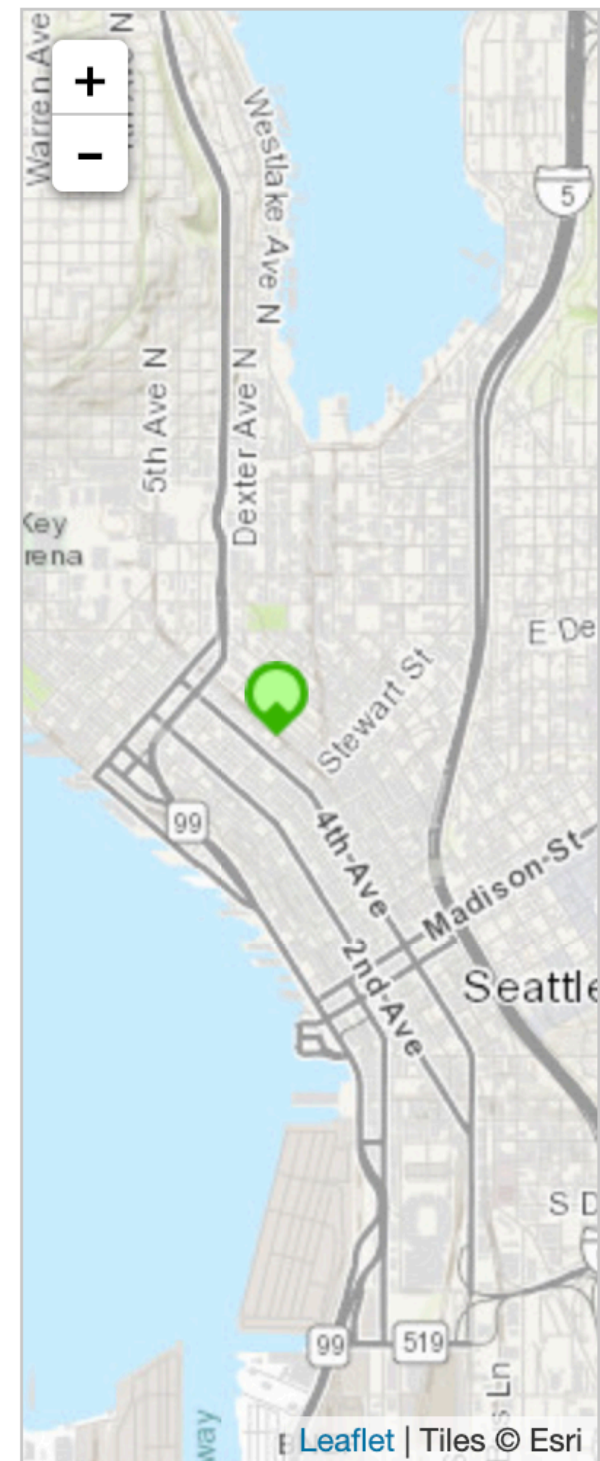
3 days, 17 hours

Firmware #1000004

5000

Architecture software

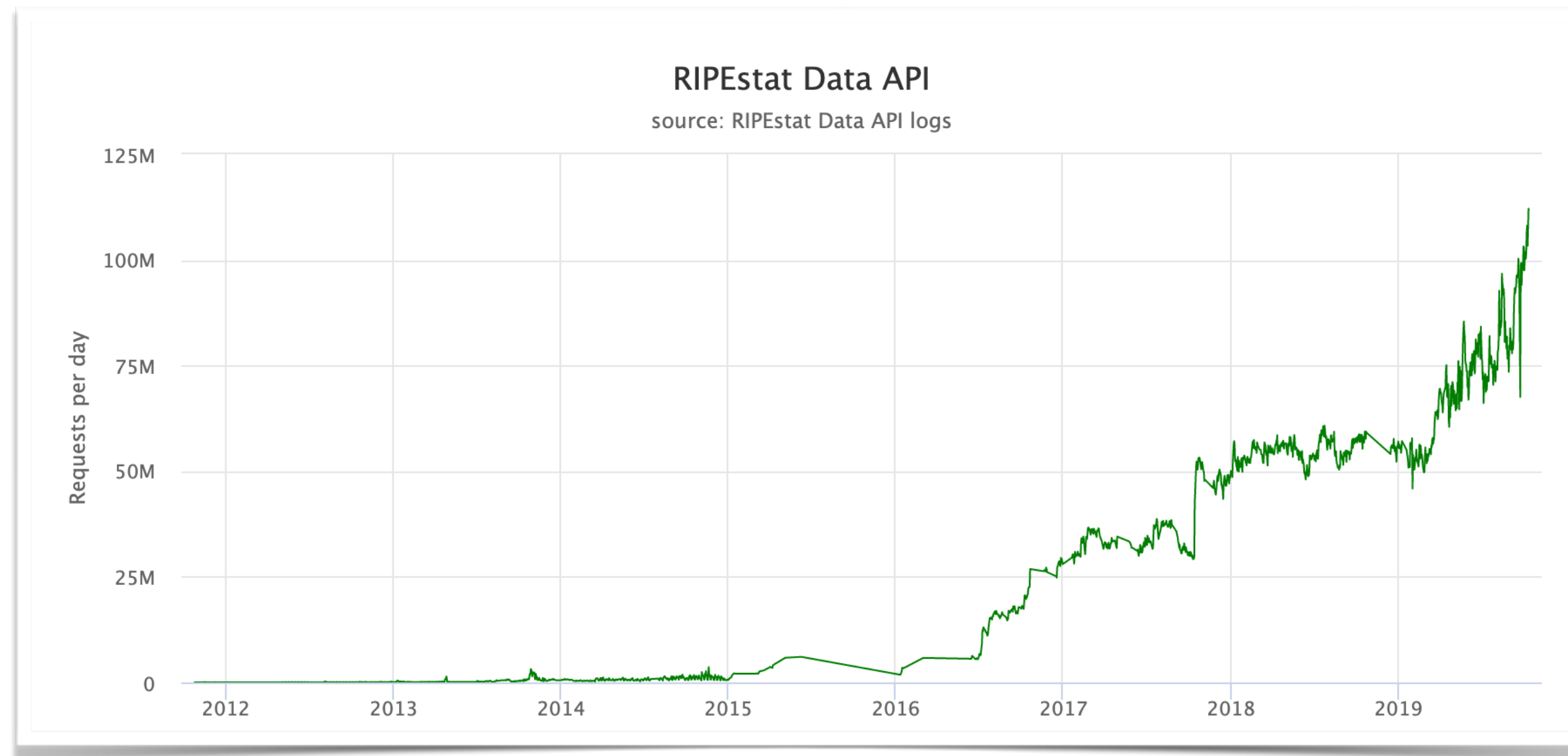
MAC Address N/A





RIPEstat

RIPEstat Usage (stat.ripe.net)

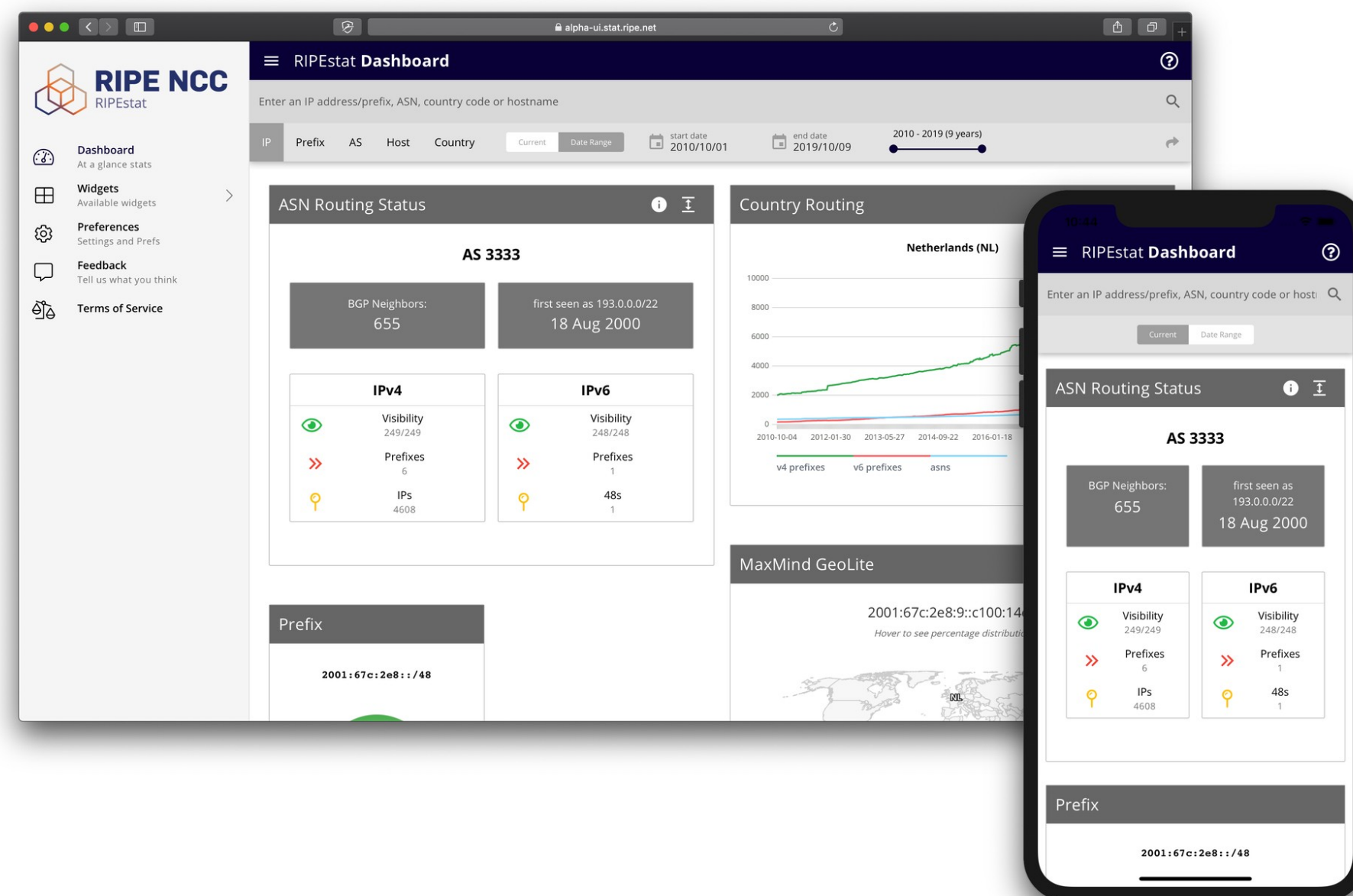


- 100% increase in 2019 (~50M to ~100M+ requests/day)

RIPEstat - UI Concept



- Development update on new UI
 - Dashboard view
 - More widgets
 - https://labs.ripe.net/Members/stephen_suess_1/ripestat-next-generation-ui
 - <https://beta-ui.stat.ripe.net/dashboard>



Articles on RIPE Labs



Some articles from the recent past:

- [25,000 LIRs - An End to the Milestone Highs?](#)
- [How Diverse is RIS?](#)
- [Routing to and from the Netherlands](#)
- [RPKI Test](#)
- [Inter-RIR Collaboration Produces new Product Prototype](#)
- [RIPEstat is Getting Ready for a Face-Lift](#)
- ... and more on [RIPE Labs](#)



- 11,050 articles since 2009
- Time for a revamp!
- We're considering new design, content, features and functions
- Tell us what you like to see on RIPE Labs
 - labs@ripe.net
 - [@RIPELabs](https://twitter.com/RIPELabs)





Questions



mir@ripe.net
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