



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

RIPE NCC Tools Update



RIPE Labs



- Join us in celebrating 10 Years of RIPE Labs
- 11,050 articles since 2009
- Time for a revamp!
- We're considering new design, content, features and functions
- Take part in reimagining RIPE Labs and share your ideas with us
 - @RIPELabs
 - labs@ripe.net



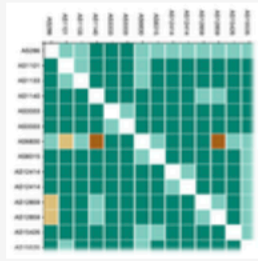
Tools on RIPE Labs



labs.ripe.net/tools

Tools


A list of prototype tools and visualisations we are currently working on. Play with them, see what they can do, and please leave your feedback on how you'd like to see them developed in the future.





IXP Country Jedi

PROTOTYPE

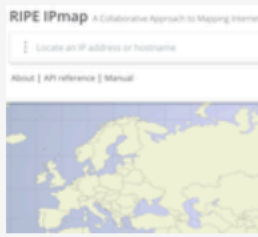
IXP Country Jedi provides visualisations of Internet traffic paths (traceroutes) between RIPE Atlas probes located in the same country to show whether those paths take out of country detours, and what IXPs they pass through.



0 comments




0 likes, 0 dislikes





RIPE IPmap

PRODUCTION

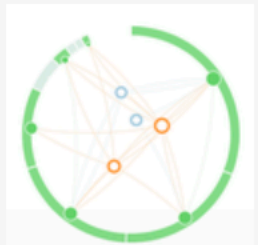
RIPE IPmap is the RIPE NCC's tool for mapping core Internet infrastructure. Through collaboration with various researchers, RIPE IPmap integrates several ground breaking methods for geolocation whilst also using crowd-sourced data to modify and correct its results.



0 comments




0 likes, 0 dislikes





User to User Connections

PROTOTYPE

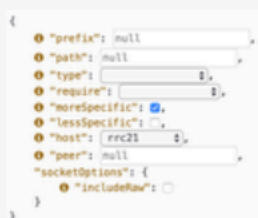
These visualisations sketch out the different ways in which end-users are interconnected within the same country. Each sketch represents a snapshot of user to user connections at a single given point in time to provide insight into how networks interconnect their users.



0 comments




0 likes, 0 dislikes





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.



0 comments



0 likes, 0 dislikes

<https://labs.ripe.net/tools>

Robert Kistelevi | RIPE 79 | 17 October 2019

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Research and Prototyping

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

Research, Tools and Collaboration



```
SELECT day, status, count(status) AS count
FROM `data-test-194508.prod.probes`
WHERE longitude >= -123.5 AND longitude <= -120.5
AND latitude >= 36 AND latitude <= 40
AND day >= "2019-10-01"
AND (status = 1 OR status = 2)
GROUP BY day, status
ORDER BY day, status
```



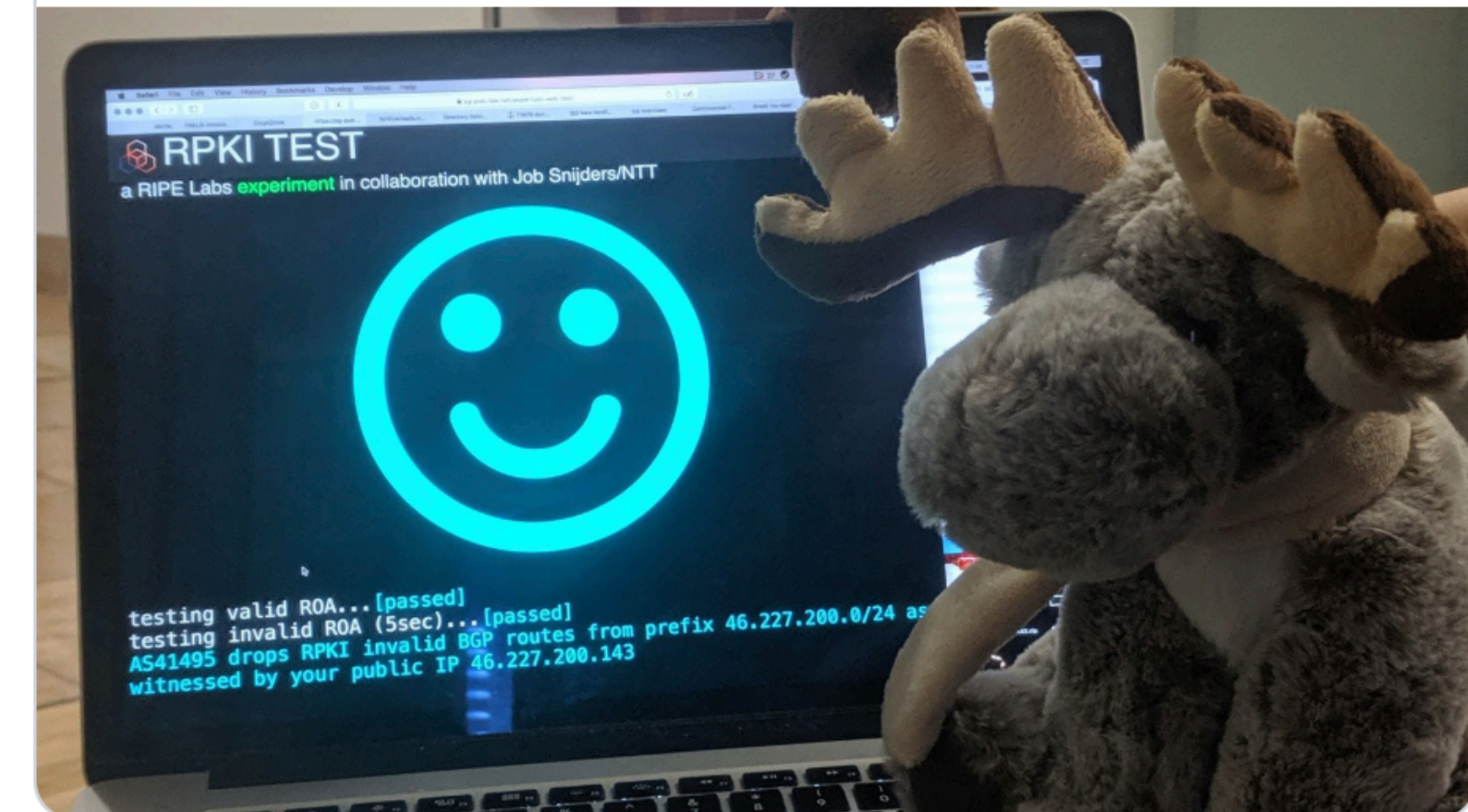
Marek Isalski @maznu · Oct 9

This Thursday [@net_mcr](#) I'll be explaining how the [@networkmoose](#) achieved IRR-based prefix-list generation, [#BCP38](#) as part of [@RoutingMANRS](#), [#RPKI](#) validation using [@routinator3000](#), [#BGP](#) control-plane security, and [#Netbox](#)-driven automation for [@vyos_dev](#) routers with [@SaltStack](#).



Network Moose @NetworkMoose · Sep 25

AS41495 is now rejecting RPKI invalids! Thanks to [@vyos_dev](#), [@routinator3000](#) and our helpers [@faelix](#) [#rpk](#)





RIPE Atlas

At a Glance



- Probe population is stable at 10K+
- We have over 500 connected anchors now
 - 145 are virtual
 - Amazon AWS anchors were done before, Google GCP anchors are coming
 - Apply for your own at <https://atlas.ripe.net/get-involved/become-an-anchor-host/>
- Hardware probe stock is being replenished
- Major internal works are about to conclude
- Software probes are coming!



Software Probes



- Just like the hardware probes - but without the need to ship and install dedicated hardware!
 - On servers, VMs, (home) routers, etc.
- We use dedicated controlling infrastructure for these probes
 - This is transparent to the users: probe hosts and “measurers”
 - Using probe tags to let users select to use these or not
- Application/registration procedure is somewhat different
 - Because there’s no physical manifestation, proof of ownership is different
 - We’d like to welcome software probes from all networks
 - We can add throttling to applications if needed

Software 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

iwantbcp38compliance

testing

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

zoom out

Connected Time

3 days, 17 hours

Mon 14

Tue 15

Wed 16

Thu 17

3 days, 17 hours

Firmware

5000

#1000004

Architecture

software

MAC Address

N/A

+

-

Seattle

Leaflet | Tiles © Esri

Software Probes



- Entering testing phase now! If you want to help us, fill in the survey:
 - <https://www.ripe.net/participate/forms/apply/atlas-probes/>
- We make the probe source code public (on GitHub) and maintain an RPM (CentOS) package
- We're contacting (and still looking for) other package maintainers
 - The good folks at CZ.NIC are kindly helping with OpenWRT / Turris ports
 - Including other Linux distributions, Docker, Raspberry Pis... would be useful!
- We expect to conclude the testing phase at the end of the year

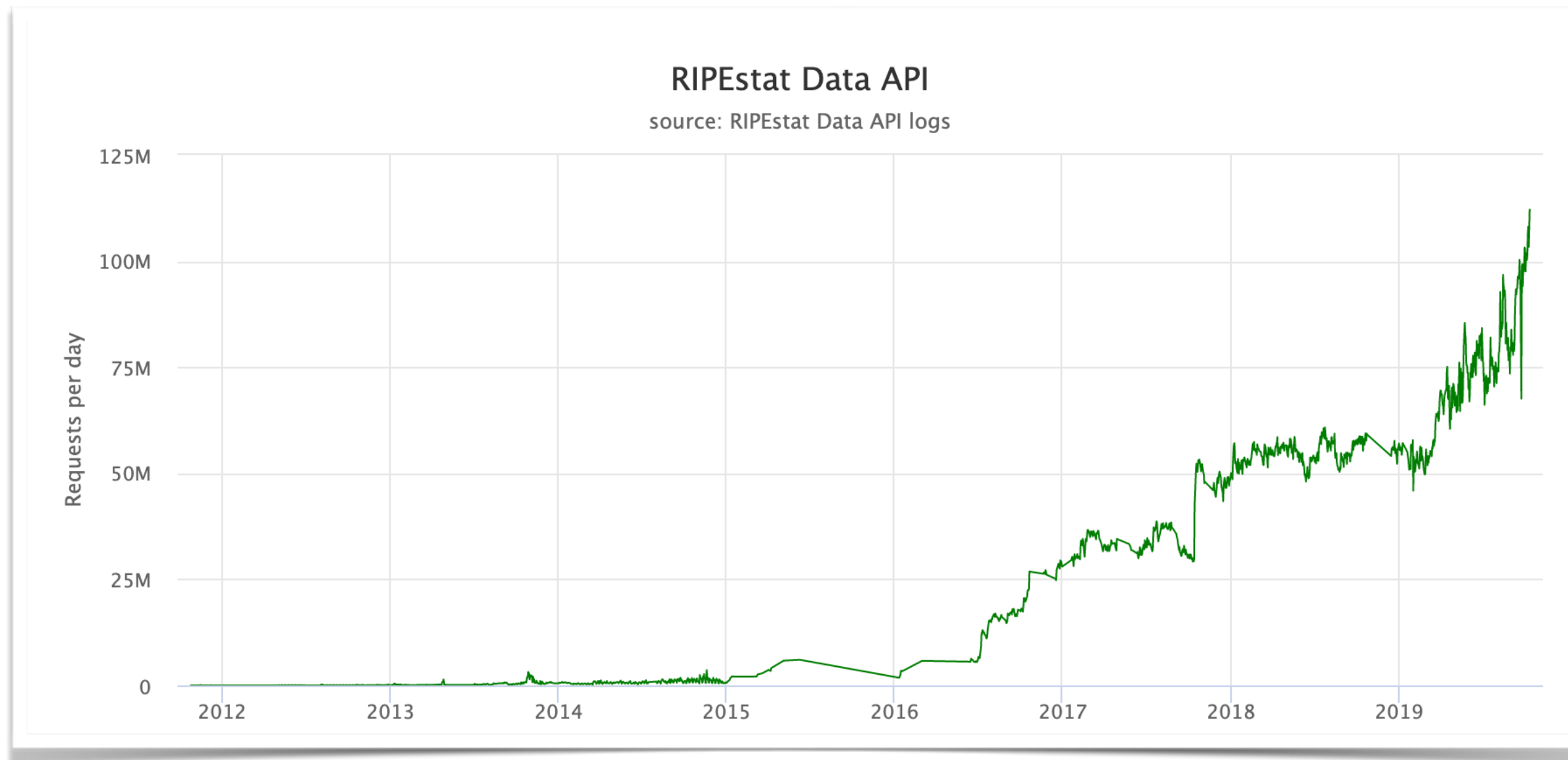
Software Probes





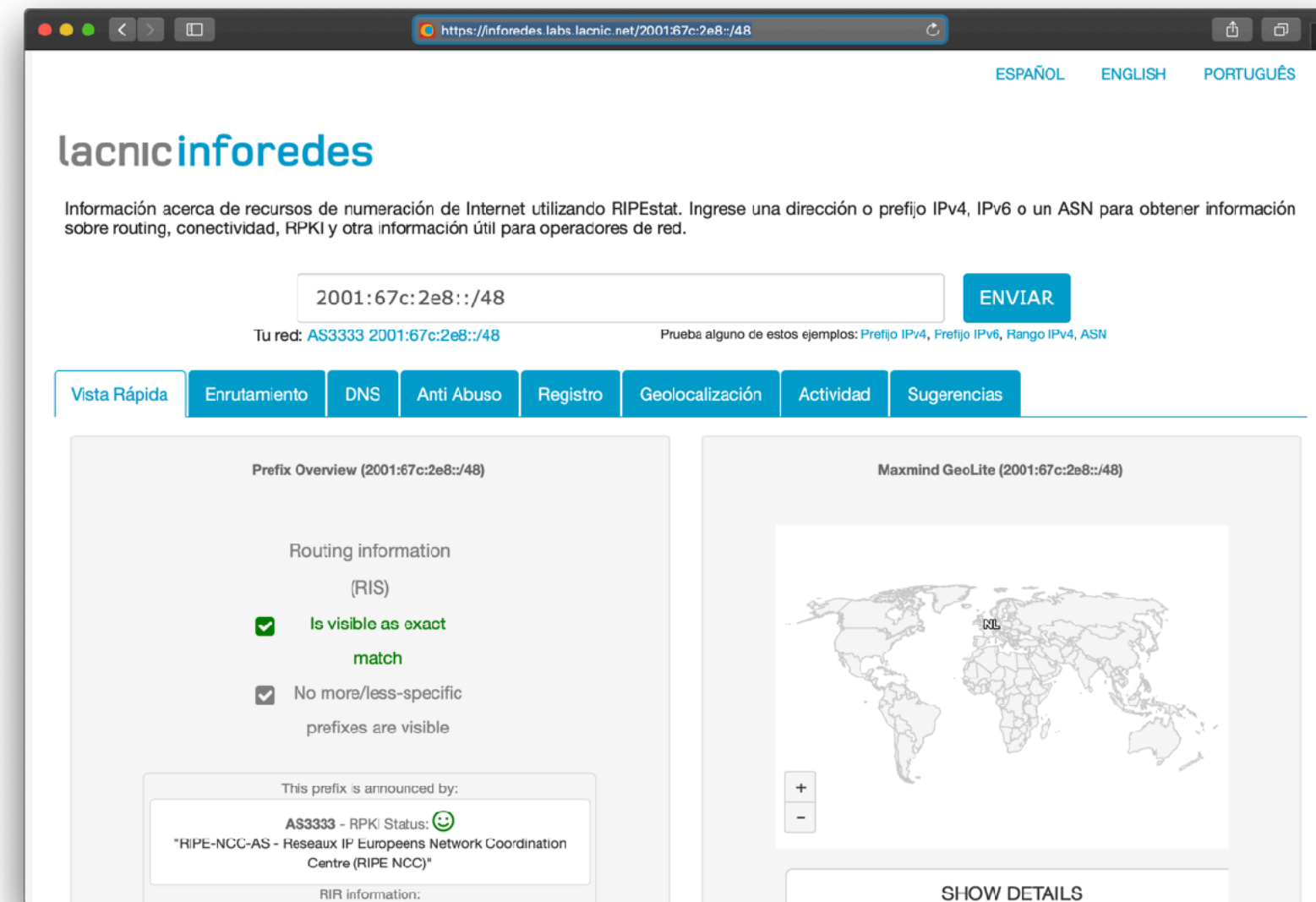
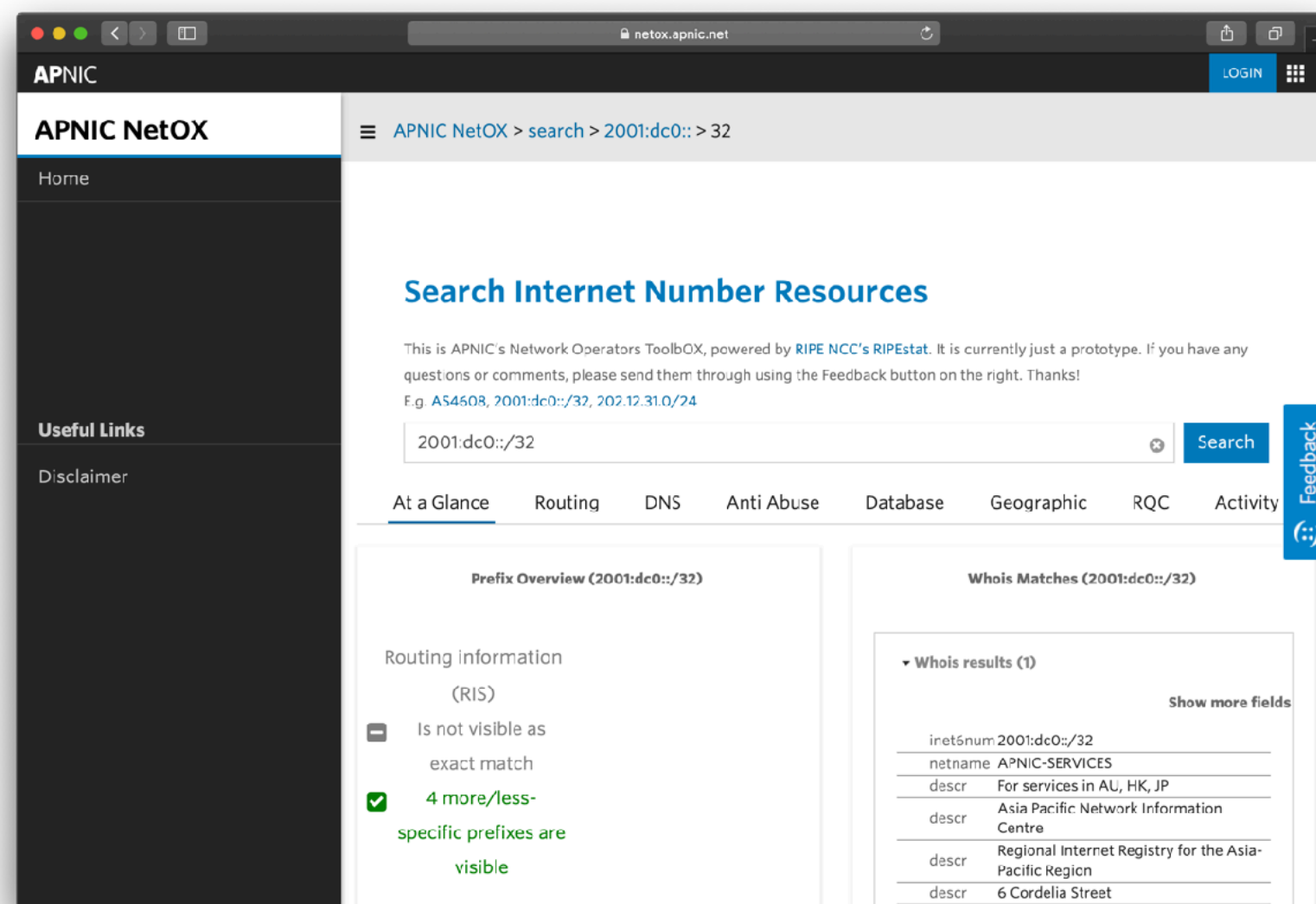
RIPEstat

RIPEstat Usage



- 100% increase in 2019 (~50M to ~100M requests/day)
- RIPE NCC Survey 2019: “*RIPEstat is the most used tool of the RIPE NCC tools and services...*”

RIPEstat - RIR Collaboration

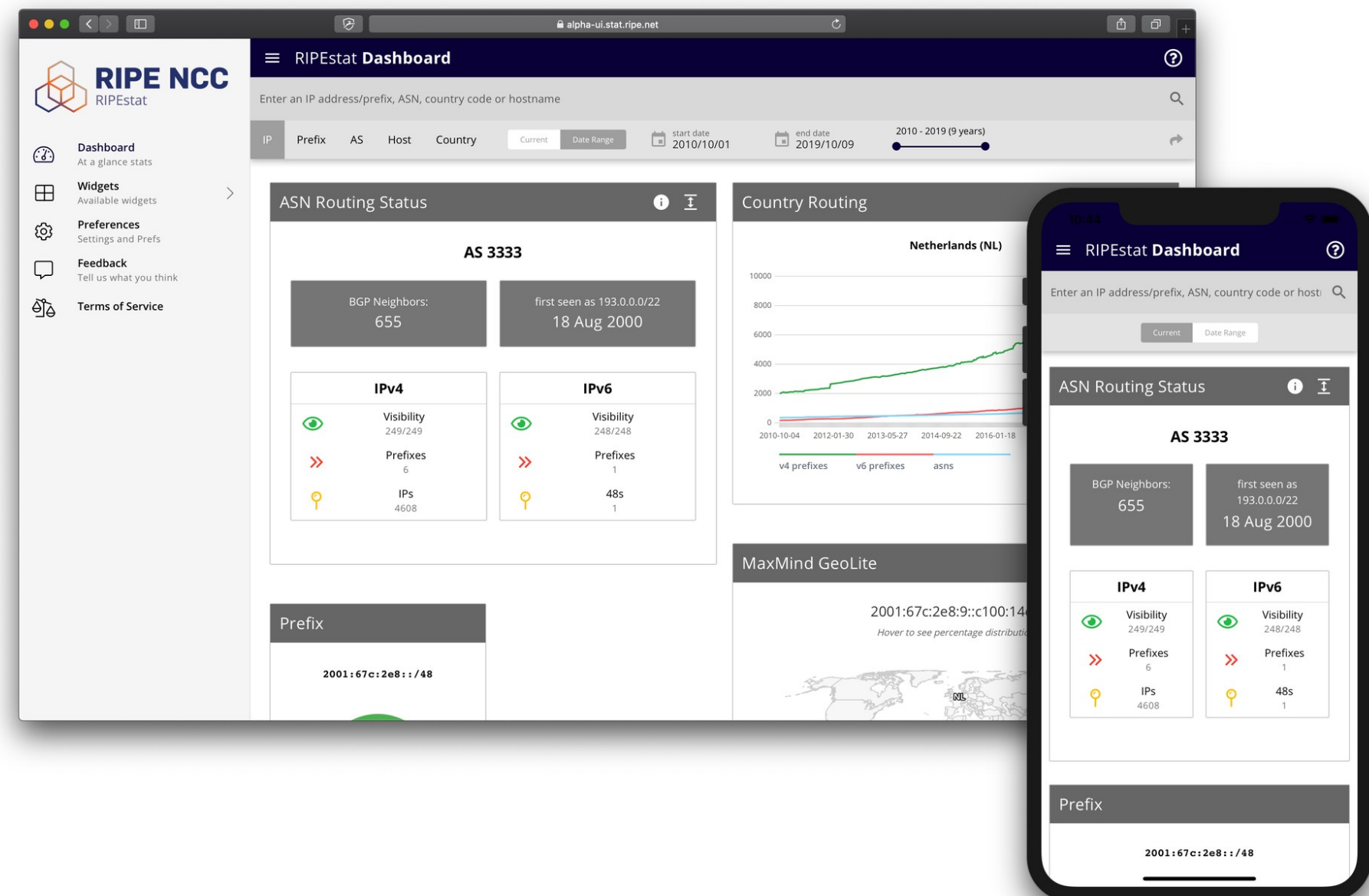


- APNIC's **NetOX** team working on new widgets
- 2nd RIR collaboration: **InfoRedes** at LACNIC
 - <https://inforesdes.labs.lacnic.net>
 - Language support for English, Portuguese and Spanish

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>



RIPEstat - New Features



- RIPEstat Service Terms and Conditions
 - Regulating also commercial use
 - <https://www.ripe.net/about-us/legal/ripestat-service-terms-and-conditions>
- New data call providing meta information for RIS RRCs
 - https://stat.ripe.net/docs/data_api#rrc-info



Other Projects

RIS Live



- The service is being prepared for production - watch this space!
- <https://ris-live.ripe.net/>
- <1s latency end to end
- JSON format
- WebSocket/HTTP stream
- Enthusiasts at NTT have already built an alerter tool on top of this:
 - <https://github.com/nttgin/BGPalerter>

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"
      ]
    }
  ]
}
```



Questions



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@kistel