



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE NCC Tools Update

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RIPE Atlas

Current Numbers



- Number of connected probes: ~10,500
 - Anchors: ~330 (of which five are virtual)
- Covered ASes: ~3,600 (IPv4), ~1,400 (IPv6)
- Collecting ~5,800 results/sec (~500M/day)



Recent Use Cases



- Using RIPE Atlas to observe behaviour
 - Fixing Reachability to 1.1.1.1, GLOBALLY!
 - Does The Internet Route Around Damage in 2018?
 - Seeing the World with RIPE Atlas
- Tools and APIs
 - Creating RIPE Atlas One-off Measurements with Blaeu
 - RIPE Atlas on the Go

Some New Features and Other Info



- Measurement tagging/labeling
- Result archives
- RIPE Atlas architecture - how we manage our probes
- RIPE Atlas (storage) timestamps
- DNS-over-TLS support (API only yet)
- Scaling up our central infrastructure
 - Working on introducing ElasticSearch
 - We'll report on the experiences hopefully at RIPE 77

Anchor VMs



- An anchor is a probe and a willing target
 - Automatically measured and generates more credits
- Anchor as a Virtual Machine: almost the same
 - They can be installed where physical machines are a no-go
 - Can be “in the cloud” as well
- We're in the pilot phase as of now
 - Five VMs are up and running
 - With help from members of the community
- We'll report on this activity around end of Q2

Probes



- We stopped preparing new v3 probes
 - Remaining stock is being distributed
- We're testing v4 (NanoPi based)
 - Have a few to give out for field testing
 - Working on logistics and proper casing
- Still (always?) on the lookout for new devices



Measurement Tagging

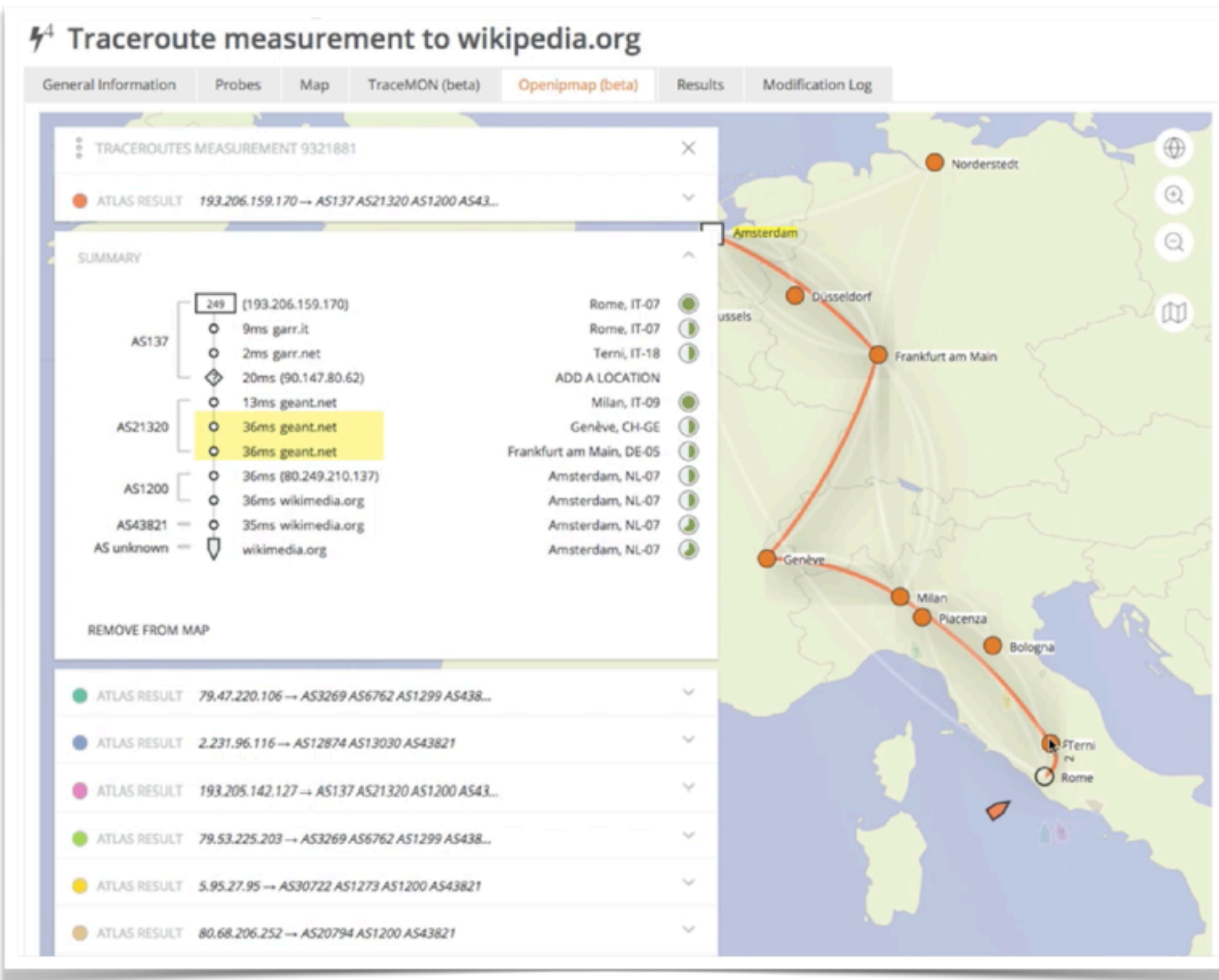


- It allows you to:
 - Group together any number of your measurements
 - Aggregate results from multiple targets and time periods
 - Easily stop all of a campaign's ongoing measurements
 - Choice between collaboration (tags) and full control (labels)
 - Upcoming: support in various RIPE Atlas visualisations
- For more info:
 - https://labs.ripe.net/Members/chris_amin/ripe-atlas-measurement-tagging



RIPE IPmap

Out Now: RIPE IPmap



Out Now: RIPE IPmap



- A web application where you can query/correct the geolocation of an IP address
- An API where you can query for multiple IP addresses in bulk
- An API where you can correct/provide yourself the geolocation of an IP address
- A web application to visualise traceroutes geolocated on a map
- For more info:
 - <http://www.lacnic.net/innovaportal/file/2883/1/ipmap-v2.pdf>



RIPEstat

RIPEstat - New Features



- RIS Looking Glass
 - Integration of all new RIS collectors (19 RRCs)
 - Also available in other RIS-related widgets

BGP Looking Glass (2001:67c:2e8::/48)

19 RRCs see 172 peers announcing 2001:67c:2e8::/48 originated by AS3333.

RRC11	New York City, New York, US	sees 1 ASN originating 2001:67c:2e8::/48
RRC03	Amsterdam, Netherlands	sees 1 ASN originating 2001:67c:2e8::/48
RRC00	Amsterdam, Netherlands	sees 1 ASN originating 2001:67c:2e8::/48
RRC01	London, United Kingdom	sees 1 ASN originating 2001:67c:2e8::/48
RRC06	Tokyo, Japan	sees 1 ASN originating 2001:67c:2e8::/48
RRC07	Stockholm, Sweden	sees 1 ASN originating 2001:67c:2e8::/48
RRC04	Geneva, Switzerland	sees 1 ASN originating 2001:67c:2e8::/48
RRC05	Vienna, Austria	sees 1 ASN originating 2001:67c:2e8::/48
RRC19	Johannesburg, South Africa	sees 1 ASN originating 2001:67c:2e8::/48
RRC18	Barcelona, Spain	sees 1 ASN originating 2001:67c:2e8::/48
RRC16	Miami, Florida, US	sees 1 ASN originating 2001:67c:2e8::/48
RRC13	Moscow, Russian Federation	sees 1 ASN originating 2001:67c:2e8::/48
RRC10	Milan, Italy	sees 1 ASN originating 2001:67c:2e8::/48

Visibility (2001:67c:2e8::/48)

2001:67c:2e8::/48 is visible by 99% of 171 IPv6 RIS full peers.

Visibility Location Details of 2001:67c:2e8::/48

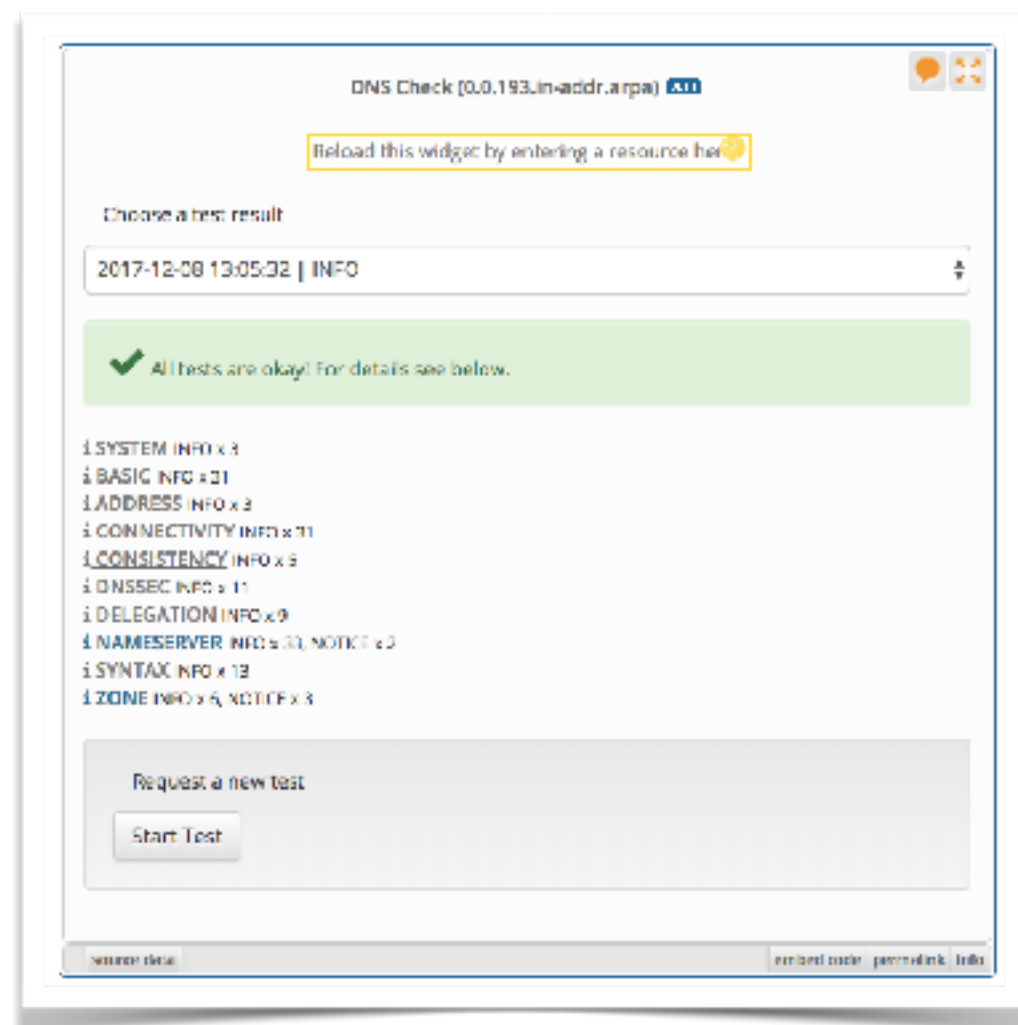
RRC	IXP Location	Location	IPv6 peers seeing	IPv6 Visibility
RRC00	RIPE-NCC Multihop	Amsterdam, Netherlands	12 of 13	92%
RRC01	LINX / LONAP	London, United Kingdom	11 of 11	100%
RRC03	AMS-IX / NL-IX	Amsterdam, Netherlands	14 of 14	100%
RRC04	CDXP	Geneva, Switzerland	4 of 4	100%
RRC05	VDX	Vienna, Austria	7 of 7	100%
RRC06	DIX-IE	Tokyo, Japan	2 of 2	100%
RRC07	Netnod	Stockholm, Sweden	5 of 5	100%
RRC10	MDX	Milan, Italy	9 of 9	100%
RRC11	NYIX	New York City, US	9 of 9	100%
RRC12	DE-CIX	Frankfurt, Germany	17 of 17	100%
RRC13	MSK-IX	Moscow, Russian Federation	5 of 5	100%
RRC14	PAIX	Palo Alto, US	8 of 8	100%
RRC15	PTTMetro	Sao Paulo, Brazil	18 of 18	100%
RRC16	NOTA	Miami, US	3 of 3	100%
RRC18	Catnix	Barcelona, Spain	1 of 1	100%
RRC19	NAP Africa JB	Johannesburg, South Africa	7 of 7	100%

RIPEstat - New Features



- DNS Check

- Now based on Zonemaster
- Also integrated in Reverse DNS Consistency

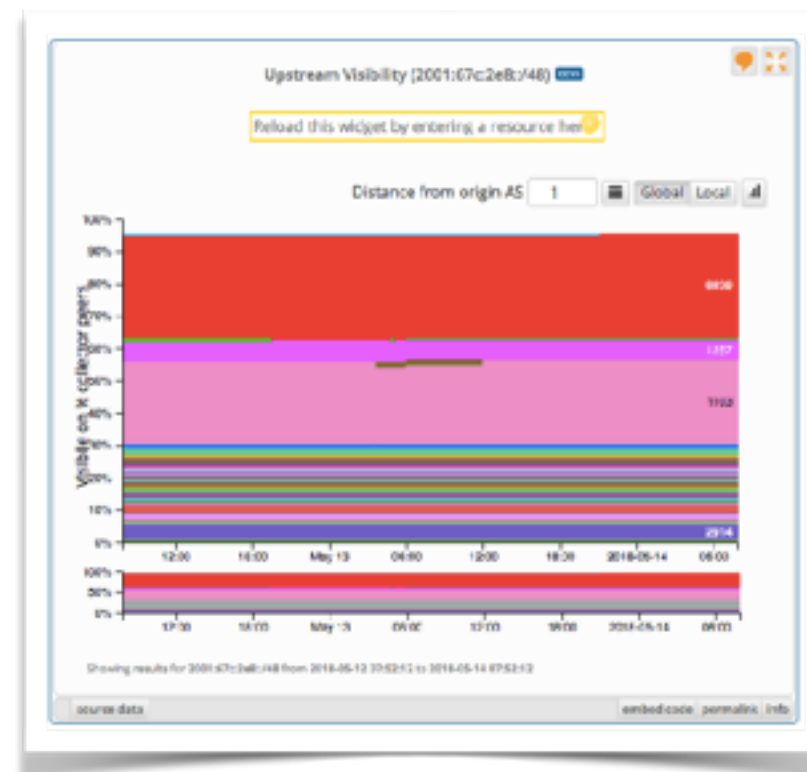


Prefix	Reverse DNS domain	In RIPE Registry	DNS Check	Checked
193.0.0.0/21	0.0.193.in-addr.arpa	Yes	INFO	2017-12-08 13:05:32
193.0.0.0/21	1.0.193.in-addr.arpa	Yes	INFO	2017-08-20 14:45:40
193.0.0.0/21	2.0.193.in-addr.arpa	Yes	ERROR	2018-04-12 10:41:47
193.0.0.0/21	3.0.193.in-addr.arpa	Yes	INFO	2017-08-20 09:24:29
193.0.0.0/21	4.0.193.in-addr.arpa	Yes	INFO	2017-03-30 16:37:03
193.0.0.0/21	5.0.193.in-addr.arpa	Yes	INFO	2017-03-30 16:37:03
193.0.0.0/21	6.0.193.in-addr.arpa	Yes	INFO	2017-03-30 16:37:03

RIPEstat - New Features



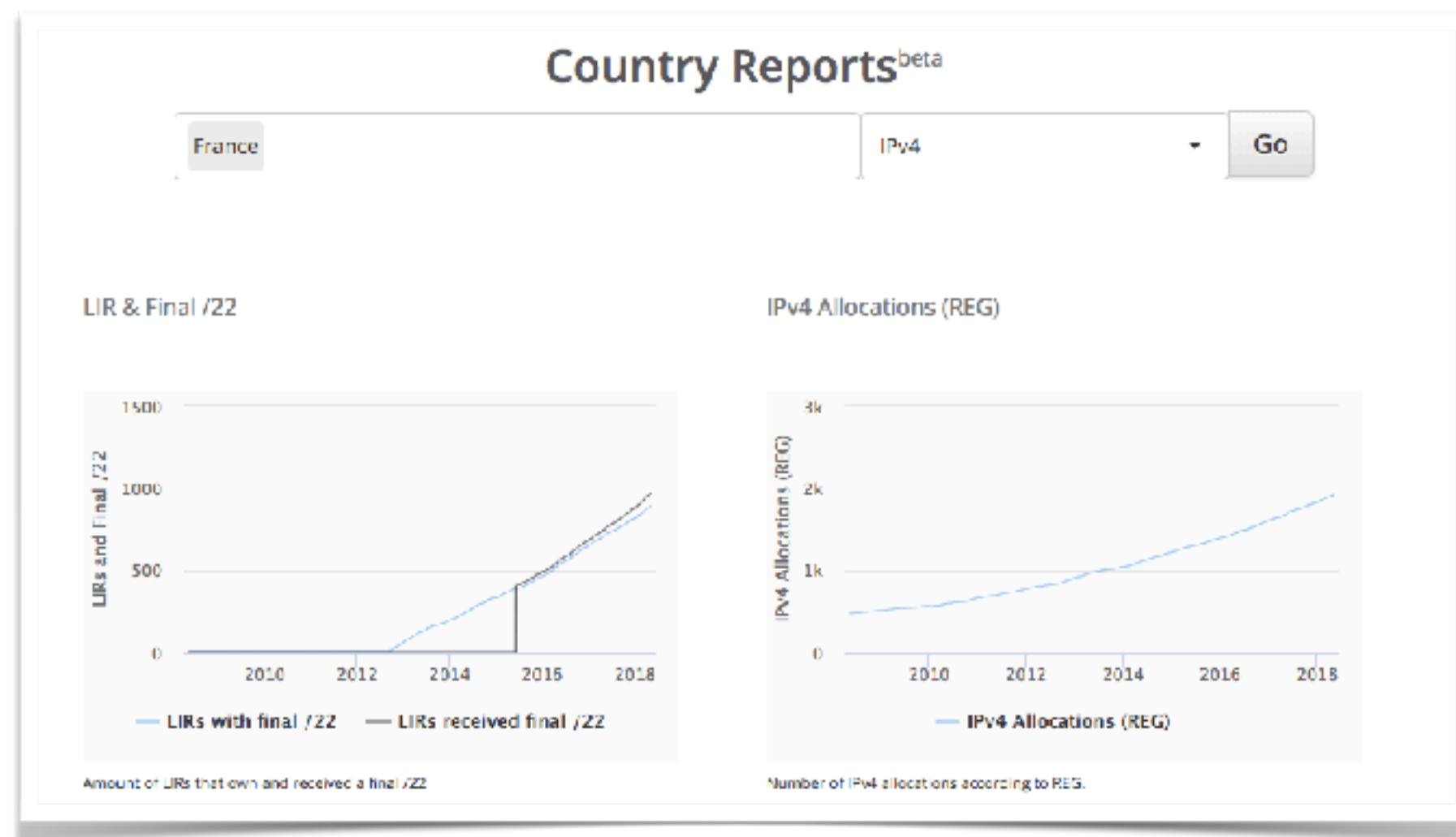
- Historical Whois
 - Visual UI to RIPE Database API
- Upstream Visibility
 - Shows upstreams/peers at a distance from origin
 - Beta version!



RIPEstat - Country Reports



- Additional regions added
- Ability to query countries outside of RIPE NCC service region in preparation



RIPEstat - Ongoing Efforts

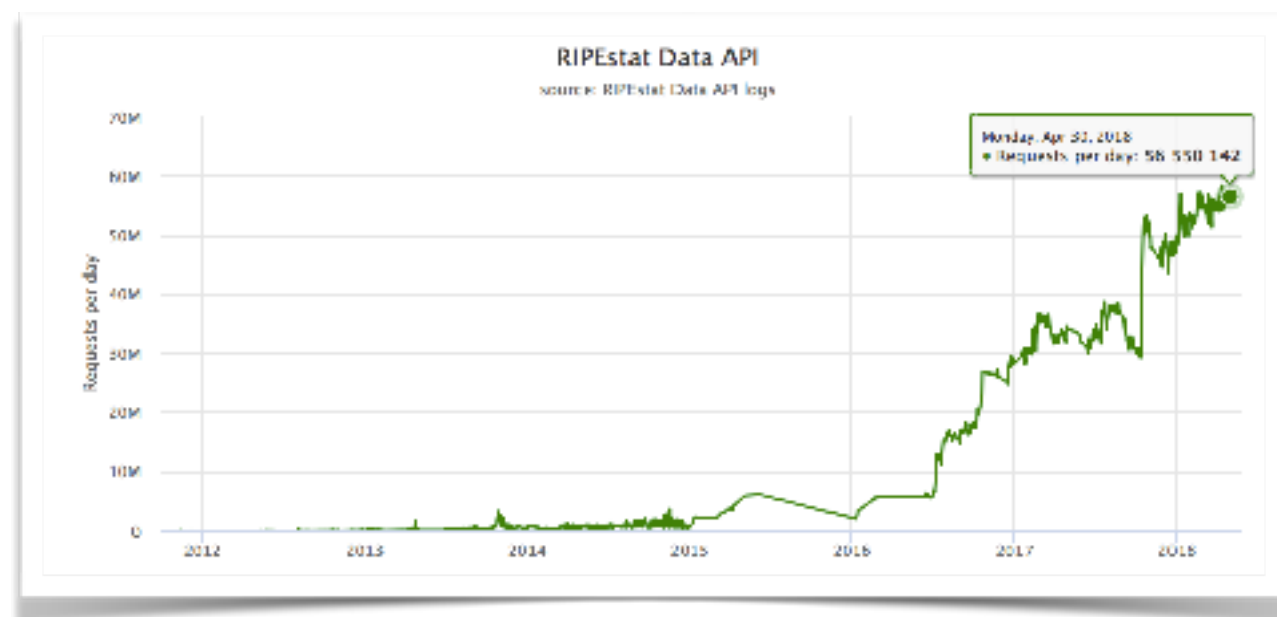


- Scalability

- Usage (requests per day):

30M (Jan 2017) ➡ 50M (Jan 2018)

- **Currently operating at maximum capacity (~54-59M)**
- Working on adding more capacity



RIPEstat - Community



- Since January dedicated account on Twitter
- Stay up-to-date on RIPEstat via **#RIPEstat** and **@NCC_RIPEstat**





End-to-End User Connections

New: End-to-End User Connections



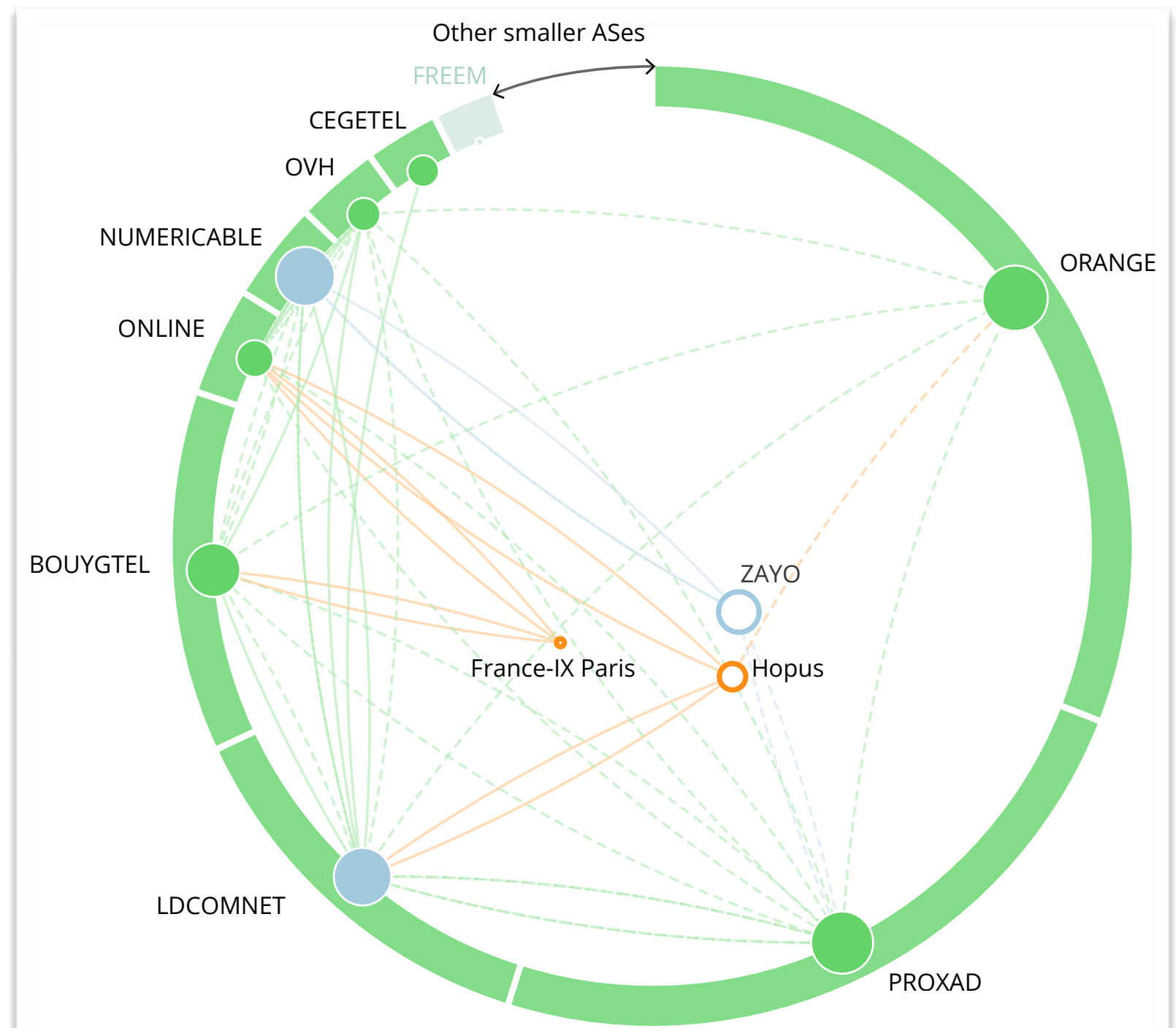
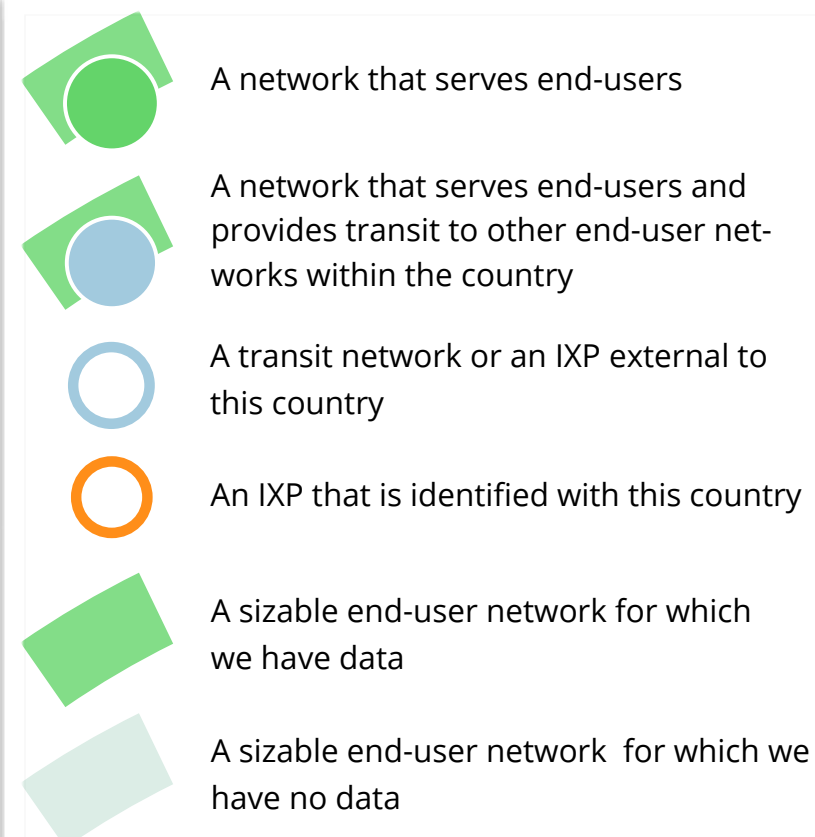
- Sketches of paths from end user to end user
- Each sketch represents a snapshot of users in a country at a single given point in time
- Try to quantify the amount of different ways the networks interconnect their users
- Datasets from RIPE Atlas, RIPEstat, CAIDA and APNIC.
- See more at:
 - <https://sg-pub.ripe.net/ixp-country-jedi/> (change country!)
 - <https://sg-pub.ripe.net/ixp-country-jedi/fr/2018/03/01>
 - <https://github.com/emileaben/ixp-country-jedi/>

New: End-to-End User Connections



country
France

snapshot date
1 March 2018





Questions



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