



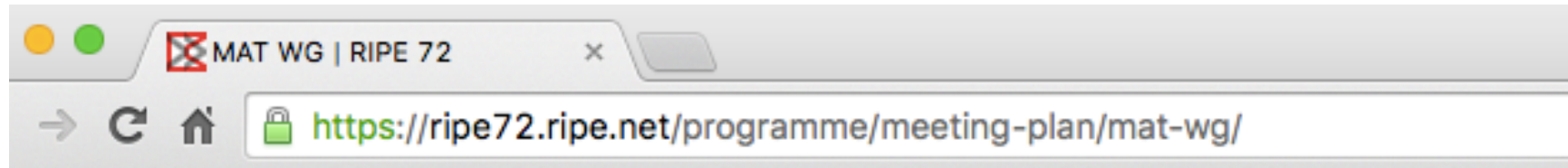
RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE Atlas Update

Vesna Manojlovic
BECHA@ripe.net

25 May 2016 | MAT-WG, RIPE72 | Copenhagen

RIPE Atlas Working Group? ;-)



Wednesday, 25 May 14:00 - 15:30

A. Introduction: Welcome, Scribe, Jabber, Agenda [5 mins]

B. Measuring DNSSEC Configuration of Upstream Resolvers with RIPE Atlas [15 mins]

Moritz Mueller

C. Vantage Point Selection for IPv6 Measurements: Benefits and Limitations of RIPE Atlas Tags [15 mins]

Vaibhav Bajpai

D. Internet Path Transparency Measurements using RIPE Atlas [20 mins]

Brian Trammell

E. RIPE Atlas News [20 mins]

Vesna Manojlovic

F. RIPE Atlas Hackathon Winner [10 mins]

TBD



Overview

- Coverage: May 2016
- Recent new features
- Community update
- Plans for the future
- RIPE Atlas view of Denmark
- How to take part in RIPE Atlas



Connected: 9412

Disconnected: 4558

Abandoned: 1611



Coverage

This was 2015:



GROWTH AND STATUS



ACTIVE PROBES INCREASED FROM
7,500 TO 9,200



RIPE ATLAS ANCHORS GREW FROM
100 TO 164



ACTIVE USERS
10,000 LAST YEAR



MEASUREMENT RESULTS
3,500 PER SECOND

COVERAGE



COUNTRIES COVERED
181



ORIGINATING ASNs COVERED
3,333 (IPv4) = 6.33%
1,212 (IPv6) = 11.22%



RIPE Atlas coverage, May 2016

Coverage

IPv4 ASNs covered
3379 (6.266%)

IPv6 ASNs covered
1222 (10.621%)

Number of countries covered
184 (93.878%)

Country

Probes

United States of America 1053

Germany 997

France 752

United Kingdom 621

Netherlands 543

Russia 509

Czech Republic 269

Switzerland 257

Italy 251

Ukraine 214

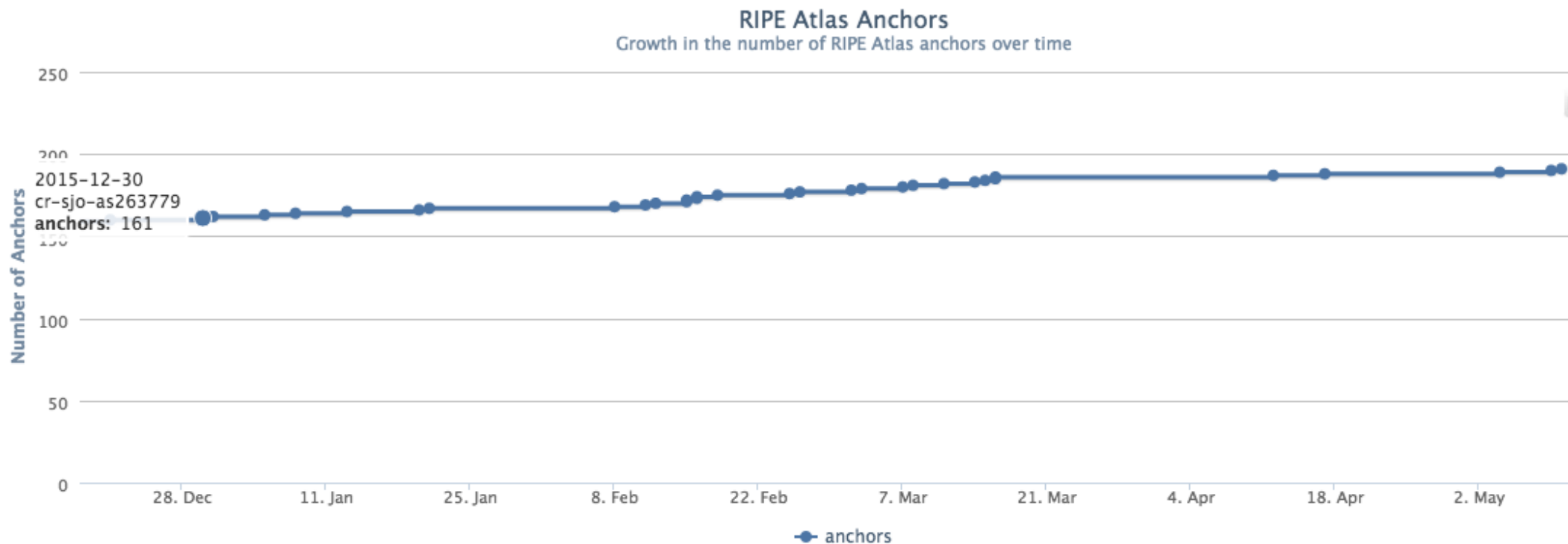
Measurements currently running

	Built-in	User-defined
Ping	40	3788
Traceroute	43	2969
DNS	144	4325
SSL Certificate	4	163
NTP	0	38
HTTP	4	417

RIPE Atlas Anchors



- 27 more anchors in 2016
- From 164 to 191
- Renewal of support contracts: one replaced!



Some of the anchor hosts





Community



26,000 users ever

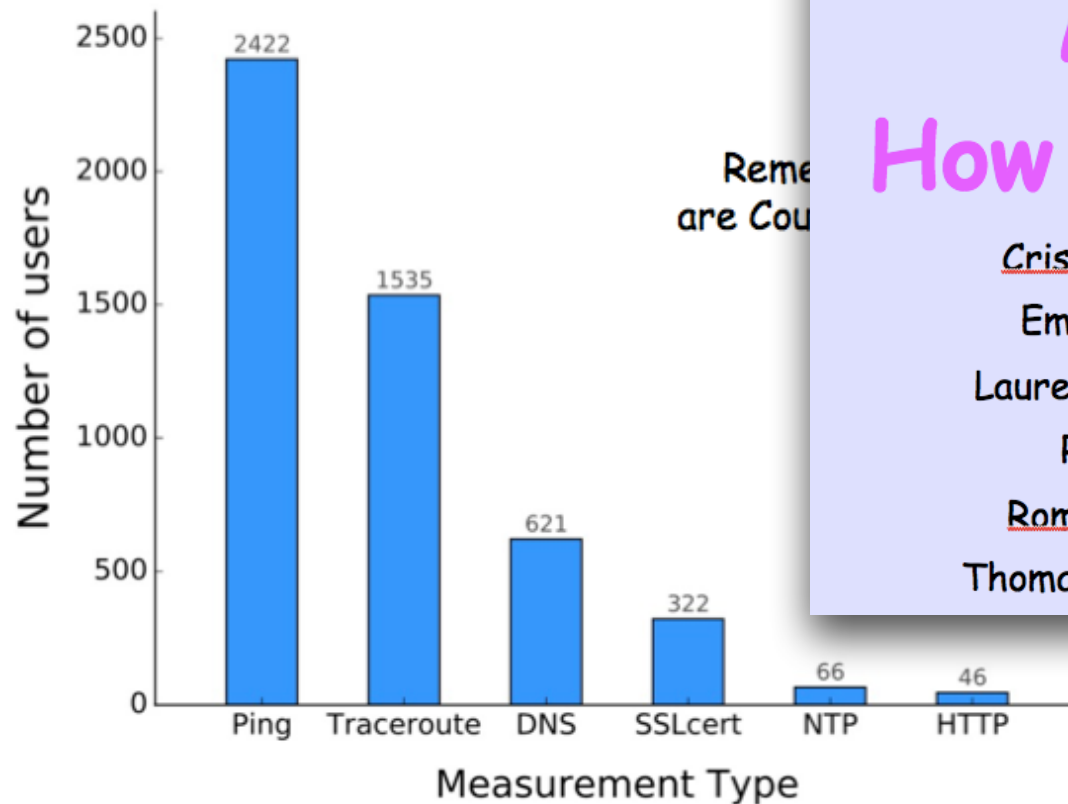


Figure 2: Number of users who used each type of measurement between April 2015 and April 2016. Ping and traceroute are the most popular tools.

Measuring the Measurers: How is Atlas Used?

Cristel Pelsser <pelsser@unistra.fr>

Emile Aben <emile.aben@ripe.net>

Laurent Vanbever <lvnbever@ethz.ch>

Randy Bush <randy@psg.com>

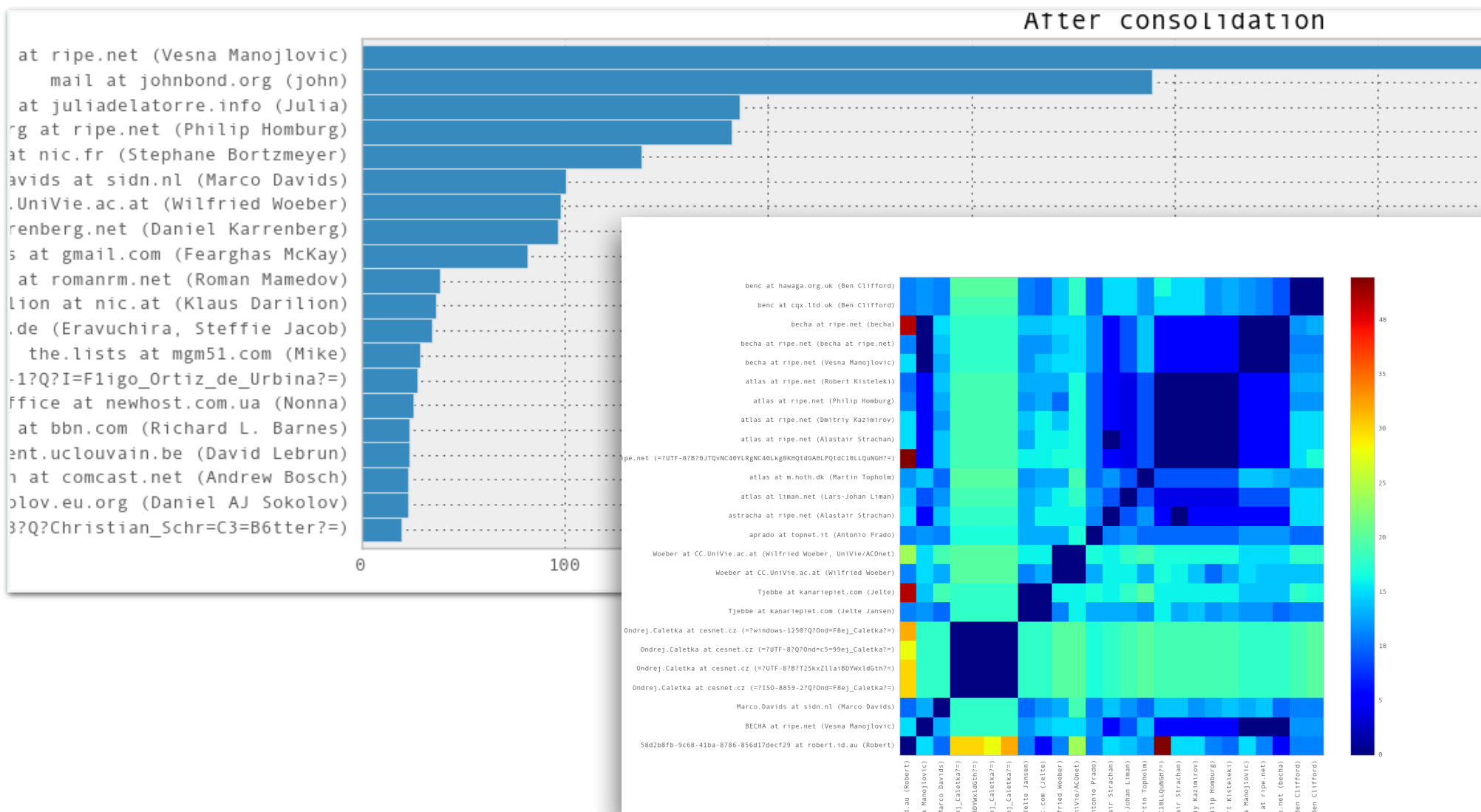
Romain Fontugne <romain@iij.ad.jp>

Thomas Holterbach <thomahol@ethz.ch>

Pretty analysis of RIPE Atlas list



- <https://github.com/sbenthall/bigbang>



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2016



2015



facebook





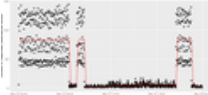
Increased interest for training

- In 2016 so far:
 - Ten RIPE Atlas tutorials / workshops delivered by ambassadors and by developers / community builders
 - 20 presentations at conferences
 - Three webinars
- Material shared on GitHub

Most recent RIPE Labs use cases







There is Gold in this Stream - Sifting Through Used RIPE Atlas Traceroute Results

Daniel Karrenberg — 20 May 2016

This work demonstrates the value of the results collected by RIPE Atlas independent of the original purpose for collecting them. Using all traceroute results from a particular day as an example, we first show that near real-time analysis of the result stream is feasible. Then we show that this has great potential for studying the packet layer of the Internet in general and for providing tools to network operators in particular. All this suggests a large and diverse potential for further work.

Tags: [atlas](#) [statistics](#) [measurements](#)



Pinpointing Delay and Forwarding Anomalies using RIPE Atlas Built-in Measurements - Or How I Learned to Stop Worrying and Love the Built-Ins

Romain Fontugne — 18 May 2016

Detecting network disruptions is a recurring problem. Clearly locating performance degradation is an important step in debugging and subsequently fixing connectivity issues.

Tags: [atlas](#) [statistics](#) [measurements](#) [routing](#)



Using RIPE Atlas to Debug Network Connectivity Problems

Stéphane Bortzmeyer — 10 May 2016

This article explains how I use RIPE Atlas probes, the official API and custom scripts, to debug network issues.

Tags: [atlas](#) [measurements](#) [tools](#)

Interfaces Hackathon 21-22 May 2016



- 20 participants
- Eight projects proposals
- Five final projects (some presented at RIPE72!)
- Code available on GitHub





New features

Newest features



- Always posted here:
 - <https://atlas.ripe.net/resources/announcements/>
- Improving security: two external reviews done:
 - <https://atlas.ripe.net/docs/security/>
- Increased limits: 1,000 probes per measurement
- Dealing with probes lifecycle
 - https://labs.ripe.net/Members/philip_homburg/a-visual-impression-of-probe-lifetimes



Newest features

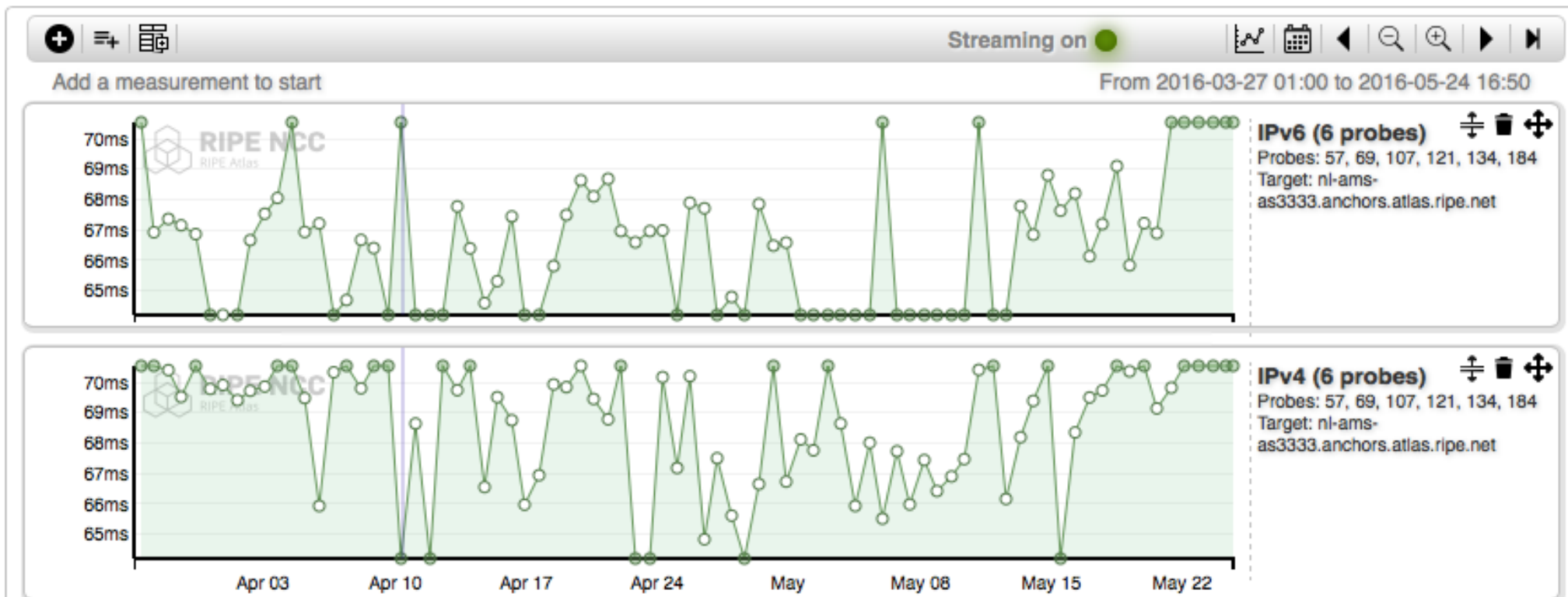


- 15 more ccTLD zones added to DNSMON
- For the rest of us: DomainMON
 - Monitoring second-level domains
 - Simple to set up, powerful visualisation of received data
 - <https://atlas.ripe.net/domainmon/>
- Documentation, documentation, documentation
 - New version of API (v2)
 - Helping users to troubleshoot own probe (SOS messages)
 - Website menu restructure

Only towards anchors: HTTP



- IPv4/IPv6 LatencyMON comparison for anchoring measurements (ping, traceroute, HTTP)



For the community



- Sharing credits made easier
 - "standing orders" and "shared access" to your credits
- Vouchers for claiming credits as "gifts"
 - Useful for ambassadors, trainings, workshops, other RIRs
- New communication channel: RIPE Forum
 - <https://www.ripe.net/participate/mail/forum/ripe-atlas>
- Coming up soon:
 - More credits for more contributions: the more popular your probe is, the more you earn!

By the community



- RIPE Atlas Monitor (Pier Carlo Chiodi)
 - <https://github.com/pierky/ripe-atlas-monitor>
 - <https://ripe-atlas-monitor.readthedocs.org/>
 - https://labs.ripe.net/Members/pier_carlo_chiodi/ripe-atlas-monitor
- Updates on CLI tools
 - Packaged in six distributions: OpenBSD, FreeBSD, Gentoo, Arch, Debian and Ubuntu (in progress: Fedora, Windows)
 - Added to NLNOG RING



Plans for the future

- In progress
 - Wi-Fi measurements, in cooperation with EduRoam
 - VM probe evaluation
 - OpenIPMap-as-a-service
- Planned
 - Improving DNSMON: unstable anchors will be removed
- Requested
 - Measurements towards multiple targets
- <https://atlas.ripe.net/docs/roadmap>

Open for the community discussion

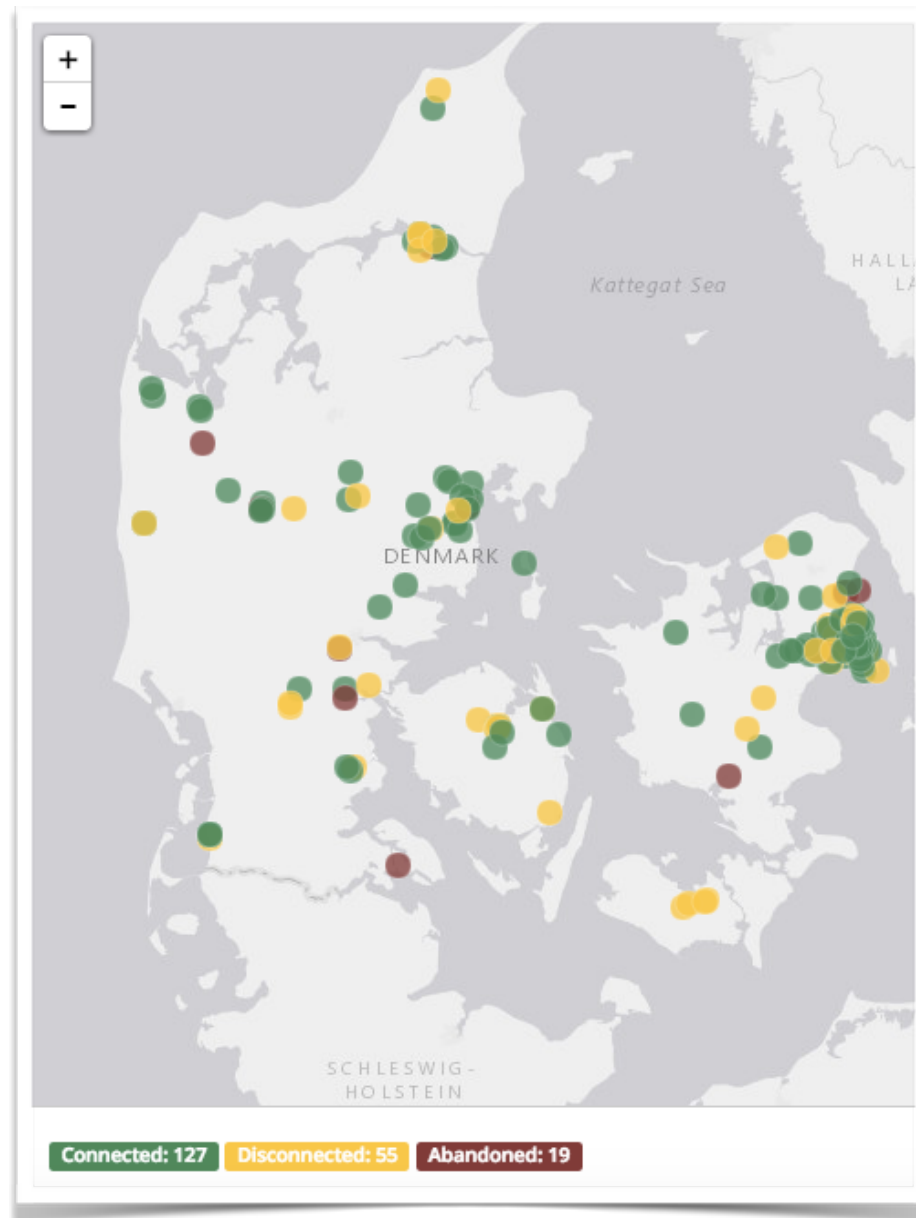


- Changes in data retention practice
- Encouraging non-public measurements



RIPE Atlas view of Denmark

Probes in Denmark



Most wanted eyeball networks



- Based on Emile Aben's research and article

#asn	cc	users	con	disco	other	pct	asname
3308	DK	407540	3	0	2	7.58	TELIANET-DENMARK TeliaSonera AB
9158	DK	382403	3	0	0	7.11	TELENORDANMARKAS Telenor AS
197288	DK	294222	6	0	0	5.47	STOFANET Stofa AS
16245	DK	243560	2	0	0	4.53	NGDC NetGroup AS
42355	DK	194781	4	0	0	3.62	BBN Bredbaand Nord AS
39554	DK	172498	6	0	0	3.21	FULLRATE TDC AS
39642	DK	165783	1	1	0	3.08	DK-ESS-AS Stofa AS
35376	DK	155632	4	0	1	2.9	TRE-FOR-BREDBAAND-AS TRE-FOR Bredbaa
31027	DK	83735	6	0	1	1.56	NIANET-AS Nianet AS
1835	DK	41417	3	1	1	0.77	FSKNET-DK Forskningsnettet - Danish
197301	DK	36329	1	0	1	0.68	PARKNET-AS IT-Lauget Parknet
31661	DK	33499	0	0	0	0.62	COMX ComX Networks AS
49362	DK	31487	2	0	0	0.59	DSV DSV as
35158	DK	21102	1	0	0	0.39	DANSKNET Dansk Net AS
34823	DK	19397	0	0	0	0.36	DBNET-AS FIBIA PS
9167	DK	18409	2	0	0	0.34	WEBPARTNER TeliaSonera AB
42541	DK	14513	3	0	0	0.27	FIBERBY Fiberby ApS
34705	DK	12679	0	0	0	0.24	SYDFYN Sydfyns-Intranet AS
34482	DK	11087	0	0	0	0.21	CIRQUE Cirque Bredband AS
49010	DK	8841	2	0	0	0.16	HERNING-KOMMUNE-AS Herning Kommune

Anchors in Denmark

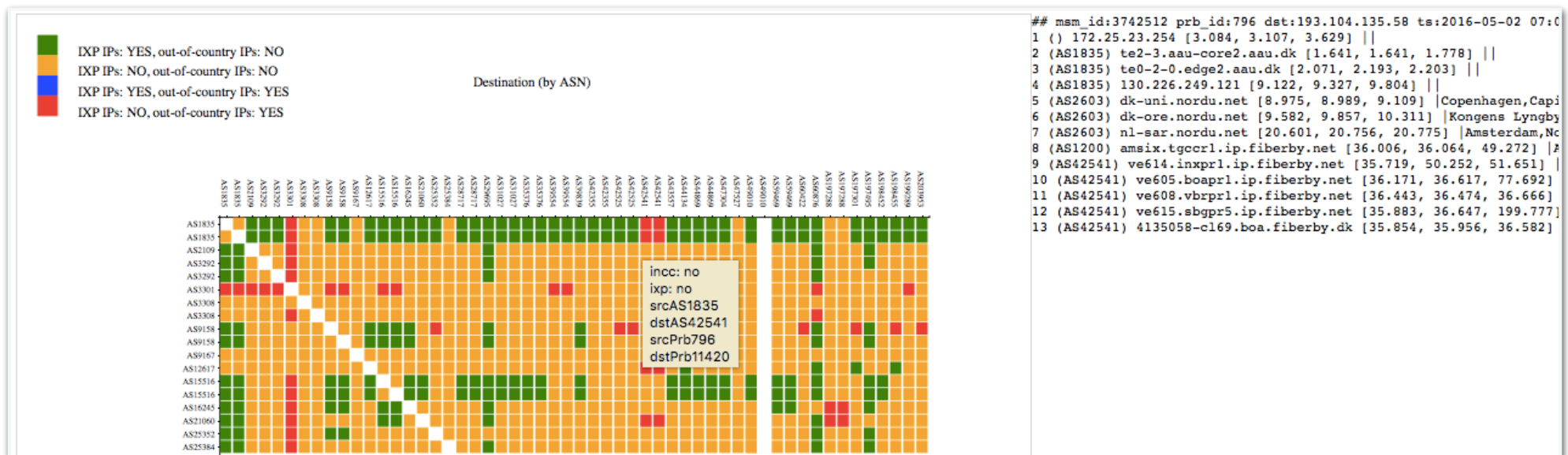


Hostname ☐	ProbeID	Company ☐	City ☐	Country ☐
dk-blp-as197495	6109	Larsen Data ApS	Ballerup	Denmark
dk-blp-as39839	6103	DK Hostmaster A/S	Ballerup	Denmark
dk-blp-as59469	6069	Solido Networks ApS	Ballerup	Denmark

IXP Country Jedi for Denmark



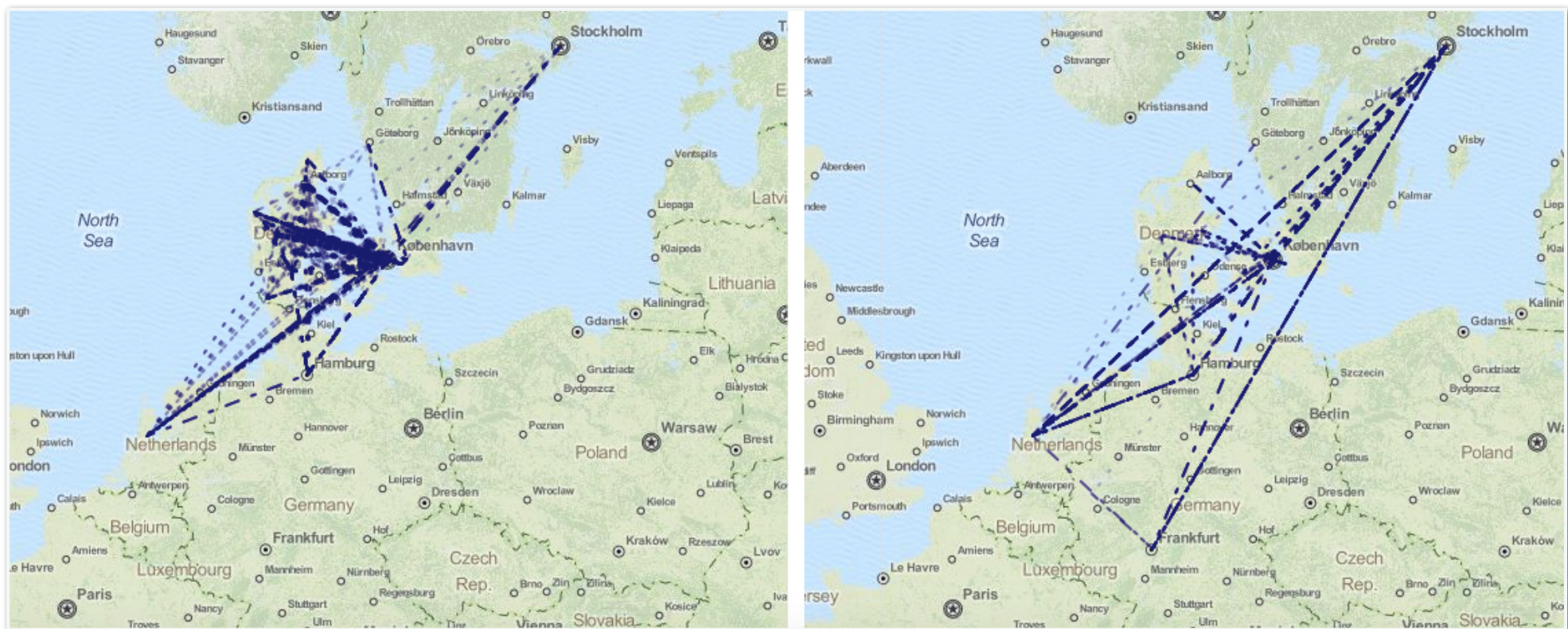
- <http://sg-pub.ripe.net/emile/ixp-country-jedi/latest/DK/ixpcountry/>



OpenIPMap traceroute paths v4/v6



- <http://sg-pub.ripe.net/emile/ixp-country-jedi/latest/DK/geopath/>



DNSMON for .DK

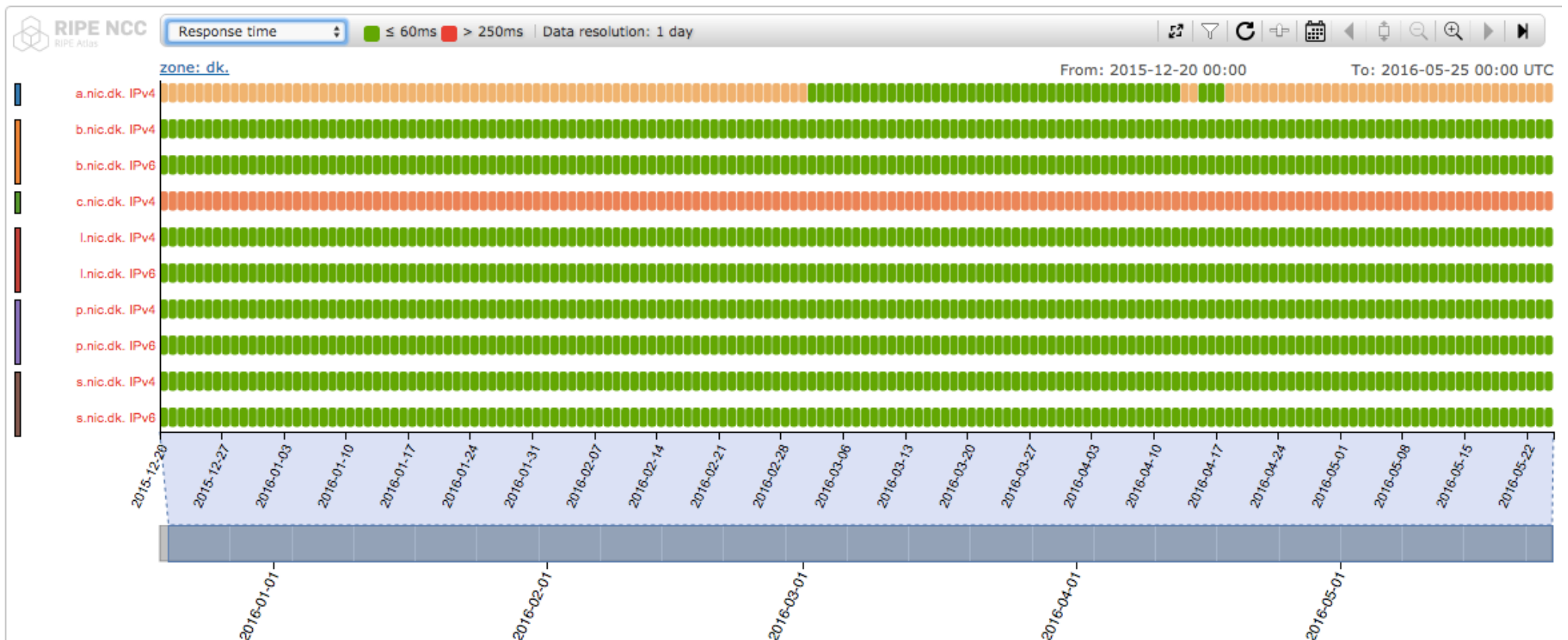


DNSMON

DNS responses for

Protocol: Servers:

[Show RIPE Atlas measurements](#)





How to take part



Get involved!

- Use RIPE Atlas for your operations: monitoring, troubleshooting, measuring
- Do scientific **research**
- Participate in a **webinar**
- Add **multilingual** content
- Become an **ambassador** or a **sponsor**
- Host a RIPE Atlas anchor
- Contribute to the code: <https://github.com/RIPE-Atlas-Community/ripe-atlas-community-contrib/blob/master/README.md>

RIPE Atlas Hackathons



- 2015: data viz and tools
- BGP, by Caida
- Interfaces: 21-22 May, Copenhagen
- Next: IXP tools:
 - 22-23 October, Madrid
 - Weekend before RIPE 73



Contact RIPE Atlas



- Use cases and updates: <https://labs.ripe.net/atlas>
- Mailing list for active users:
 - ripe-atlas@ripe.net
 - <https://www.ripe.net/participate/mail/forum/ripe-atlas>
- Questions: atlas@ripe.net
- Twitter: [@RIPE_Atlas](https://twitter.com/RIPE_Atlas) and [#RIPEAtlas](https://twitter.com/hashtag/RIPEAtlas)

Bonus slide: Towel Day!



- https://en.wikipedia.org/wiki/Towel_Day

