



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

Tools Update

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RIPE NCC

Robert Kisteleki | 25 November 2021 | MAT WG - RIPE 83



Research

Articles on RIPE Labs



Some articles from the recent past:

- [Latency Into Your Network - As Seen From RIPE Atlas](#)
- [Facebook Down and Out in BGPlay](#)
- [Exploring RIPE Atlas Traceroutes from 2012 to 2019](#)
 - By Nevil Brownlee
- [RIPE NCC Internet Country Report: Mediterranean Europe](#)
- [IPv6 Adoption in 2021](#)

For more information: see [RIPE Labs](#)

Latency Into Your Network



Minimum RTT

To do this we created a data aggregate, based on [RIPE Atlas data in the Google Cloud Platform](#). We extract the minimum round trip time (RTT) that we see in traceroutes from each RIPE Atlas probe into each network that we have collected traceroute data for on a given day. The network data is aggregated by their well-known identifier, the Autonomous System Number (ASN), but we also aggregate data for IXP peering LANs in as far as they are recorded in [PeeringDB](#).

So for a network or IXP, this dataset will contain a single minimum RTT value for all RIPE Atlas probes that see IP addresses for that particular network or IXP for a given day. And this requires no extra measurement as it builds on top of measurements that already exist in RIPE Atlas.

The resulting dataset is an interesting aggregate. Not only is it small (500MB uncompressed per day), but as we'll show below, it can provide insights for the following use-cases:

- What is the latency into a network as seen from over 10,000 vantage points all over the world?
- Which networks are close/far from a particular vantage point?

- For details, check out [Emile Aben's lightning talk on Monday](#)

Latency Into Your Network

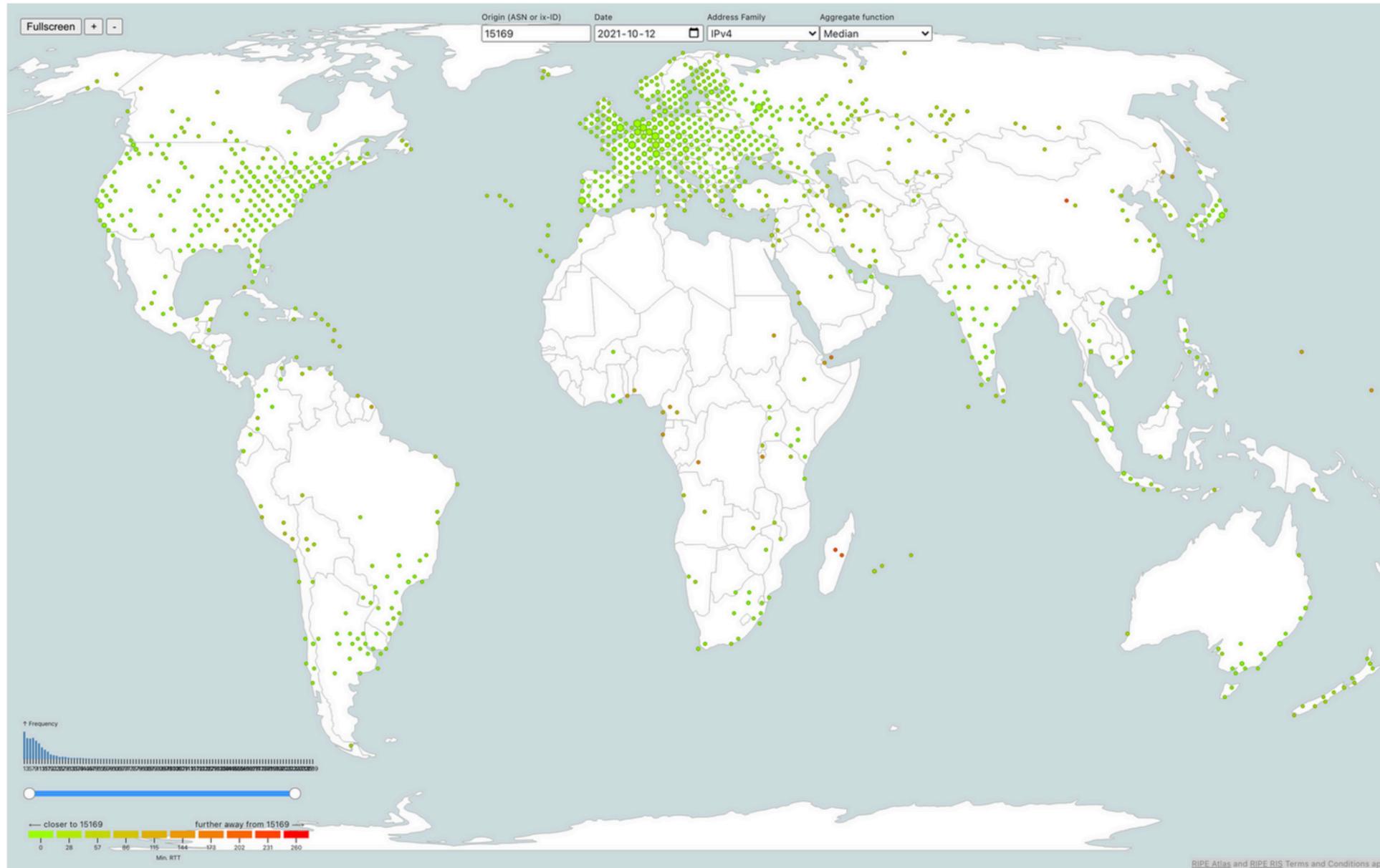


Figure 4: Screenshot of latency map for AS15169 (Google)

Latency Into Your Network

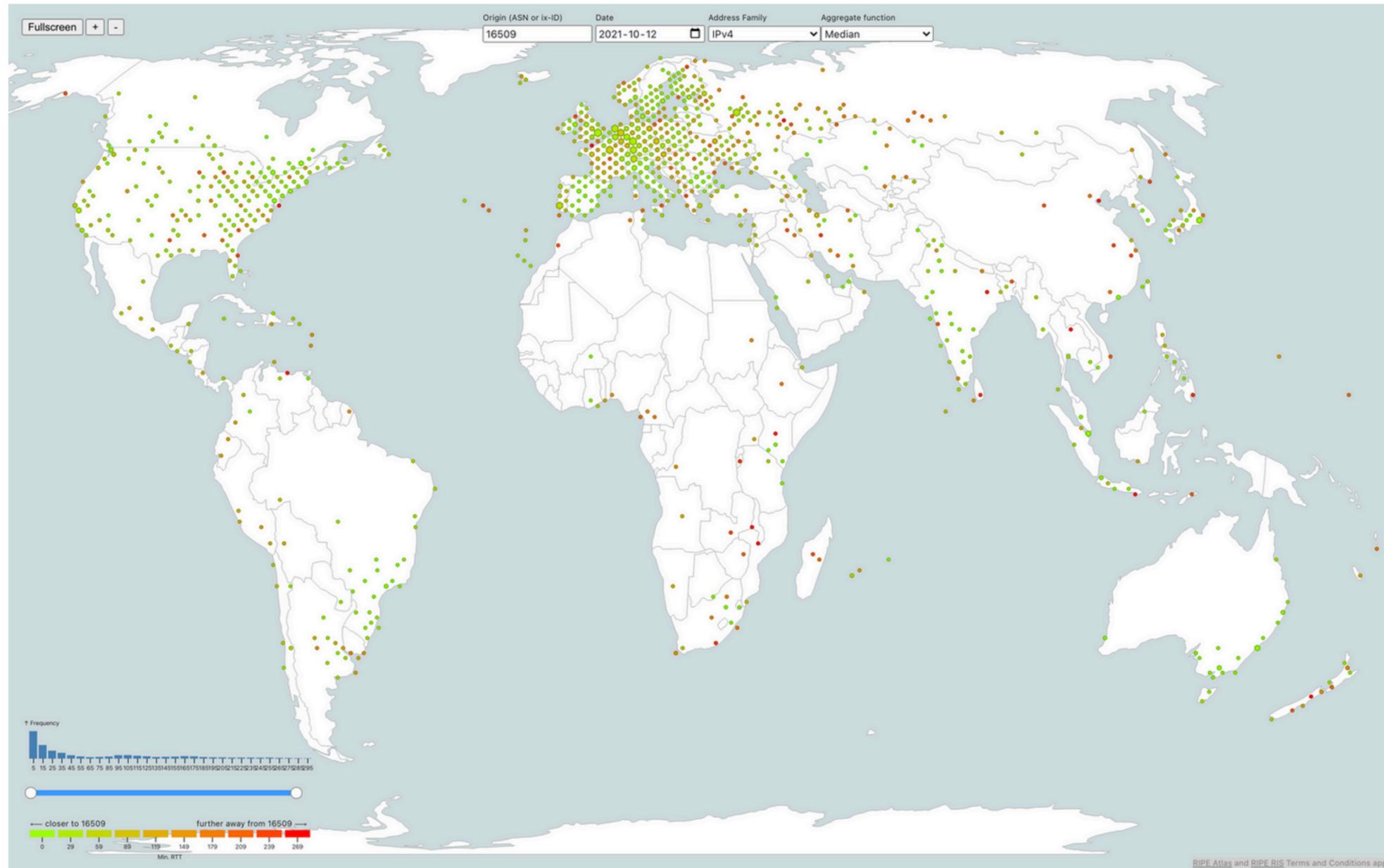
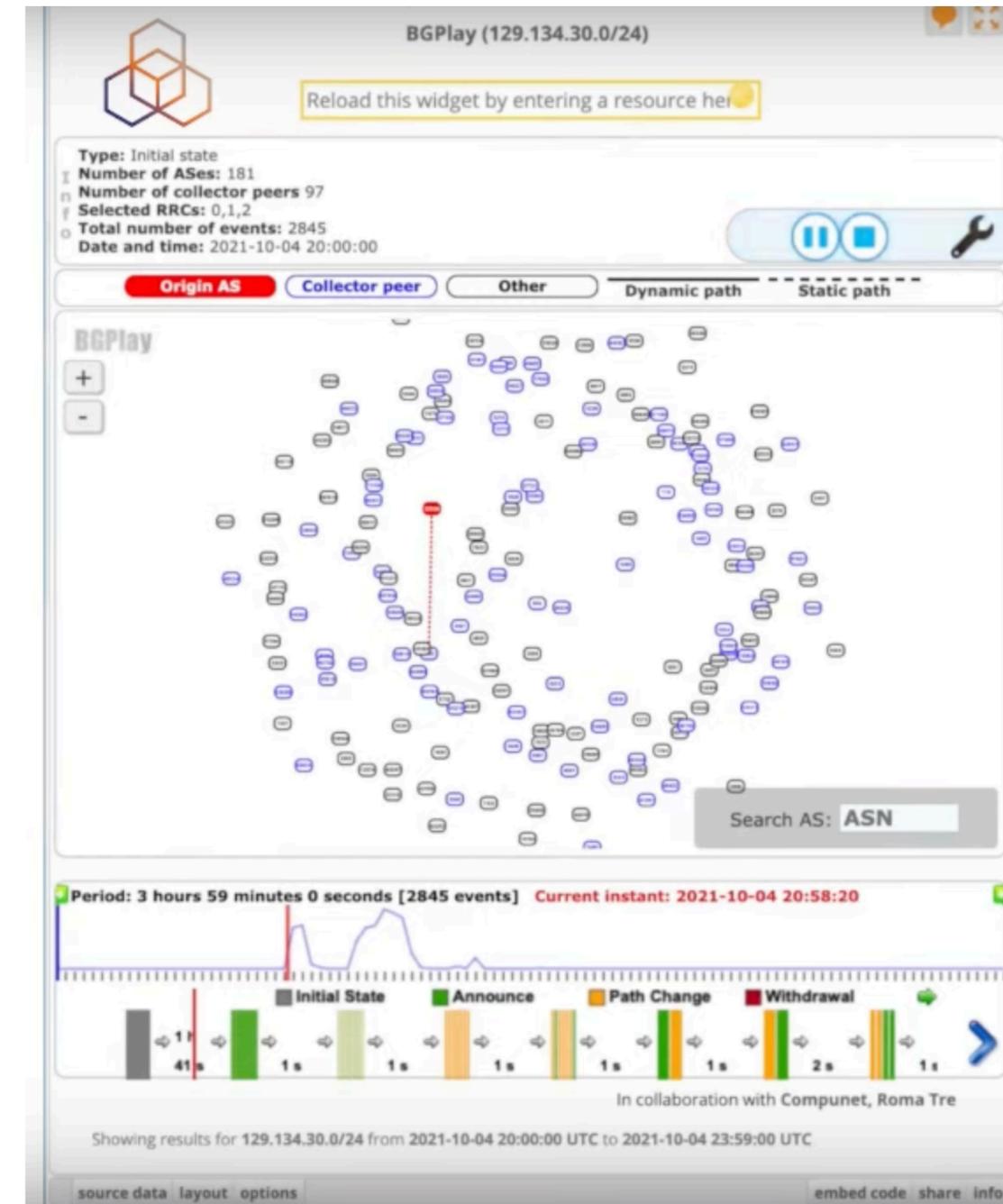
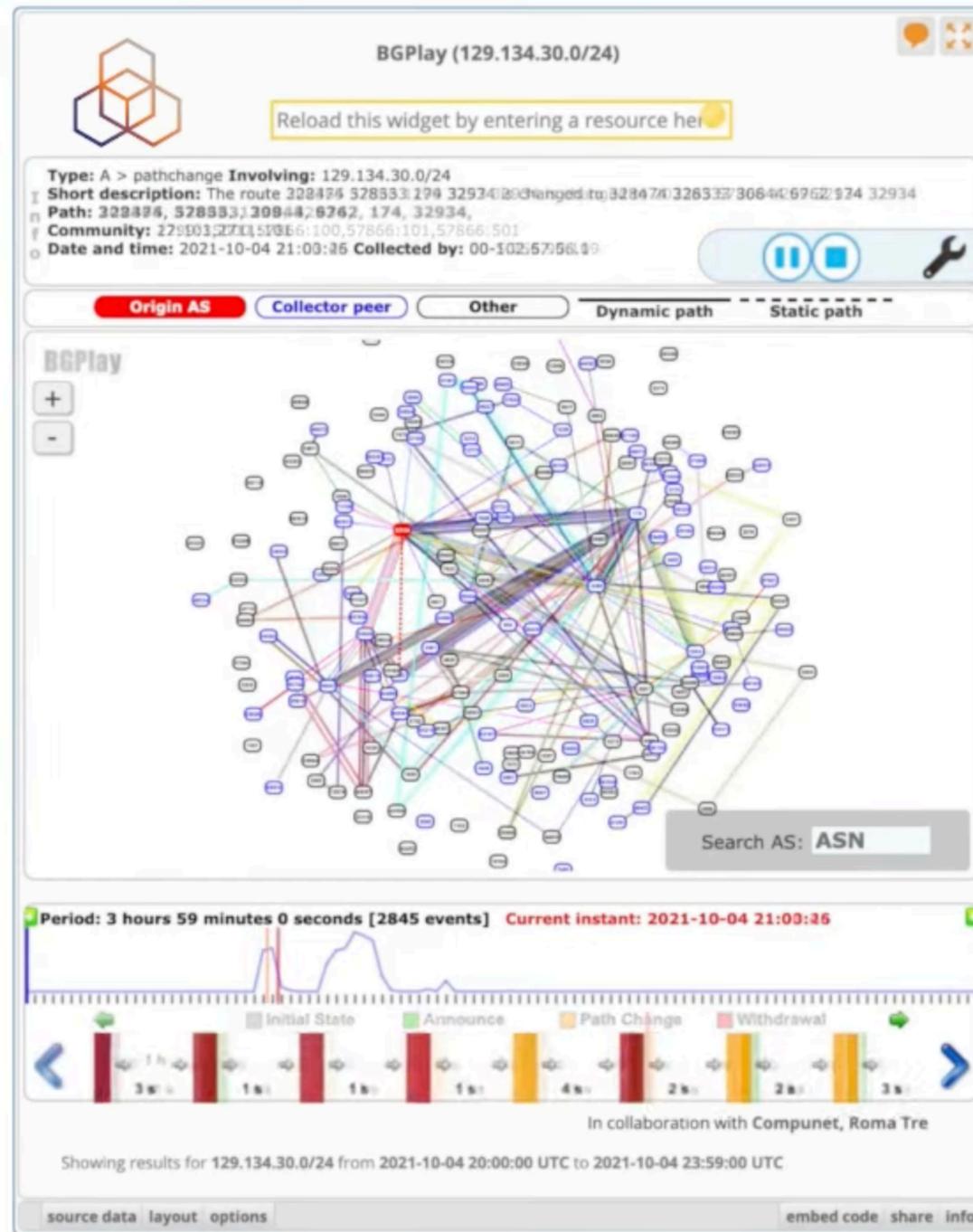


Figure 5: Screenshot of latency map for AS16509 (Amazon)

Facebook Down and Out in BGPlay





RIPE Atlas

RIPE Atlas Recent Developments

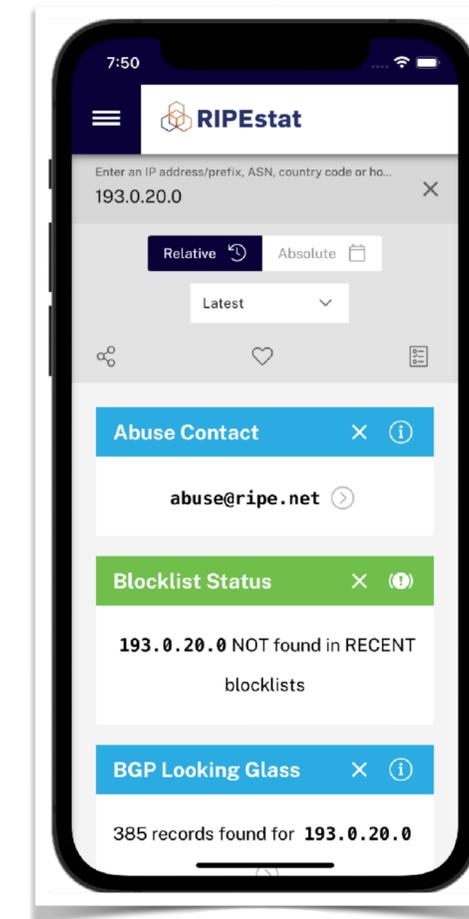
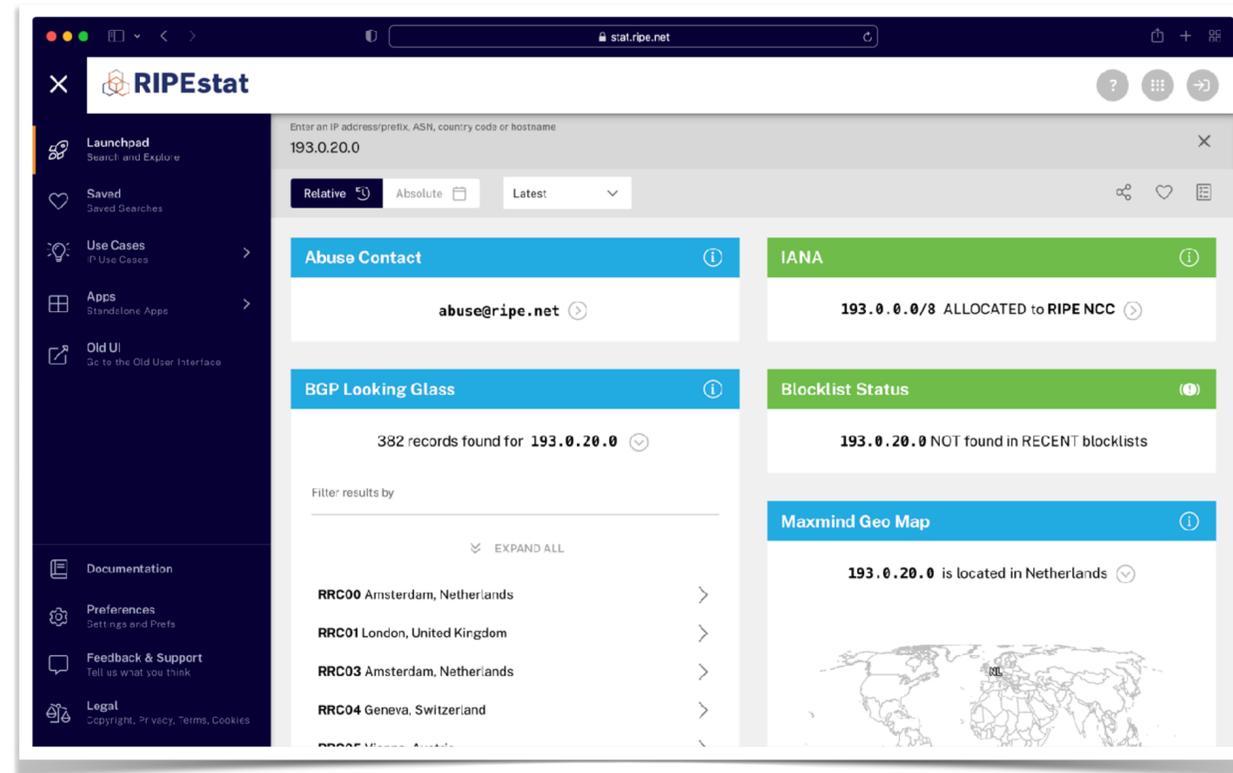


- The number of software probes is growing
 - ~1,000 in January, ~1,850 now
- Working on new hardware probes
- Work on the revamped UI is ongoing
 - Although slower than expected
- Revamped sponsorship opportunities
- As usual: lots of operational work on the infrastructure
 - Exploring the possibility to host our Big Data “in the cloud”
 - Looking at the pros and cons of migrating the infrastructure as well



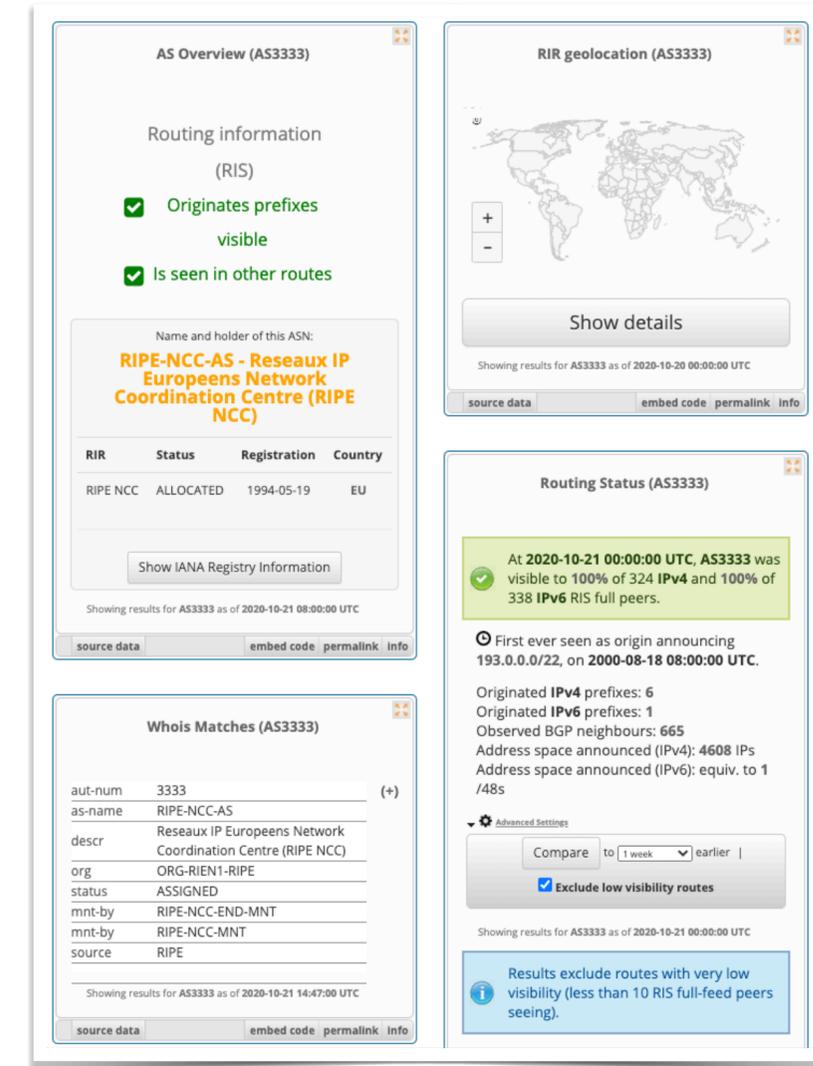
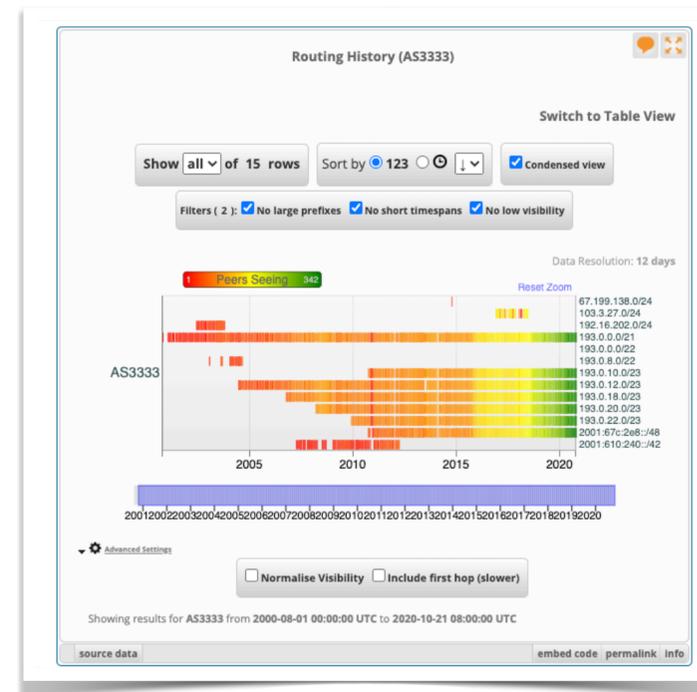
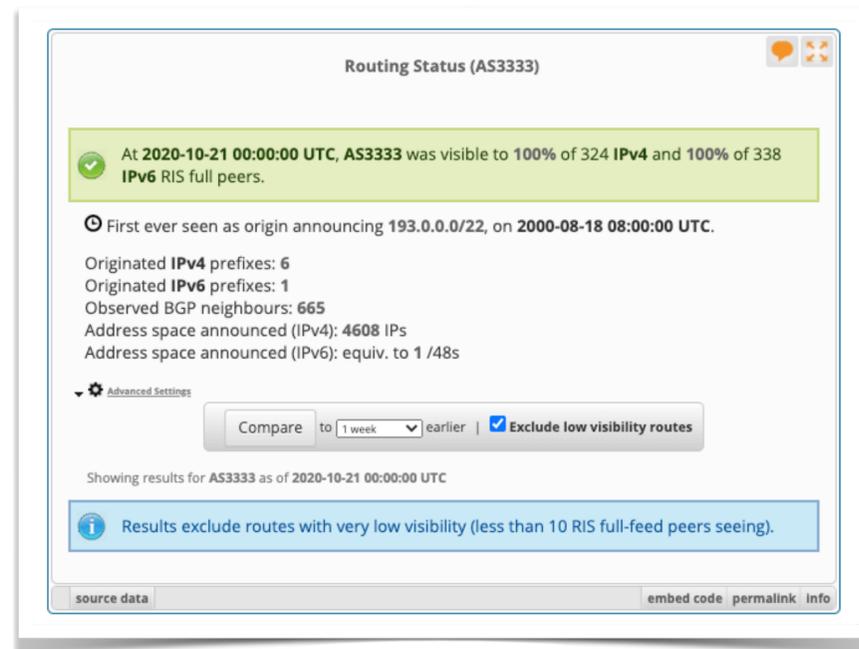
RIPEstat

RIPEstat - UI



- RIPEstat UI 2020 (“new UI”)
 - Improvements and bug fixes since the official release at RIPE 82
 - More info cards are being added
 - <https://stat.ripe.net/app/launchpad>

RIPEstat - UI



- RIPEstat UI 2013 (“widget-based UI”)
 - Accounts for 1/3 of all UI users till date
 - Bug fixes and usability improvements are still applied
 - <https://stat.ripe.net/ui2013/>

RIPEstat - Data API Revamp



- Consolidating Data API parameters
 - Ongoing project to make use of Data API easier
 - ETA: early Q1 2022
- New RIPEstat documentation
 - New design guidelines applied to all documentation requirements of RIPEstat
 - More features for Data API documentation e.g. “Try It”, code examples, etc.

A screenshot of the RIPEstat Docs website. The browser address bar shows 'dev001.stat.ripe.net'. The page title is 'RIPEstat Docs'. A sidebar on the left lists various documentation topics under 'RIPEstat Docs Centre', with 'Data API' expanded to show 'Address Space Hierarchy' selected. The main content area is titled 'Address Space Hierarchy' and contains a description: 'This data call returns address space objects (inetnum, inet6num...) from the RIPE DB (whois) related (exact, more- and less-specific) to the queried resource. Less- and more-specific results are first-level only, further levels would have to be retrieved iteratively.' Below the text is a 'TRY IT' button and a code block showing a REST API call: 'GET /data/address-space-hierarchy/data.json?resource=193/21'. The code block also shows a JSON response snippet: '{ "messages": [], "see_also": [], "version": "1.3", "data_call_name": "address-space-hierarchy", "data_call_status": "supported", "cached": false, "data": { "rir": "ripe", "resource": "193.0.0.0/21", "exact": [{ "inetnum": "193.0.0.0 - 193.0.7.255", "netname": "RIPE-NCC", ... }] } }'. There are 'HIDE' and 'EXPAND' buttons for the code block.

RIPEstat - Blocklist Project



- Triggered by discussions in the AA-WG in March 2021
- Goal: greater diversity in blocklist offerings on RIPEstat
- Timeline:
 - July 2021: Collection of blocklist candidates ✓
 - Aug 2021: Review and selection of blocklist candidates ✓
 - Sep 2021: Feasibility analysis by the RIPEstat team ✓
 - Q4 2021: Start of implementation in RIPEstat - *ongoing*

RIPEstat - Operations

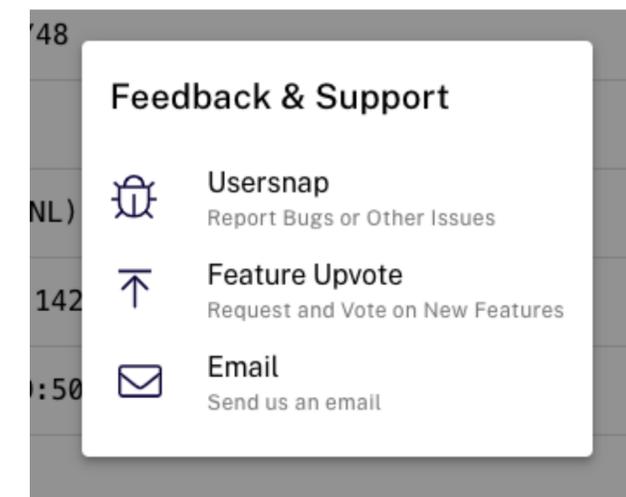
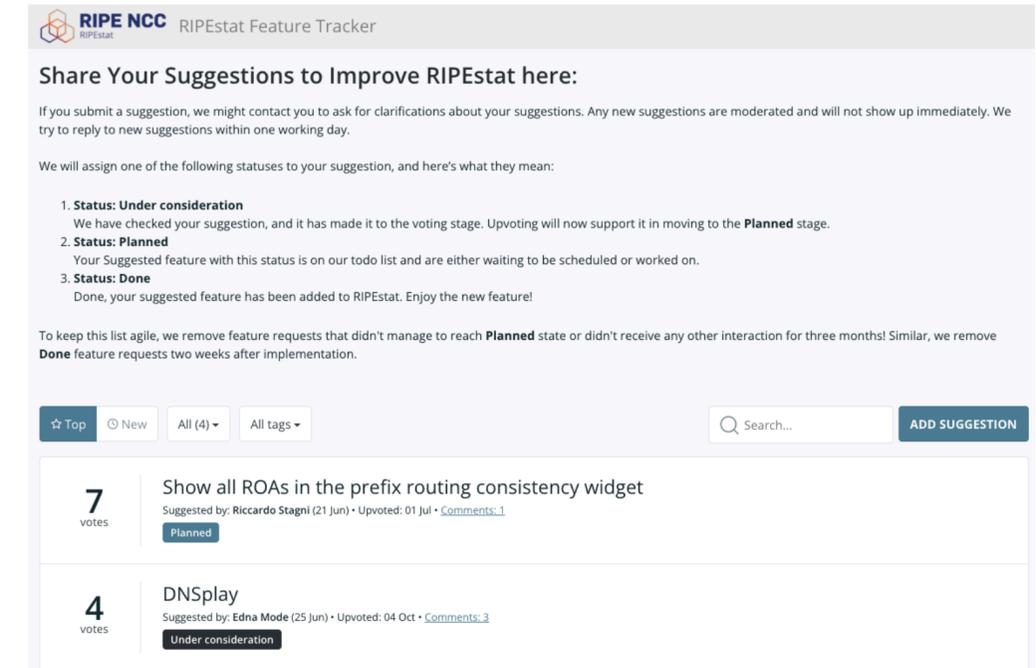


- Improved system resilience
 - Dedicated API cluster for UI2020
 - Further optimisations of backends
- Service quality monitoring
 - Service level monitoring
 - Ongoing project to track status of backends and be more proactive in case of service issues

RIPEstat - User Engagement



- Feature tracker cleanup
 - Stale requests have been followed up and obsolete ones removed
 - New processes in place to improve response time
 - <https://ripestat.featureupvote.com>
- Integration of feedback channels
 - All feedback channels are now integrated in UI2020





RIPE IPmap

https://ipmap.ripe.net

- New landing page with interactive demo of the IPmap API functionality
 - Copy and paste your own traceroute!
- New **latency** engine using recent RIPE Atlas measurement results to geolocate infrastructure
- First (basic) iteration of **reverse-dns** engine for selecting locations within bounds given by **latency** based on reverse DNS names



RIPE IPmap



Mapping core Internet infrastructure

RIPE IPmap is the RIPE NCC's API for mapping core Internet infrastructure, including Internet exchange points (IXPs), transit providers, and routers within autonomous systems. RIPE IPmap can be used whenever you need to place an IP address in a geographical location.

Try the demo by entering an IP address or pasting a full traceroute output
traceroute to apnic.net (203.119.101.61), 30 hops max, 60 byte packets

1	vifa-15.tc5-lb-virt-1.ripe.net (193.0.5.3)	0.413 ms	0.342 ms	0.312 ms
2

Map API Showing 10 public IP addresses in 3 locations



https://ipmap.ripe.net

- We'll add more techniques and data sets
- Verification of probe locations using latencies to RIPE Atlas anchors
- Improved documentation, including description of the APIs
- Interested? Sign up to our mailing list ipmap@ripe.net



RIPE IPmap



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2 193.0.5.3 to 193.0.5.3 1.162 ms 1.162 ms 1.162 ms

Map API Showing 10 public IP addresses in 3 locations





RIPE RIS

RIPE Routing Information Service (RIS)



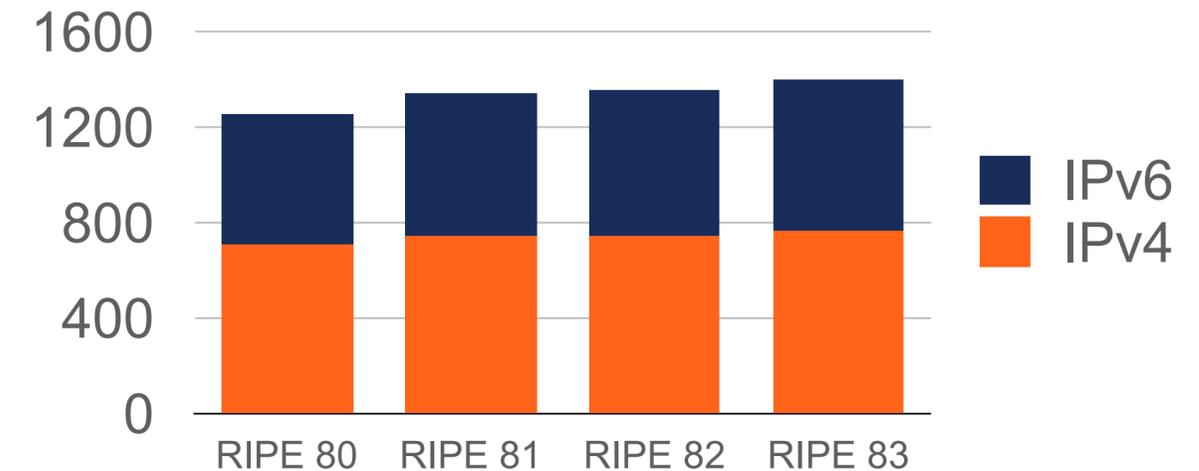
- Peering Coordinator Role

- created tools to find Autonomous Systems that will bring most value as RIS peers
- added full feeds from 3 "Tier 1" operators

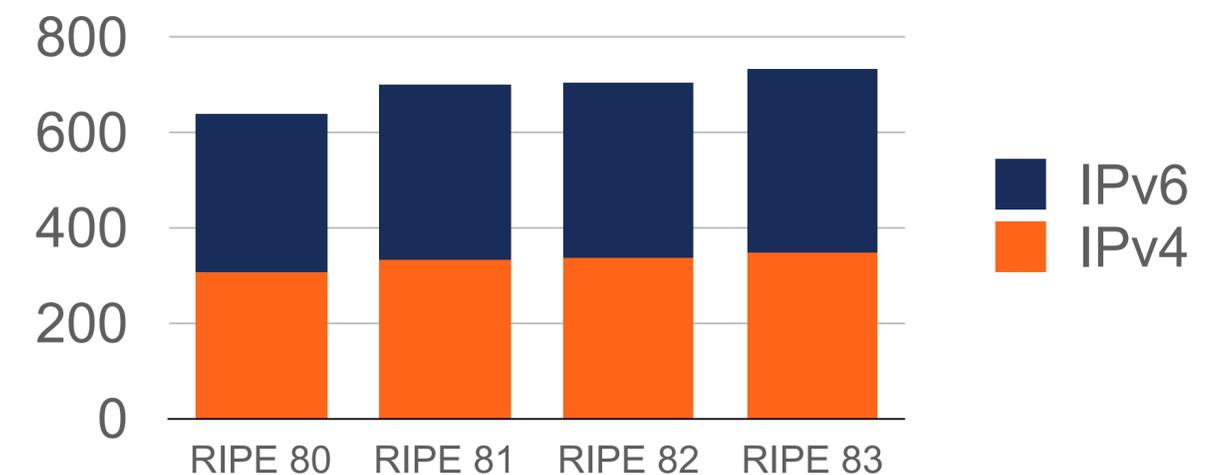
- New route collectors

- RRC25 – new multihop collector in Amsterdam – 33 active peers
- RRC26 at UAE-IX, Dubai – 18 active peers

Active RIS Peers



Full-feed Peers



RIPE Routing Information Service (RIS)



Join Us On SpatialChat!

Thursday 17:00-18:30 (UTC+1), room: “RIS JAM”

We’re interested in your feedback and use-cases



Questions



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