



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

“big” IXP Jedi and TraceMON

RIPE Atlas tools in Africa

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Research and Development
RIPE NCC

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The System

probe



10,000+

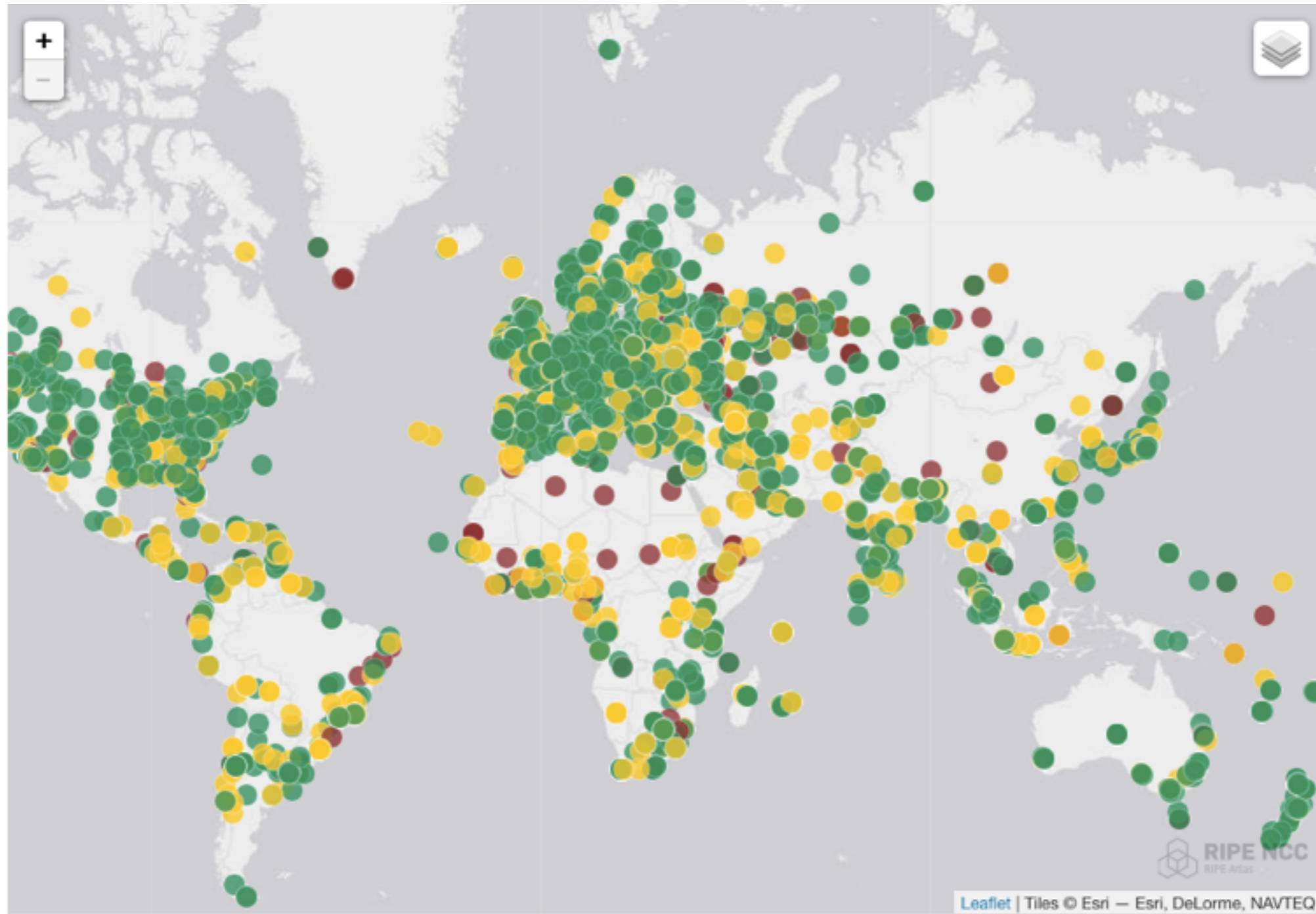
anchor



275 and rising, also sponsored by



coverage



Connected: 9240 Disconnected: 3425 Abandoned: 1554

read measurements results



web interface
command line tools
rest API

+

streaming API (realtime with websockets/socket.io)
python library (“cousteau”)

measurement types



ping

latencyMON

dns

dnsMON, domainMON

traceroute

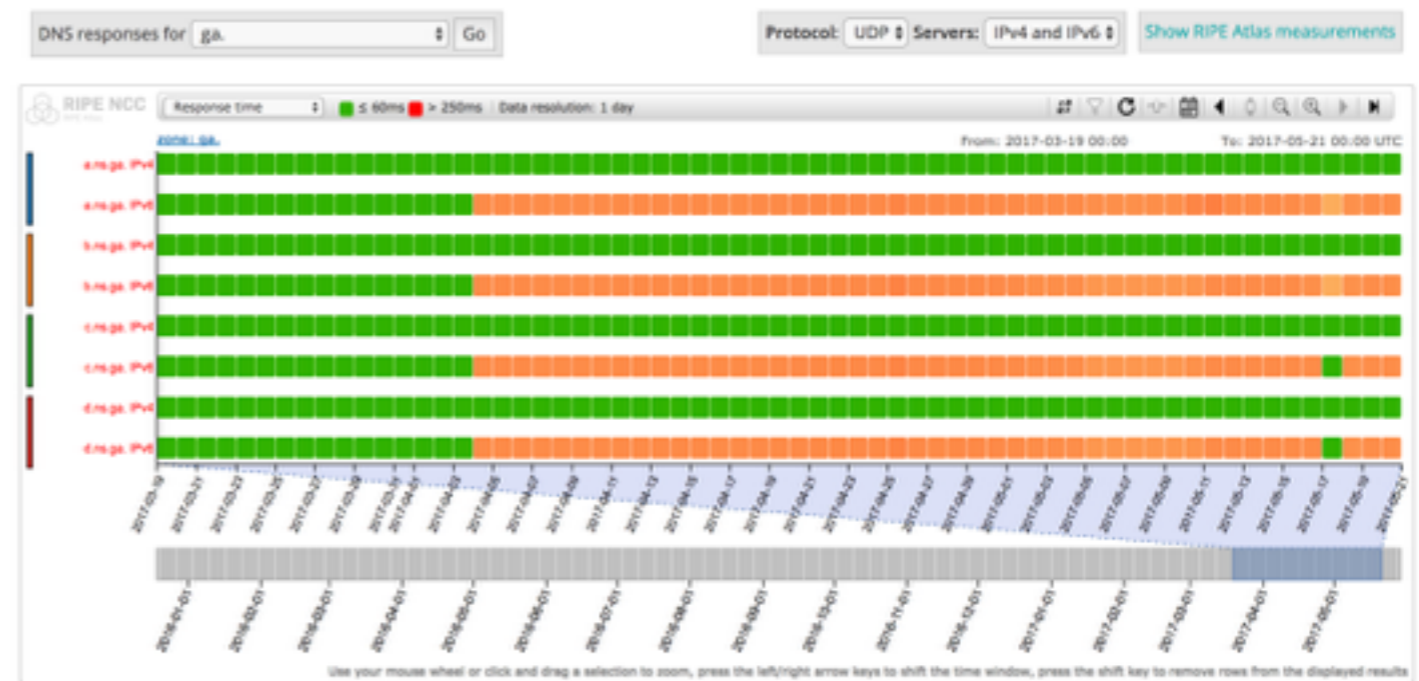
traceMON

http

ssl/tls

ntp

a tool called *MON





How to Take Part

Get Involved!



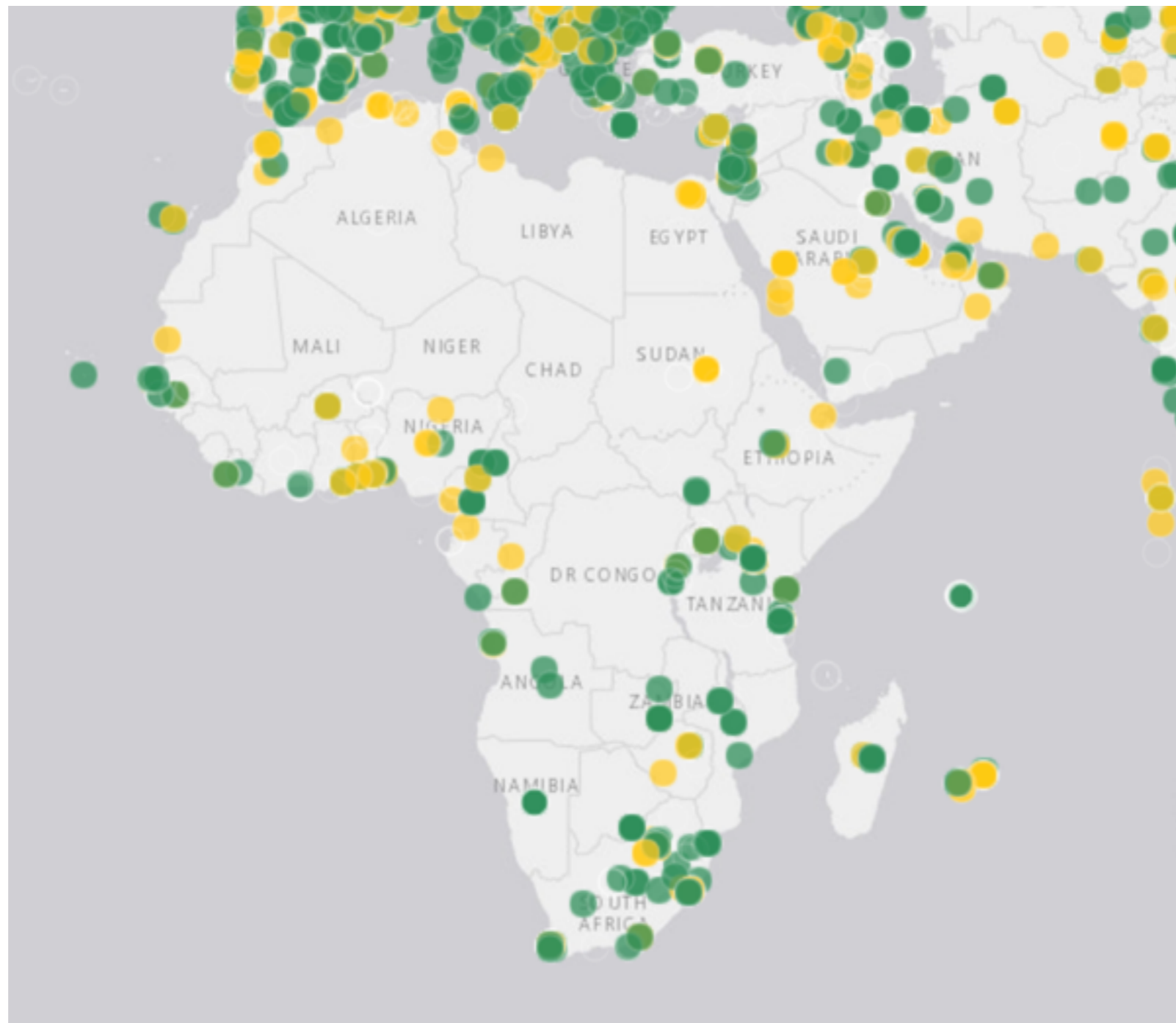
- Use RIPE Atlas for your operations: monitoring, troubleshooting, measuring
- Do scientific research
- Participate in a webinar
- Become an ambassador or a sponsor
- Host a RIPE Atlas anchor
- Place a probe in an AS with a low coverage



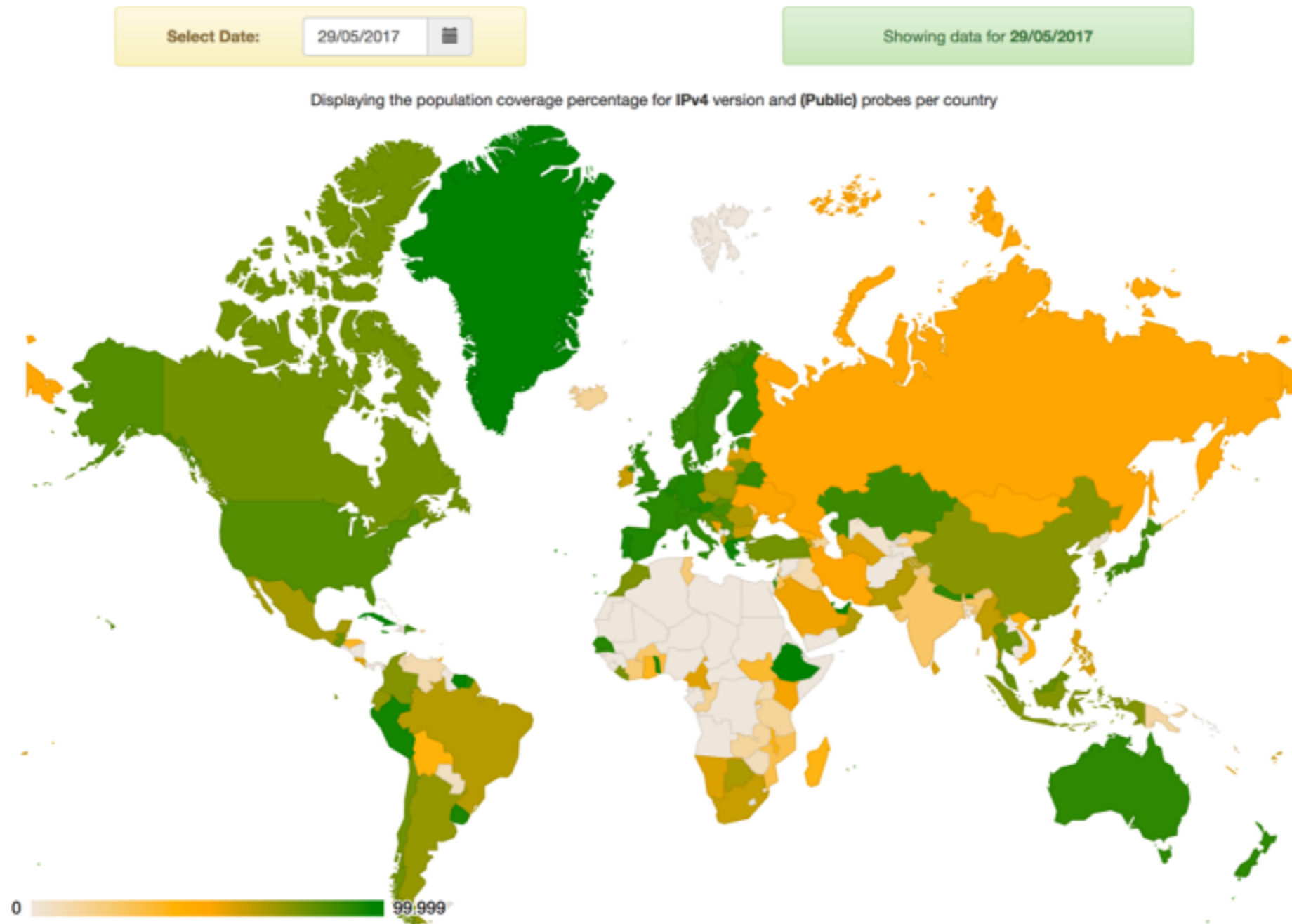
Probes in Africa

and how to use them

..that's why you want to participate



Estimation of population coverage



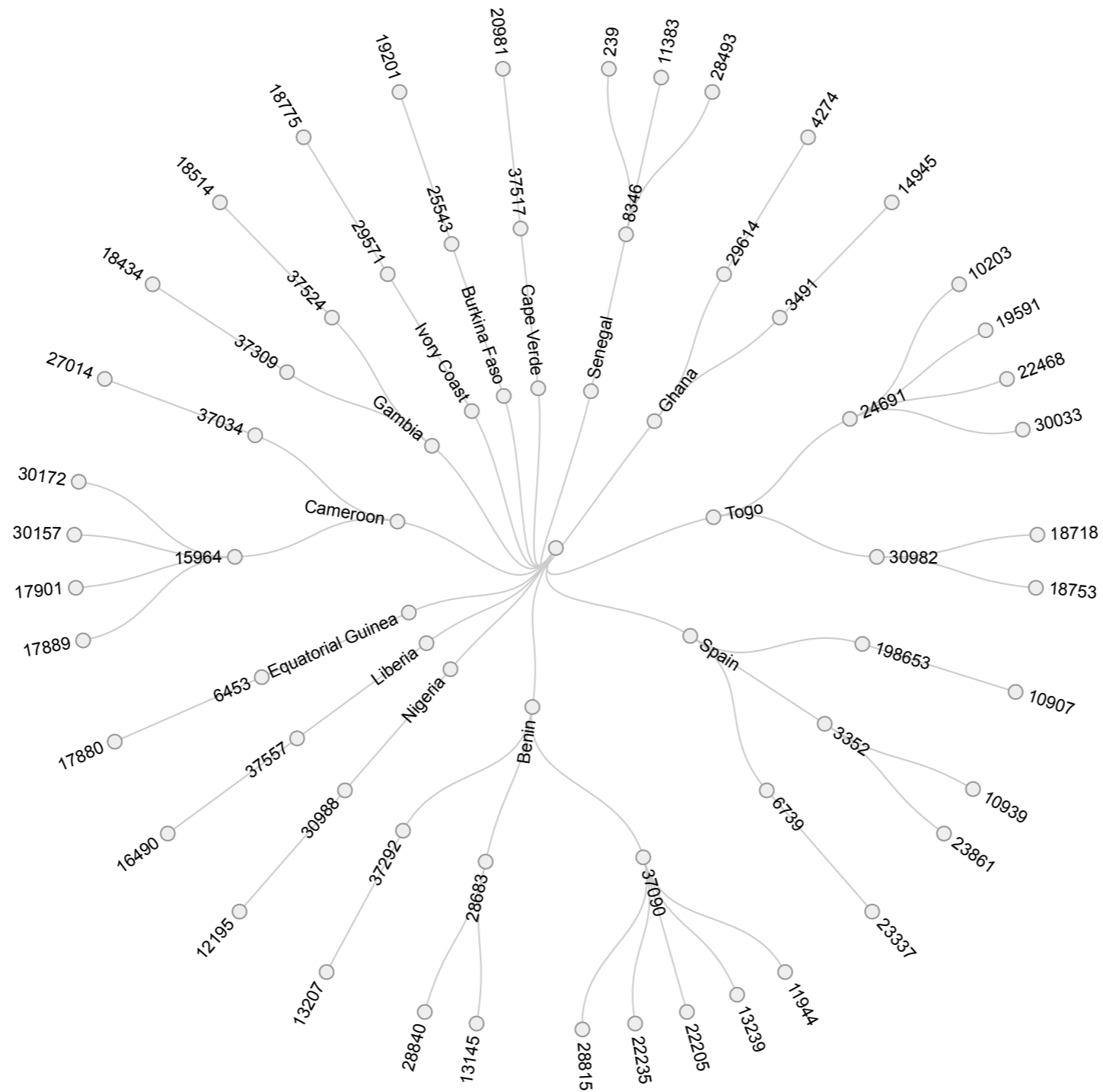
the new Burkina Fase anchor



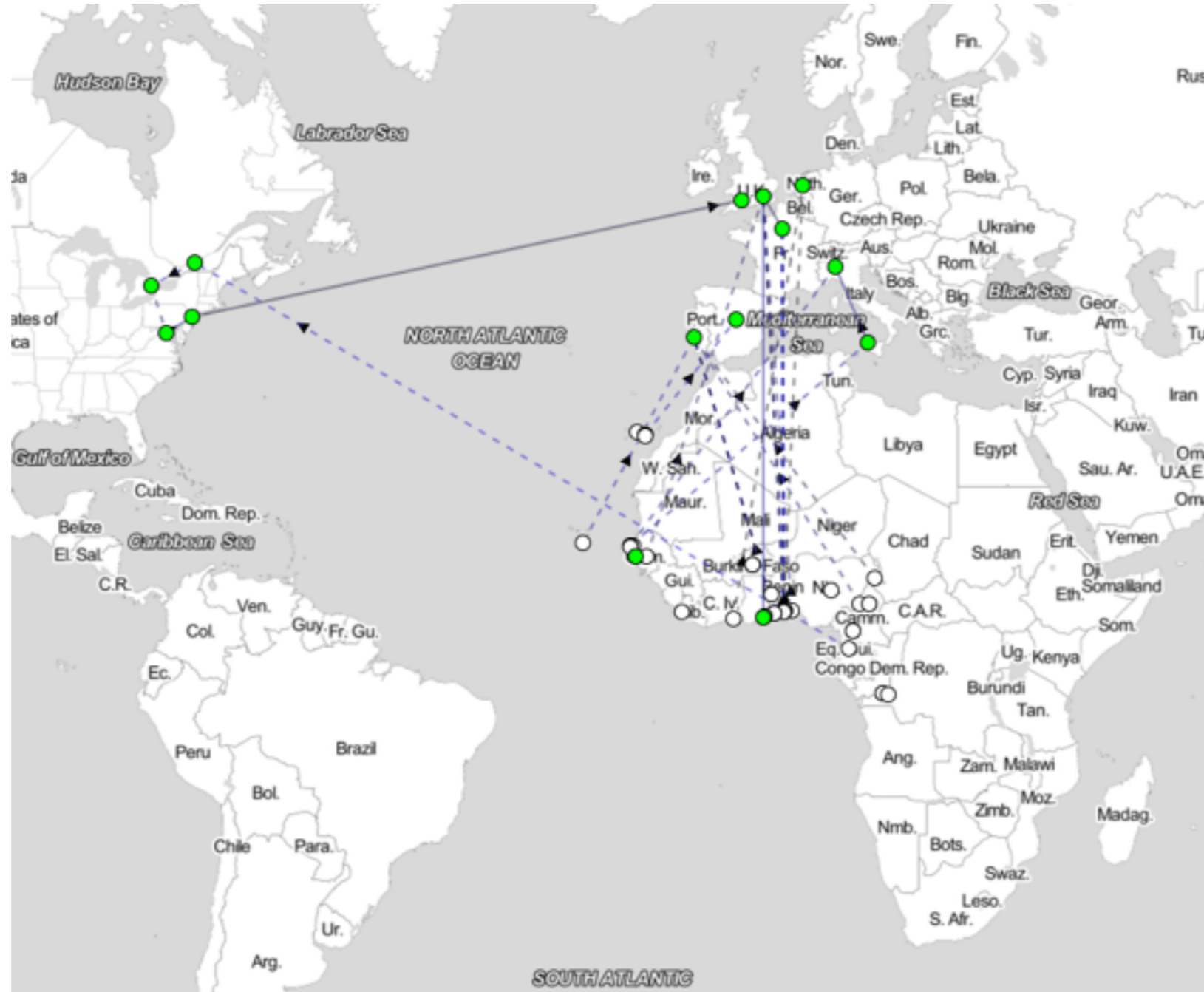
sponsored by



probes for which the BF anchor is closest

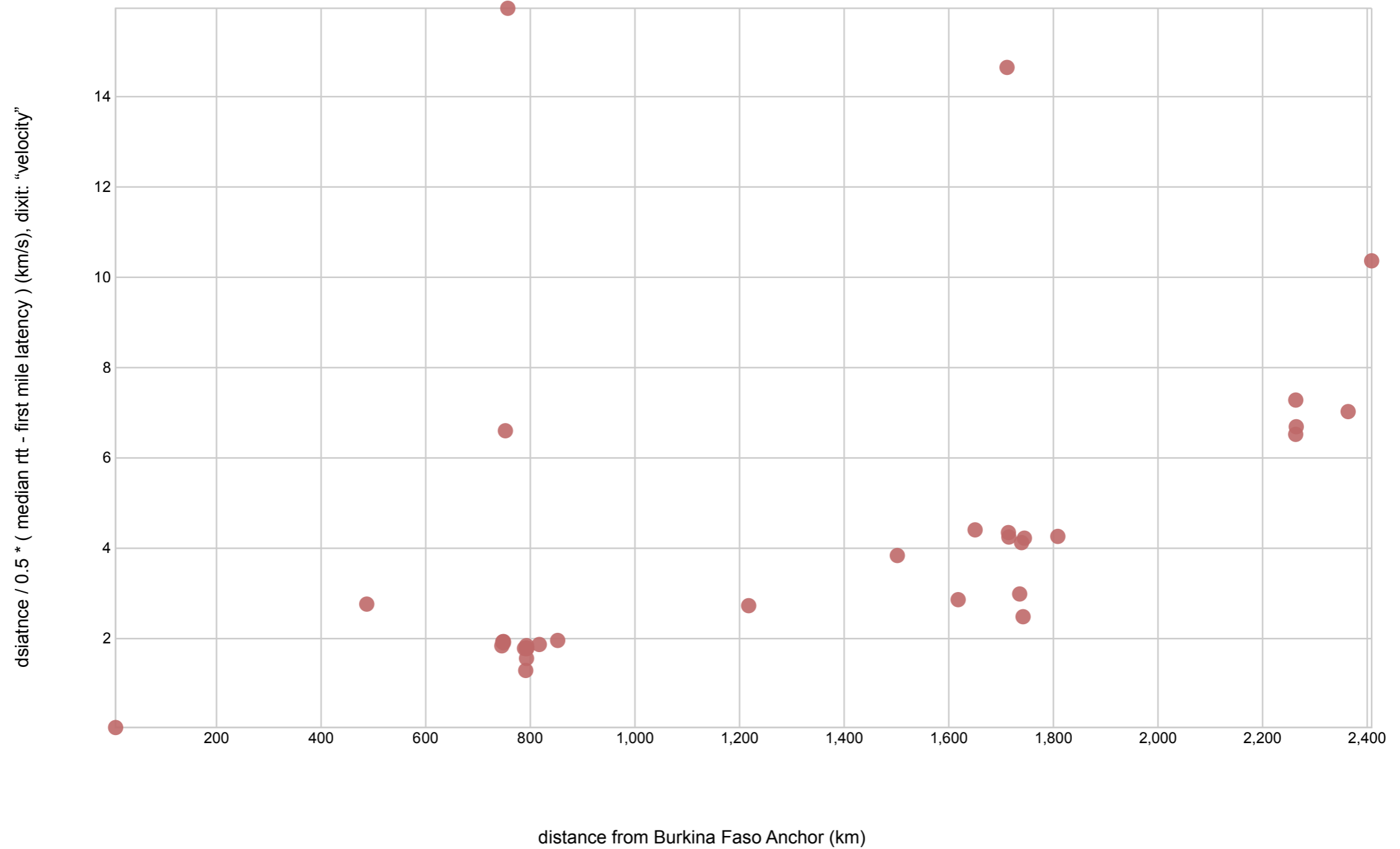


The paths to the anchor



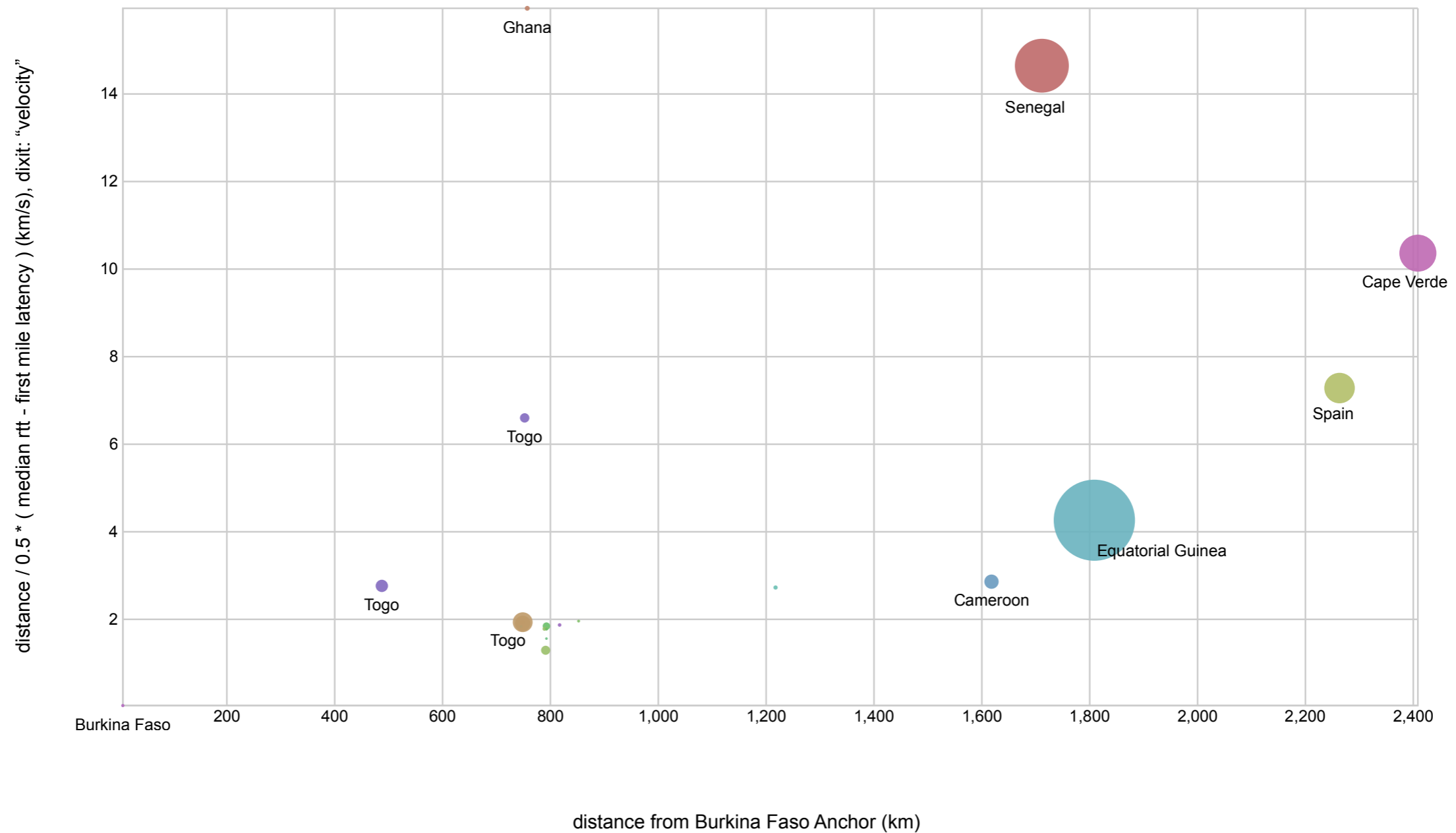


“velocity” of probes to BF anchor

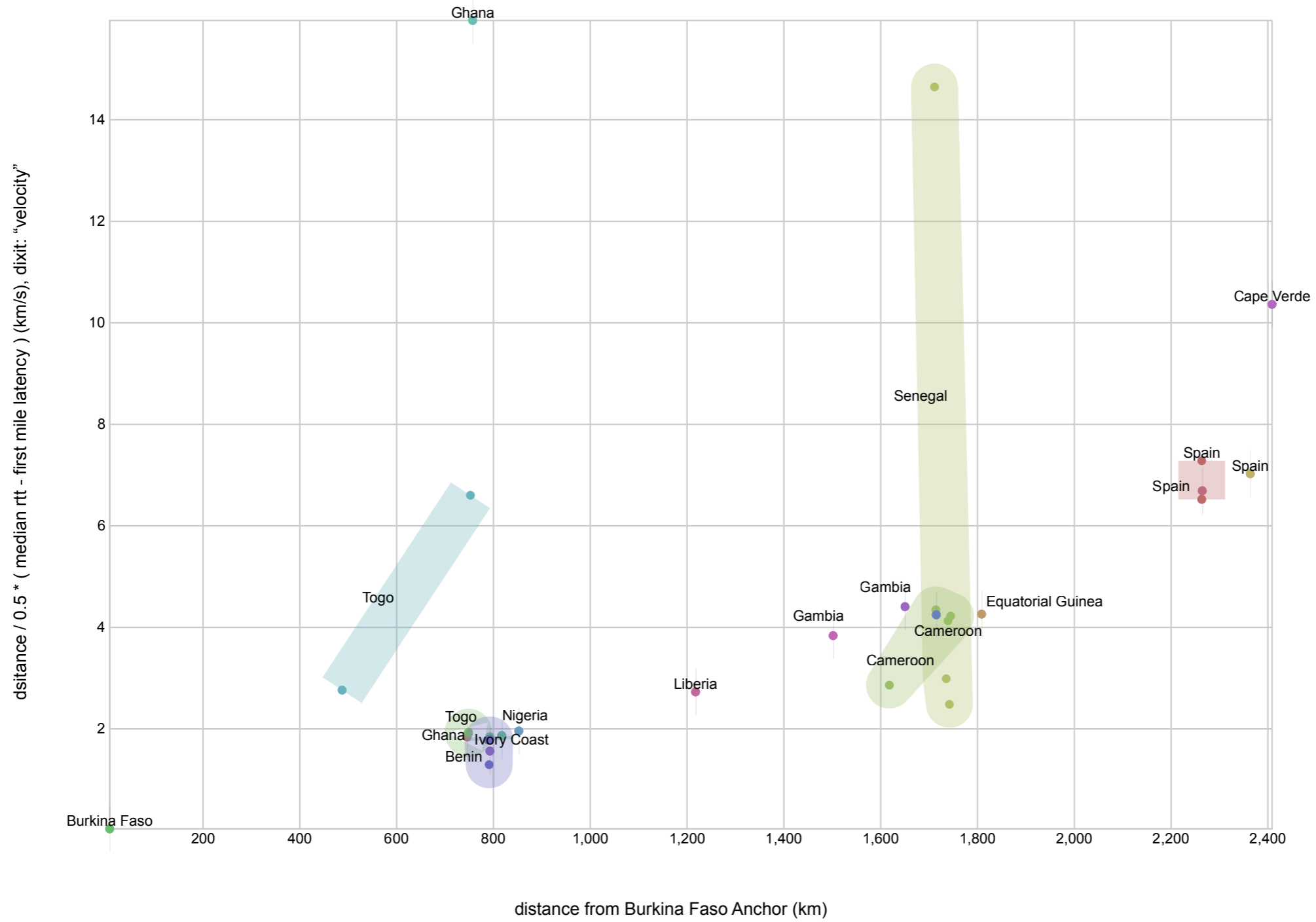




“velocity” & first mile latency of probes



“velocity” for ASN clusters



ASN cluster, colored by country



African Jedi

IXP Country Jedi

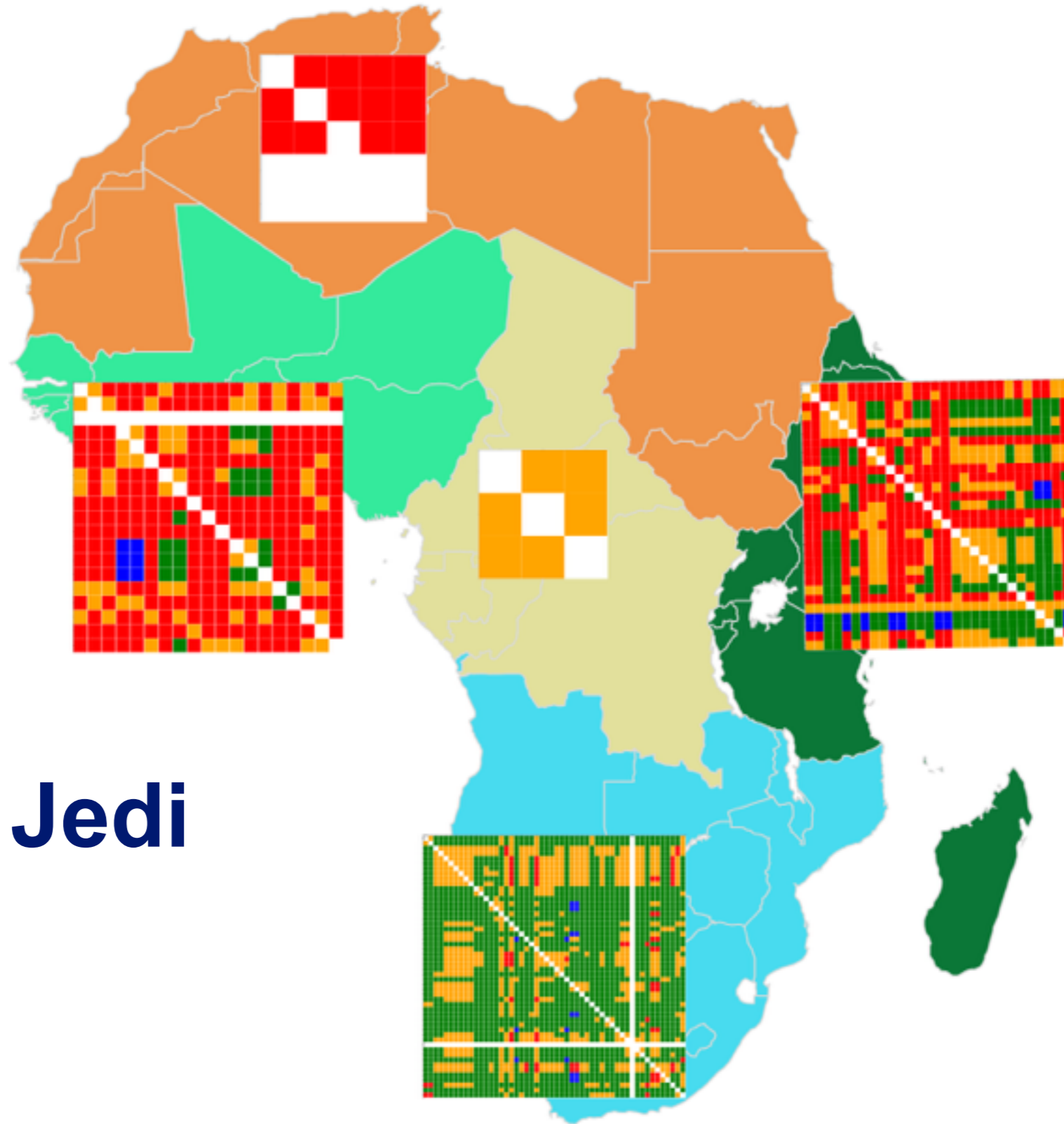


- Tool and concept by Emile Aben
 - <https://github.com/emileaben/ixp-country-jedi>
 - <https://labs.ripe.net/Members/emileaben/measuring-ixps-with-ripe-atlas>
- Method:
 - Traceroute mesh between RIPE Atlas probes
 - Detect whether they go via local IXP(s)' LAN IP
 - Hops geolocated using OpenIPMap database
- Data:
 - <http://sg-pub.ripe.net/emile/ixp-country-jedi/>

IXP Country Jedi

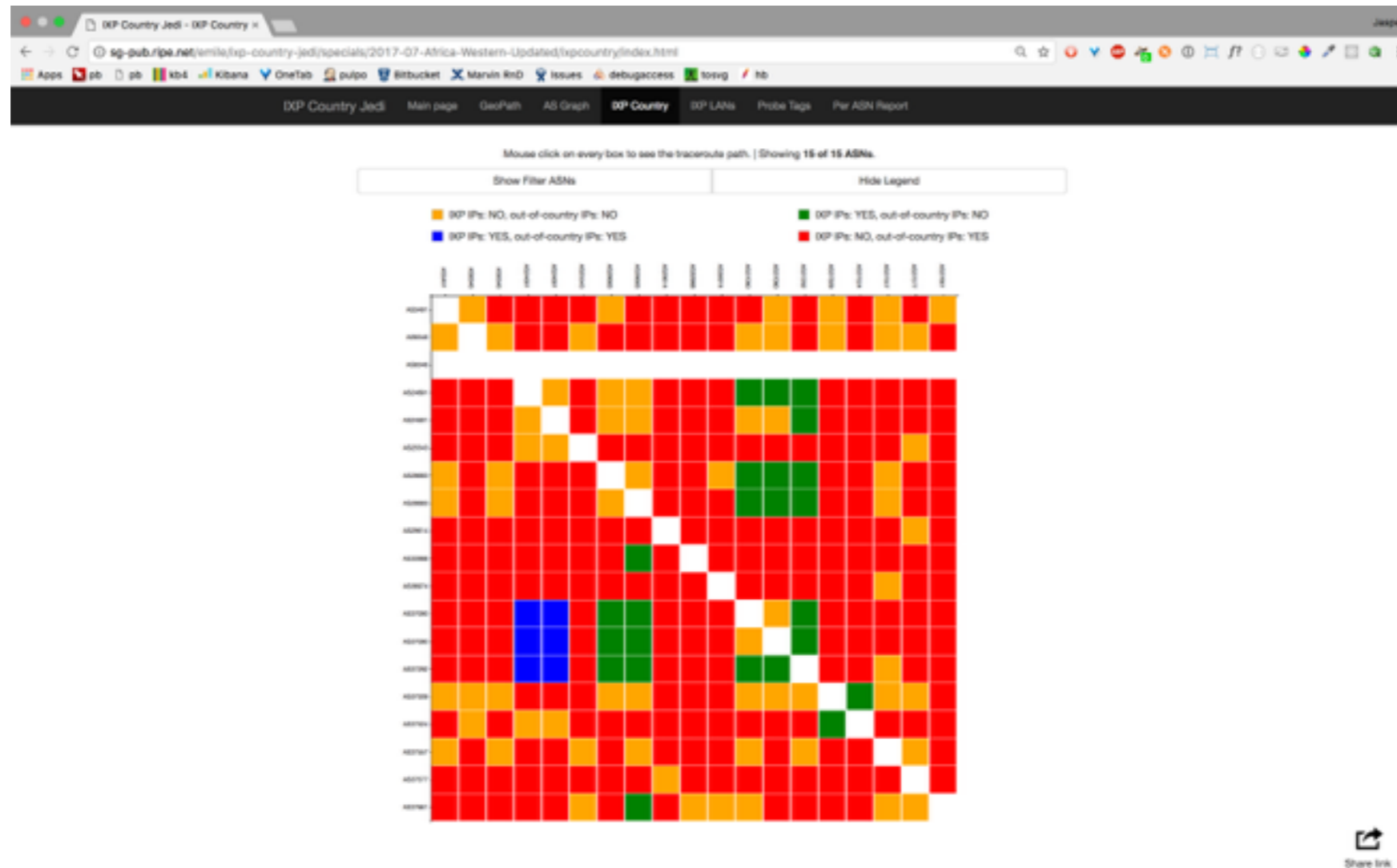


- Benefits:
 - Shows how IXPs help keep traffic local
 - Comparing countries' performances with each other
 - Routing and traffic optimisation
 - Comparing IPv6 and IPv4
- African Jedi:
 - http://sg-pub.ripe.net/emile/ixp-country-jedi/specials/2017-07-*-*Africa



African Jedi

Western Africa

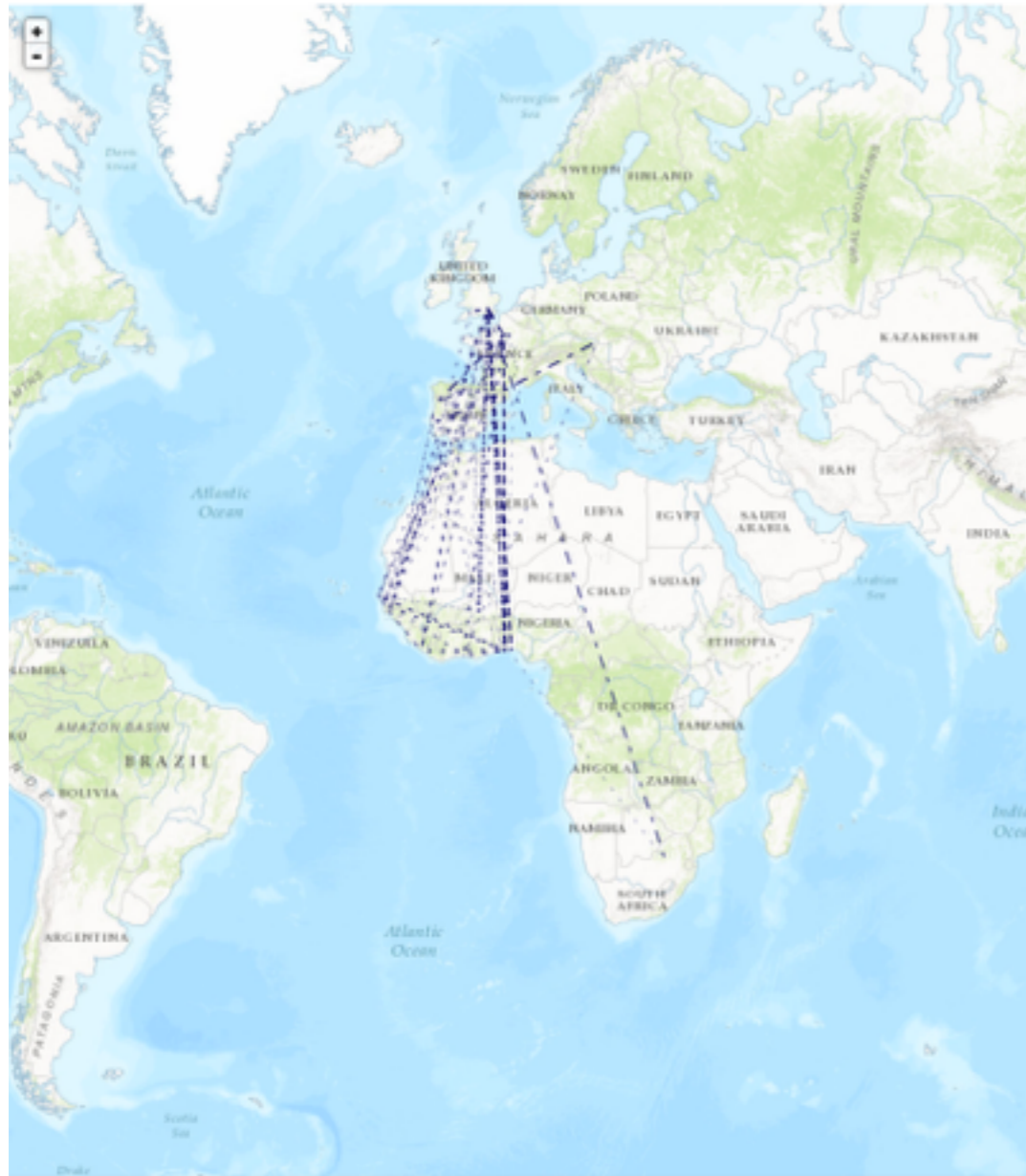


Western Africa Paths

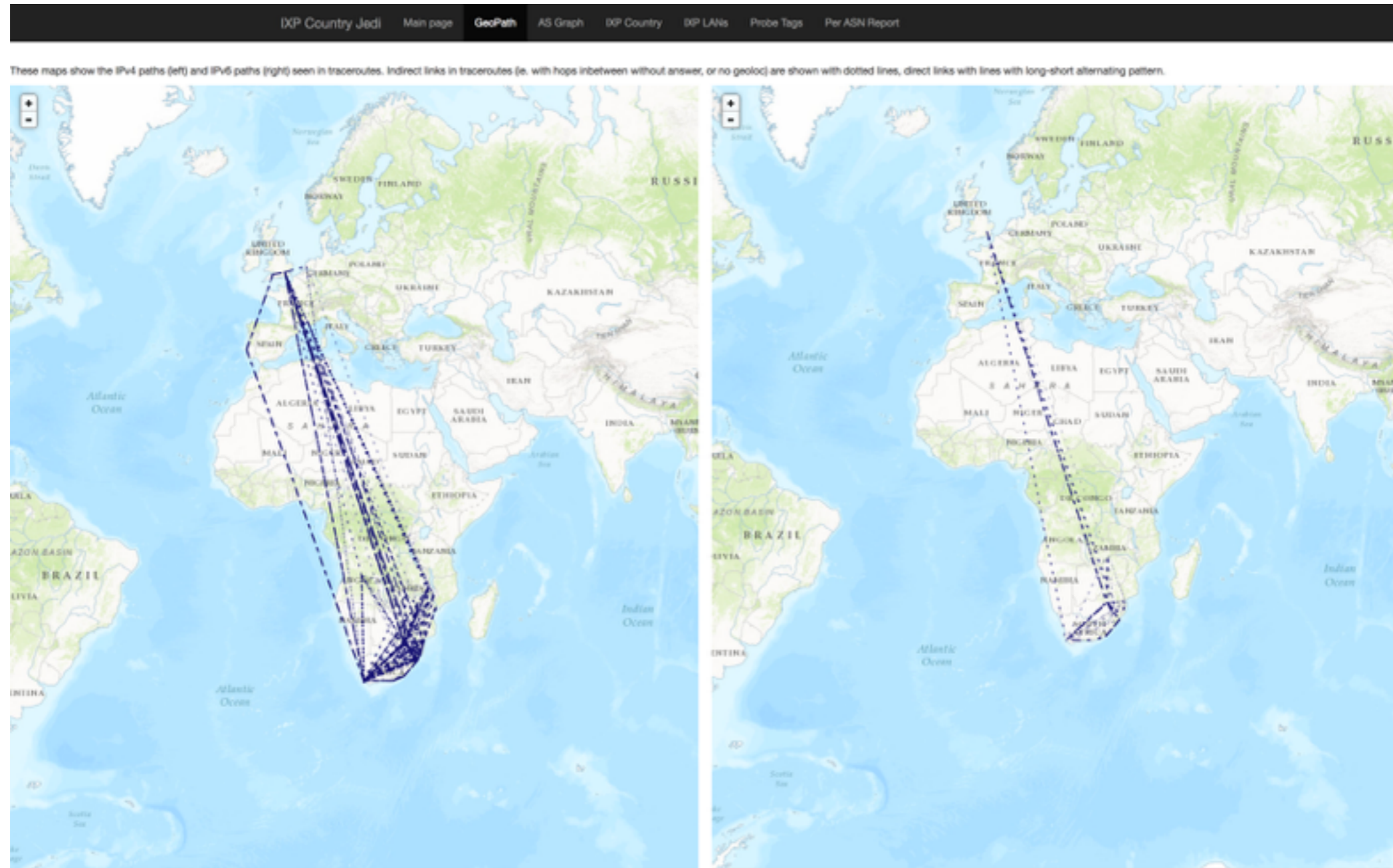


IXP Country Jedi Main page **GeoPath** AS Graph IXP Country IXP LANS Probe Tags Per ASN Report

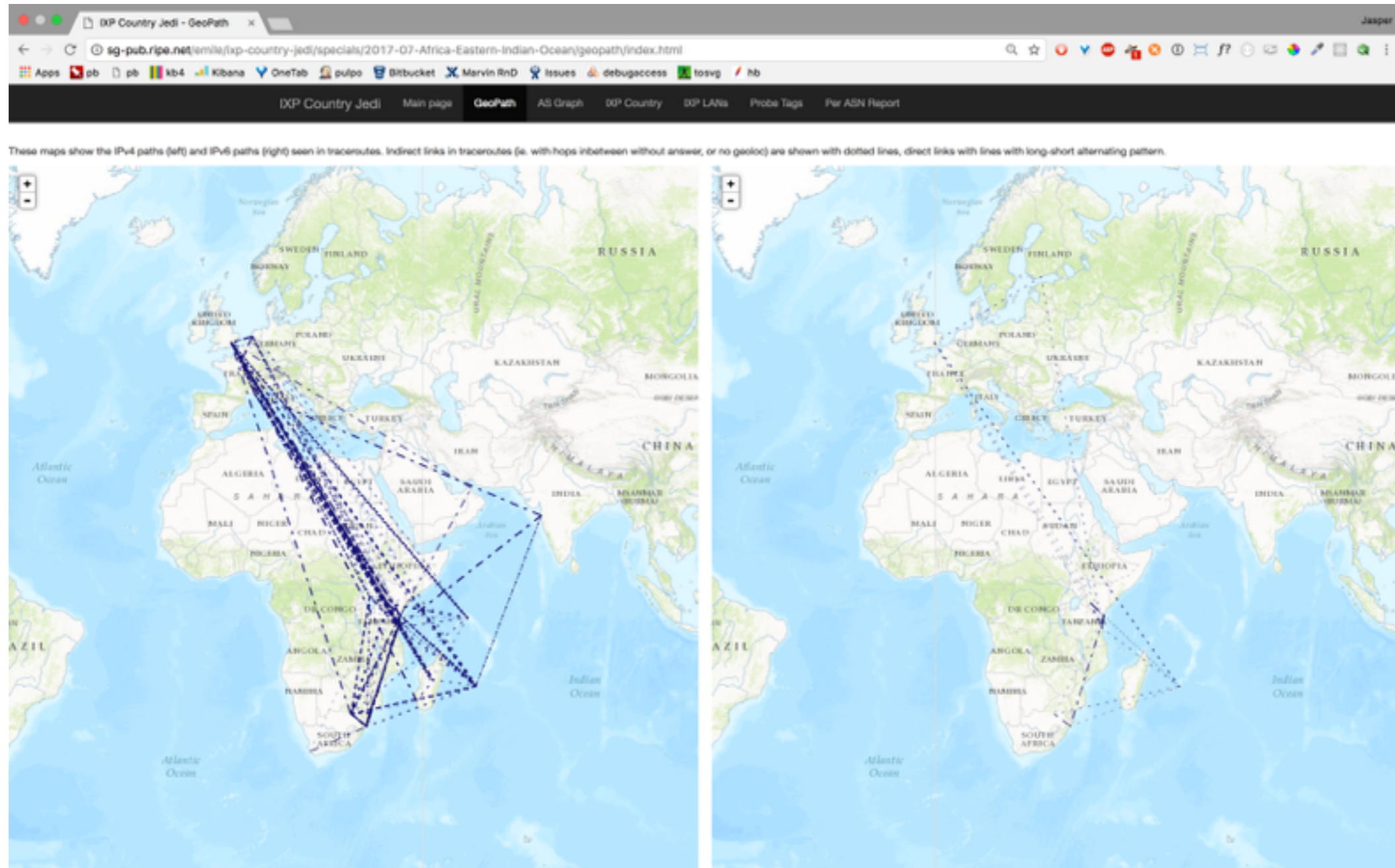
These maps show the IPv4 paths (left) and IPv6 paths (right) seen in traceroutes. Indirect links in traceroutes (i.e. with hops inbetween without answer, or no geoloc) are shown with dotted lines, direct links with lines with long-short alternating pattern.



Southern Africa Paths



Eastern Africa Paths





new tools

Latency Chart and Time Navigation



Resource Info



AS34019 — France-IX — AS7477
IX Australia NSW

France-IX (AS57734)

IP: 37.49.236.2
Located in: Paris, FR [Update](#)

PeeringDB:
IXP: France-IX, Paris, FR
Lan: 37.49.236.0/23
[Update PeeringDB](#)

Routing Info:
57734 - FRANCEIX , FR
Announced: Yes

Registry info:
Resource: 57344-58367
Name: IANA 16-bit Autonomous System (AS)
Numbers Registry
Desc: Assigned by RIPE NCC

[Contact holder](#) [Whois](#) [See BGP events](#)

Probe 281
10.7.4.1 (AS7922)
*

* (Guess AS7922)

Located in: Not available

Best Guess :
7922 - COMCAST-7922 - Comcast Cable
Communications, Inc., US
Announced: Yes

Registry info:
Resource: 7911-7926
Name: IANA 16-bit Autonomous System (AS)
Numbers Registry
Desc: Assigned by ARIN

[Contact holder](#) [Whois](#)

RIPE NCC

TraceMON tries to guess private addresses and wildcards

Openipmap



The screenshot shows the OpenIPMap web application interface. The main view is a world map with several red dots representing probe locations and lines representing traceroute paths. The interface includes a navigation menu at the top with options like 'OpenIPMap', 'Collections', 'Atlas Measurements', 'Traceroutes', 'GeoIP', and 'View'. On the right side, there is a 'Details atlas measurement 8345845' panel. This panel contains a 'GENERAL' section with a list of probe IP addresses, the target host (72.21.80.200), and start/stop times. Below this is a 'LOADED TRACEROUTES' section showing two paths. The bottom right panel is a 'SUMMARY' section for a specific hop, showing details for AS7922 (comcast.net Port Elizabeth, ZA) and AS1299 (comcast.net New York City, US). A modal dialog is open for editing the host location, showing the current location as 'Kampala, UG' and allowing the user to change the city and country.

Home > Analyse > Internet Measurements > RIFE Atlas

OpenIPMap Collections Atlas Measurements Traceroutes GeoIP View

Details atlas measurement 8345845

GENERAL

all probes used as source: 24 32 304 1046 1058 1116 1134 1189 1193 1196 2567 2685 2769 3041 3444 3579 3644 4155 6061 6062 6065 6066 6072 6080 6122 6147 6223 10185 10334 10422 10423 10595 10770 10790 11171 11528 11687 11857 12105 12108 12115 12116 12134 12380 12452 12546 12685 12693 12802 12806 13128 13146 13614 14284 14641 14882 14933 15542 15958 17587 17797 17914 18275 18451 18512 18664 19096 19460 19761 19911 21195 22379 22382 22511 22710 22802 23017 23033 23036 23903 24899 25004 27667 27952 28529

target host: 72.21.80.200

start: 2017-05-01T08:00:24Z

stop: 2017-05-01T08:10:07Z

LOADED TRACEROUTES

probes used: 24 32 304 1046 1058 1116 1134 1189

time range: 2017-05-01T08:00:24Z - 2017-05-01T08:00:27Z

TRACEROUTE: 73.254.190.25 -- AS7922 AS7922 AS1299 AS15133

TRACEROUTE: 24.16.252.197 -- AS7922 AS7922 AS1299 AS15133

SUMMARY

AS7922 -- 1058 comcast.net Port Elizabeth, ZA

8ms (172.16.50.1)

12ms 324167 (96.120.100.53) Kampala, UG

EDIT HOST LOCATION

AS7922

HOST

96.120.100.53

REVERSE DNS NOT AVAILABLE

AS1299

CURRENT LOCATION

AS15133

City

ka

Country

Uganda

close to other hops

Kampala, UG

CANCEL SUBMIT

13ms 655029 comcast.net Casablanca, MA

16ms 813304 comcast.net New York City, US

19ms 681756 comcast.net Boston, US

16ms comcast.net ADD A LOCATION

Current Collection aggregated by Atlas measurement and time

Results from May 1st 2017, 08:00:27 UTC

ATLAS MEASUREMENT

ID 8345845

RAN 8 days ago

8 traceroutes from 8 probes loaded



modular suggestion engines
scoring of each dataset in a total score list
validate!

contact RIPE Atlas



<https://atlas.ripe.net>

articles and updates

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

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[#RIPEAtlas](https://twitter.com/#RIPEAtlas)



Questions



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