



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

RIPE Atlas Update

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RIPE Atlas Introduction



- Internet wide measurement system
 - Internet infrastructure, not all applications
- Real time & historical info
- Active measurements
- Collaborative effort
- Open and free
- IPv4 and IPv6 capable

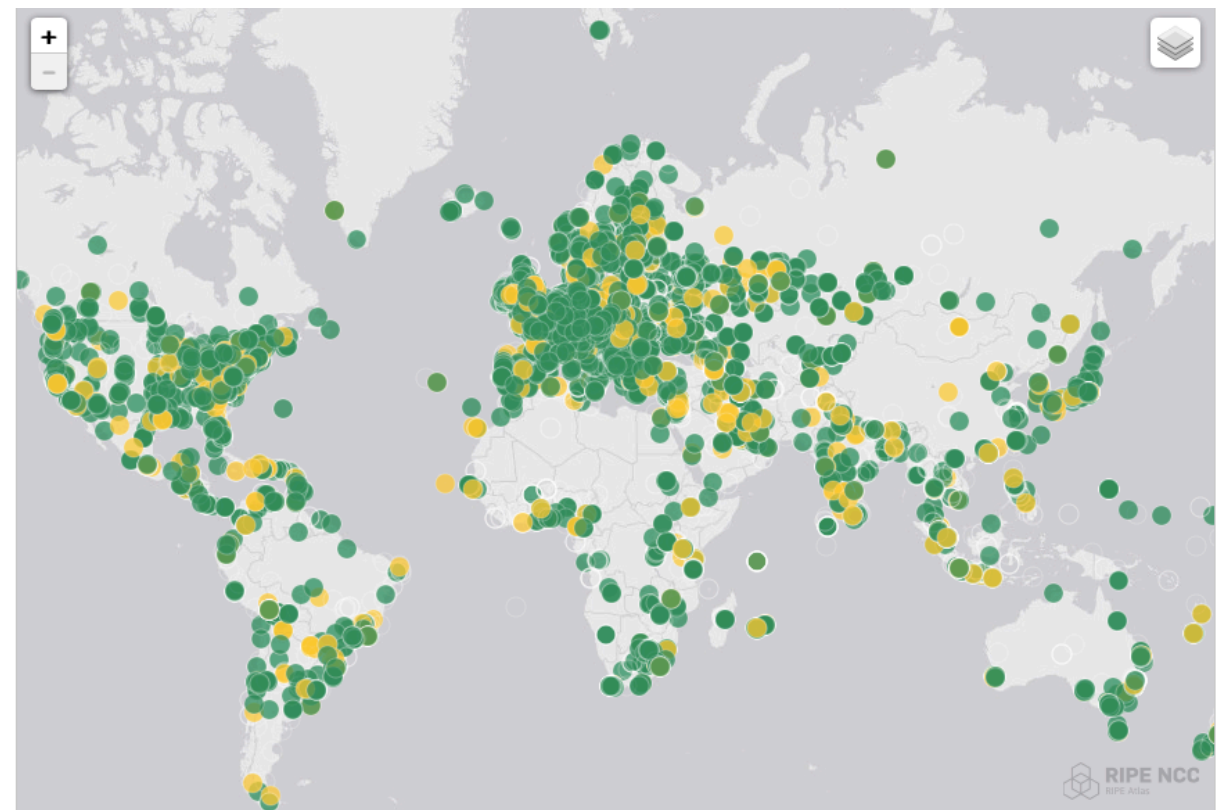
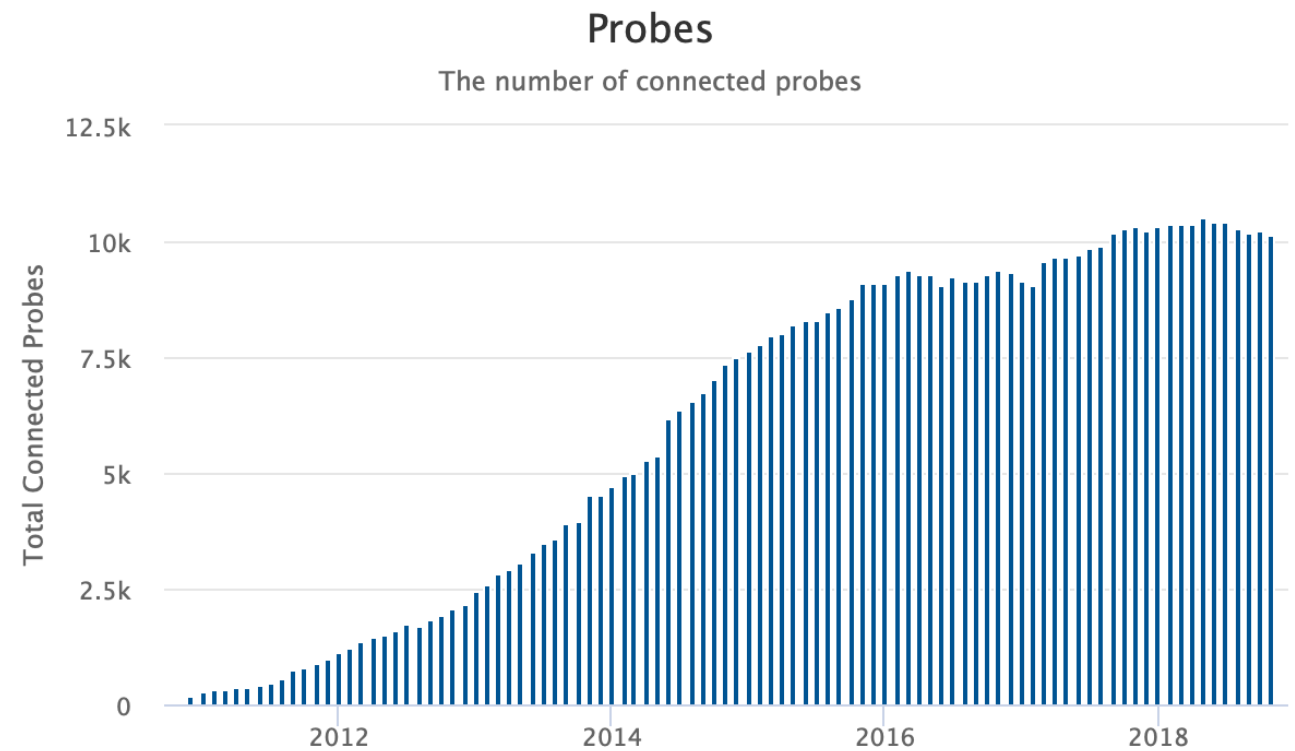


RIPE Atlas Probes



- 10200+

- Around the world

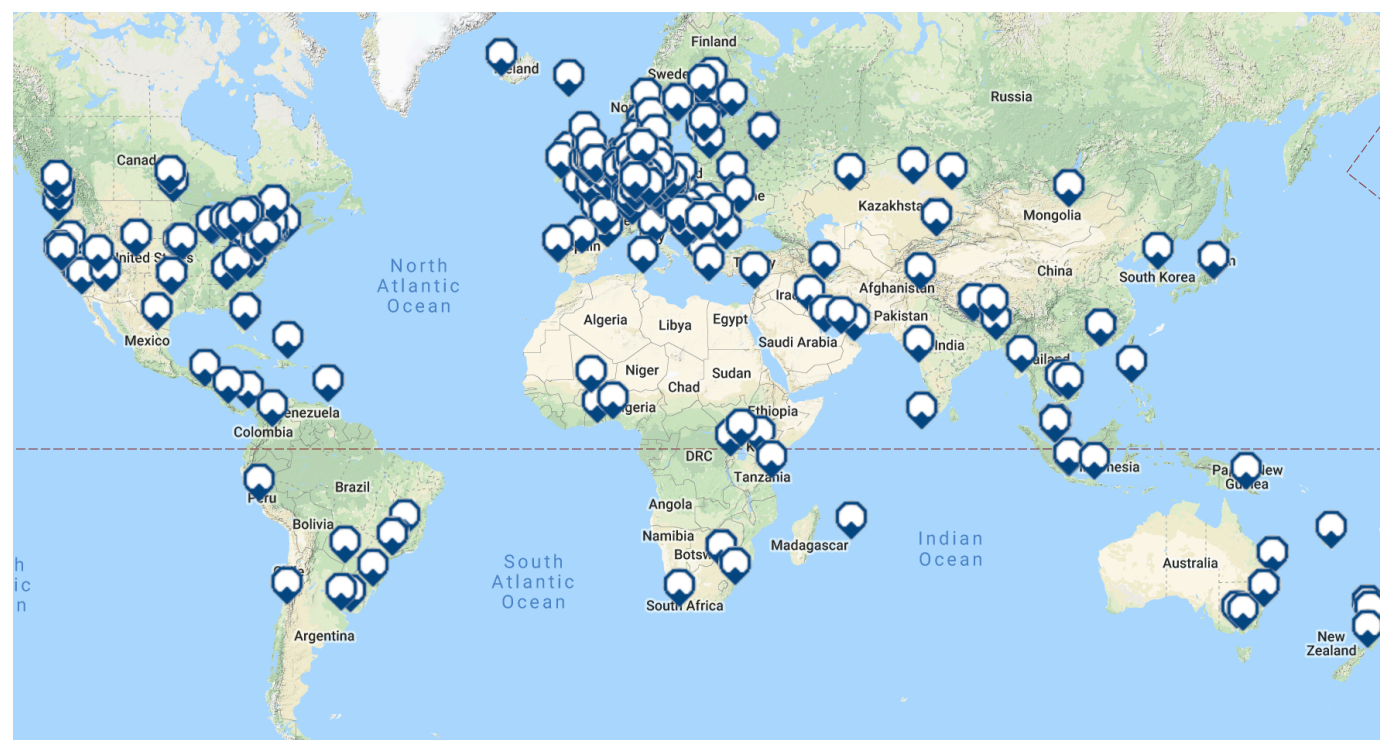
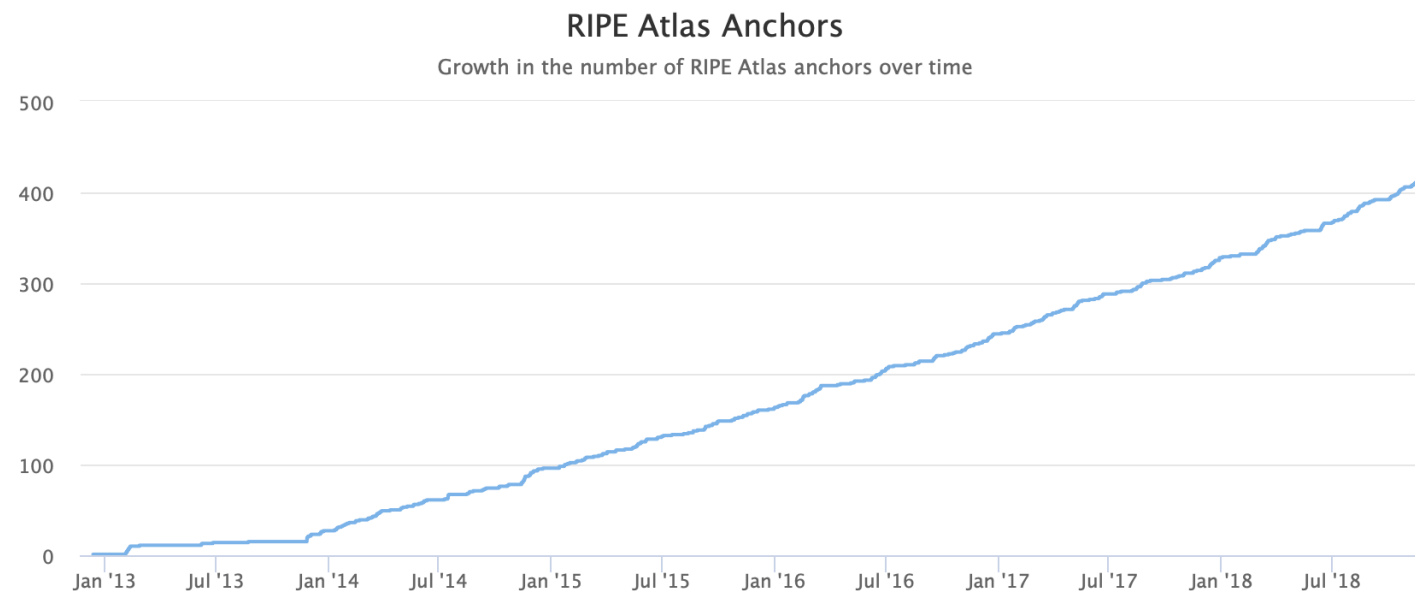


RIPE Atlas Anchors



- 370+

- Around the world



RIPE Atlas Interfaces



- Web Interface

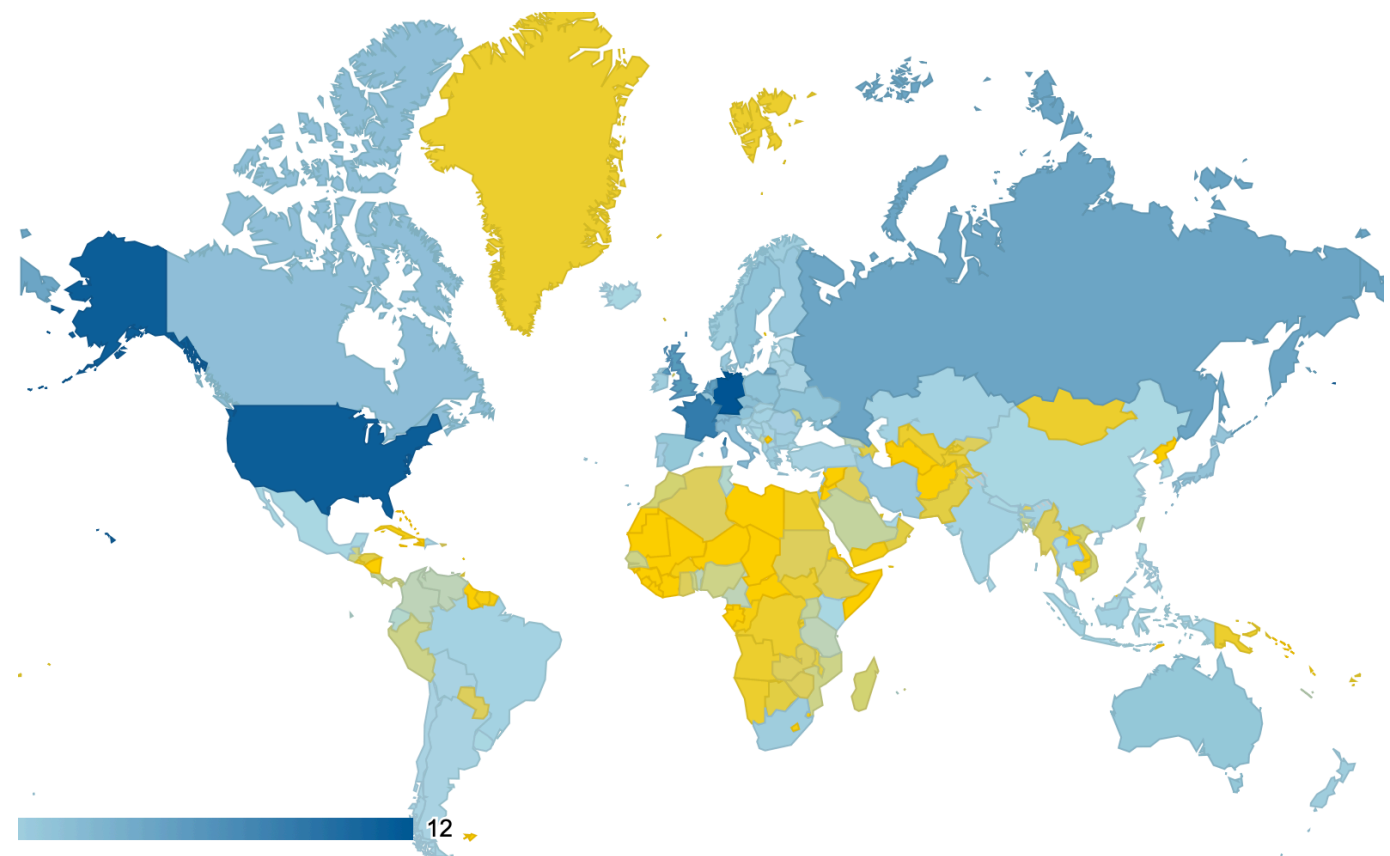
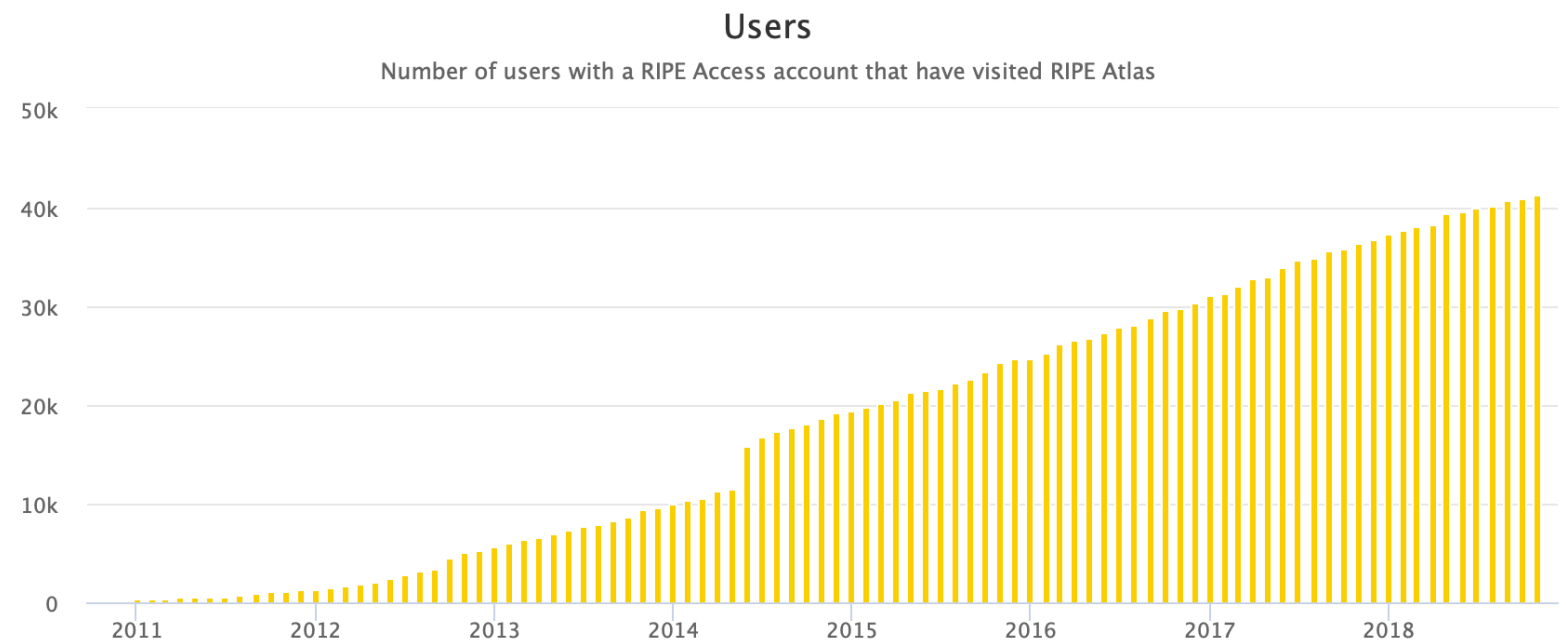
The screenshot displays the RIPE Atlas web interface. On the left is a navigation menu with the following items: RIPE Atlas (selected), About RIPE Atlas, Get Involved, Probes and Anchors, Measurements, Maps and Tools, Resources, RIPE NCC Members, My Atlas (expanded), Credits, API Keys, Messages, Ambassador Probes, and Settings. The main content area features several widgets: 1. 'Measurements' widget: Shows 0 measurements with a power icon, a play button, a gear, and a plus sign. Text: 'You do not have any measurements. Please visit the [measurements page](#) to start one.' 2. 'API Keys' widget: Shows 0 API keys. Text: 'You are not yet using API keys. If you'd like to start, you should visit the [API keys page](#).' 3. 'Probes' widget: Shows 1 probe with a gift icon and a home icon. Text: 'AMS-Alvaro 1 week, 4 days ✓'. 4. 'Anchors' widget: Shows 0 anchors with a gift icon and a home icon. 5. 'Credits' widget: Shows 2101 credits with a flame icon and 5.3 million credits with a coin icon. Text: 'Daily Credits Balance'.

- API, CLI, Streaming

RIPE Atlas Community



- Users
- Hosts
 - Probes
 - Anchors
- Sponsors
- Ambassadors



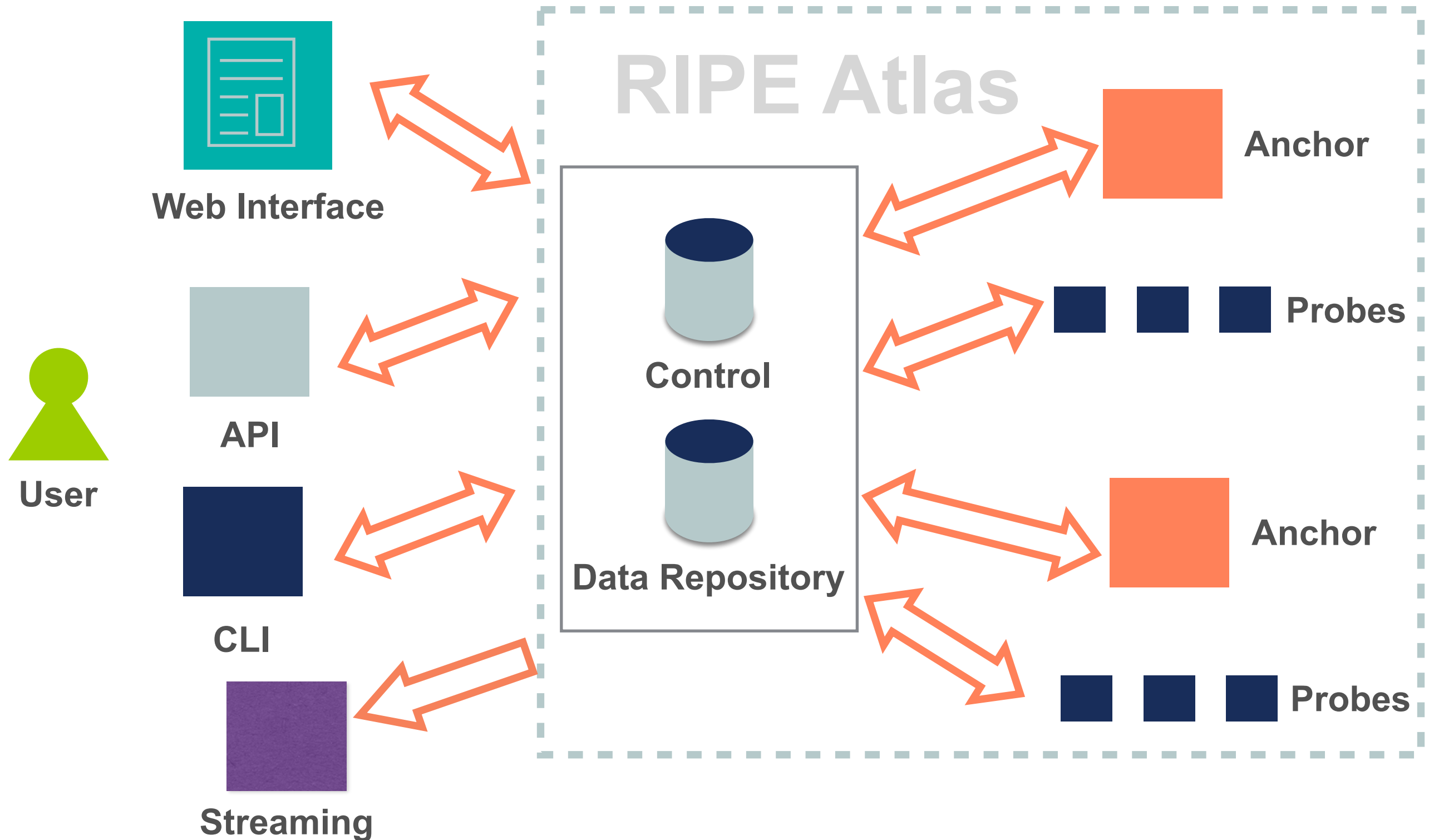
RIPE Atlas Measurements



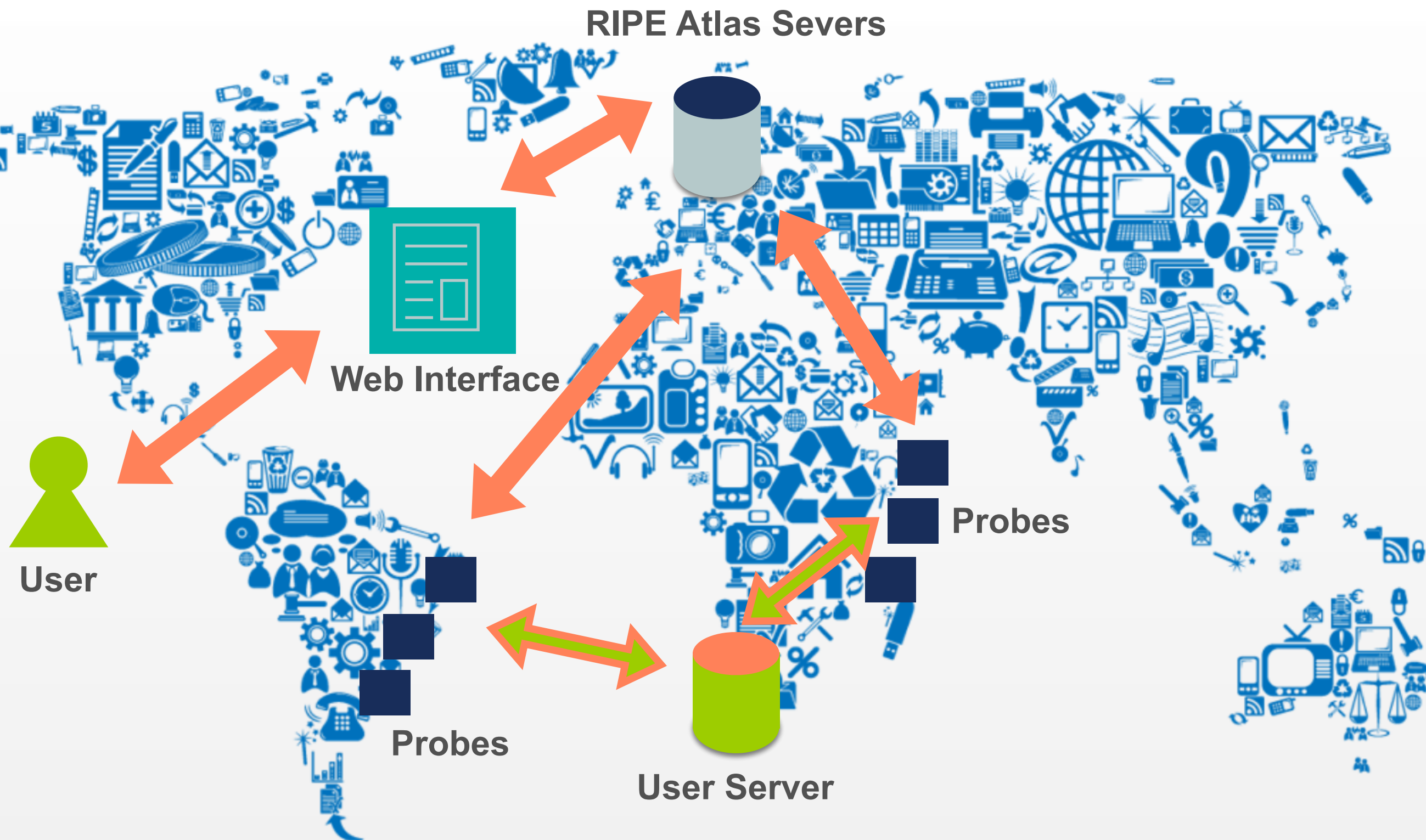
Measurements currently running

	Built-in	User-defined			
		Total UDM	Anchoring	DNSMON	Other
Ping	41	5831	1479	0	4352
Traceroute	45	5221	1481	872	2868
DNS	158	5720	1	3488	2231
SSL/TLS Certificate	4	306	0	0	306
NTP	0	69	0	0	69
HTTP	4	1536	1480	0	56

RIPE Atlas Overview



RIPE Atlas Use Case



Security Aspects



- Probes:
 - Hardware trust material (regular server address, keys)
 - No open ports; initiate connection; NAT is okay
 - Don't listen to local traffic
 - No passive measurements
 - Automatic FW updates
- Measurements triggered by “command servers”
 - Inverse ssh tunnels
- Source code published



Measurements cost credits



- Why? Fairness and avoid overload
- How to earn credits?
 1. Hosting a probe / anchor
 2. Being an RIPE NCC member (LIR)
 3. Being RIPE Atlas sponsor
 4. Transfer
 5. Ambassador
 6. Voucher

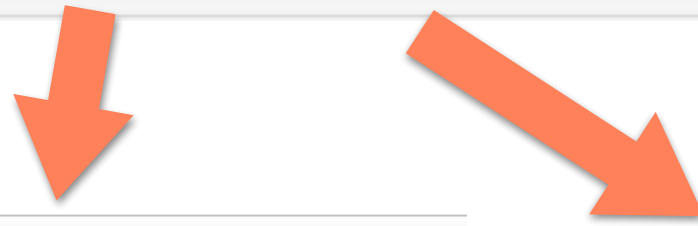


Creating Measurements (1)



Step 1 Definitions

+ Ping + Traceroute + DNS + SSL + HTTP + NTP



▼ Ping measurement [X]

Target:
[]
An IP address or hostname

Address Family*:
IPv4

Packets:
3

Size:
48

Description:
Ping measurement

Interval:
240
How often this should be done (seconds between samples). Note that this value is ignored for one-off measurements.

Resolve on Probe:
Force the probe to do DNS resolution

Advanced Options

Packet interval:
[]
Time between packets (ms)

Spread:
[]
Spread of uniformly distributed random probe start time phase

Skip DNS check:
Disables target DNS check on measurement creation

▼ Traceroute measurement [X]

Target*:
[]
An IP address or hostname

Address Family*:
IPv4

Timeout (ms):
4000

Description:
Traceroute measurement

Protocol*:
ICMP

Interval:
900
How often this should be done (seconds between samples). Note that this value is ignored for one-off measurements.

Resolve on Probe:
Force the probe to do DNS resolution

Advanced Options

Packets:
3

Size:
48
Size of the packet

First Hop:
1

Paris:
16
Number of different variations for paris traceroute. Set 0 for standard traceroute.

Destination Extension Header Size:
0
The size of the destination extension header to include in the IPv6 packet.

Creating Measurements (2)



Step 2 Probe Selection

Worldwide 10 ✕

+ New Set - wizard

+ New Set - manual

+ IDs List

+ Reuse a set from a measurement



Create your selection

In this panel you can manually create a probe selection. If you need more help or you want to visualize where the probes are, please use the wizard selection.

Type (mandatory)

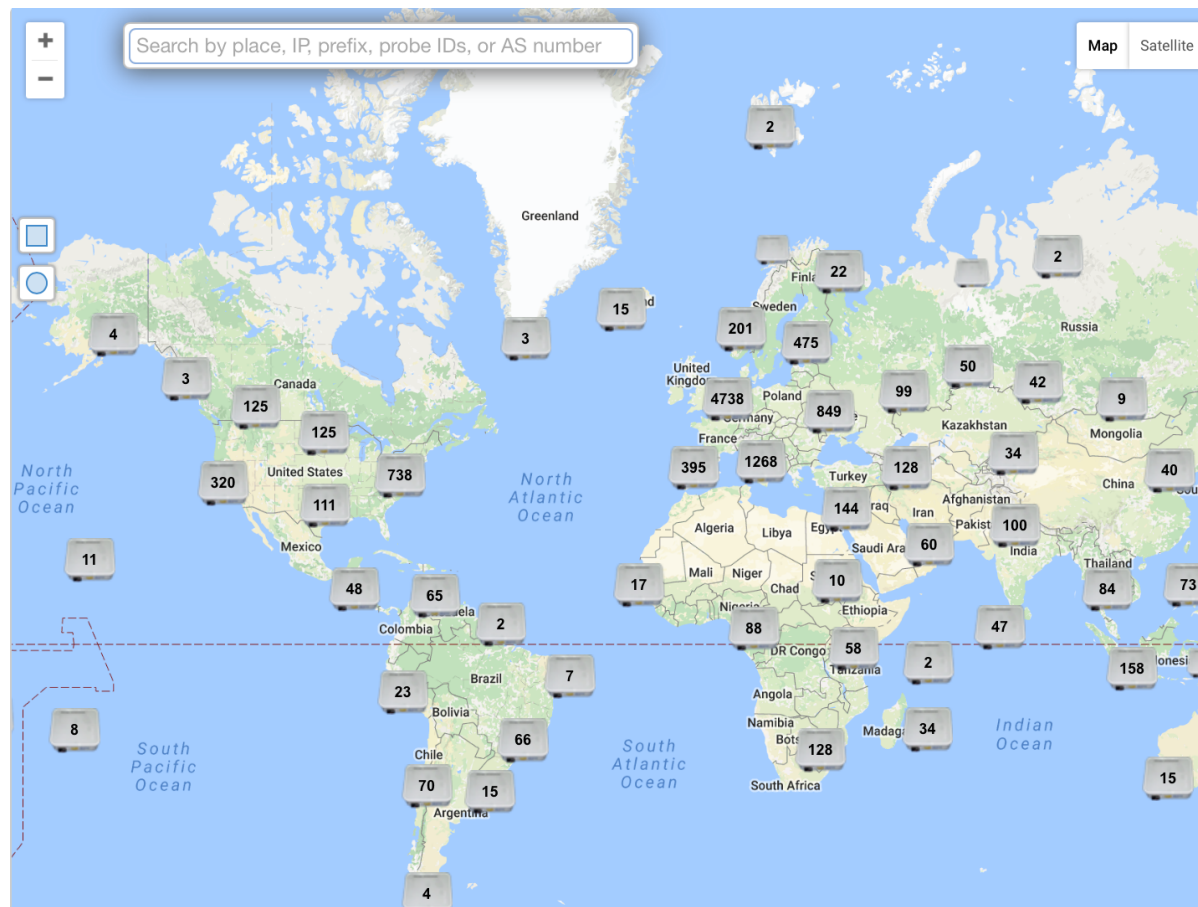
- area
- country
- prefix
- asn

Number of probes (mandatory)

50

Include tags

Exclude tags




Creating Measurements (3)




Step 3 Timing

This is a One-off:

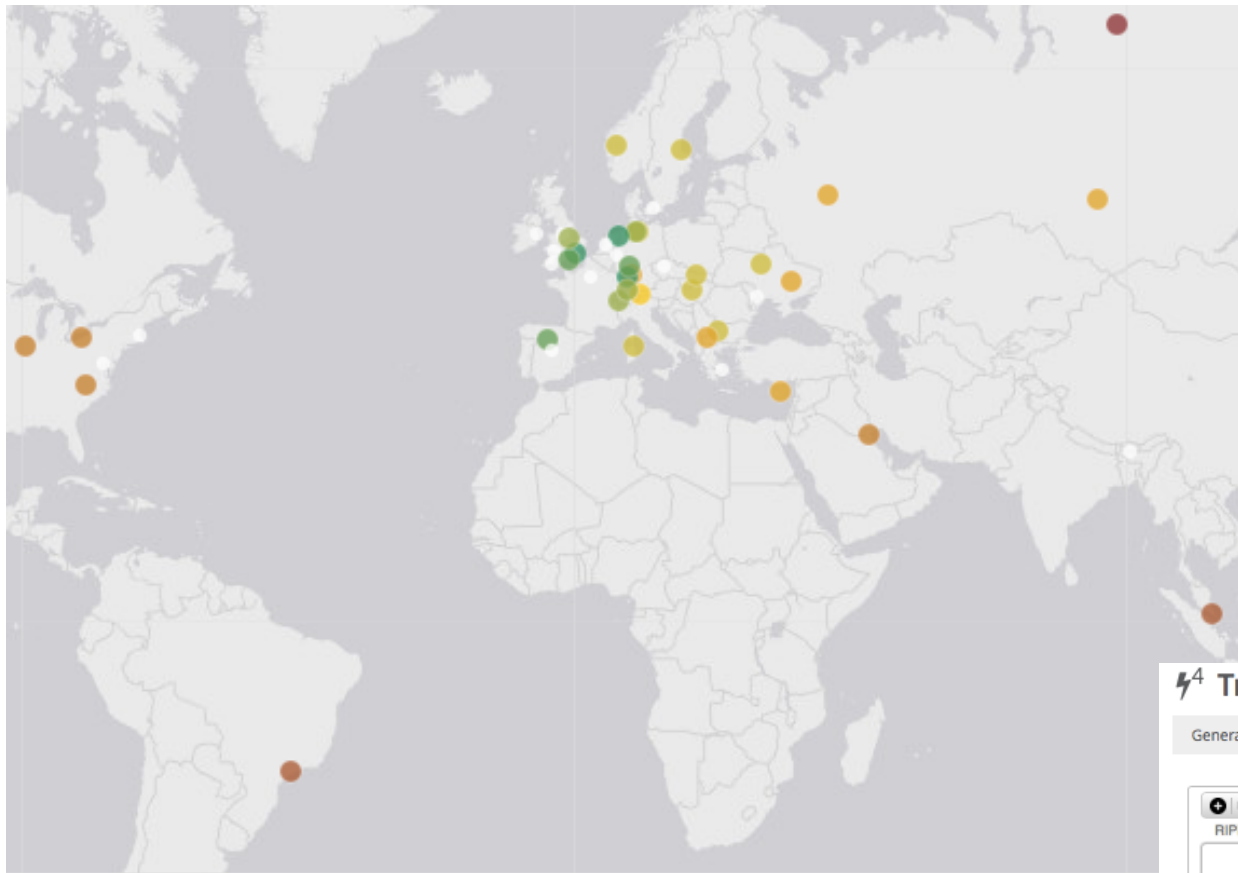
Start time (UTC):

As soon as possible 

Stop time (UTC):

Never 

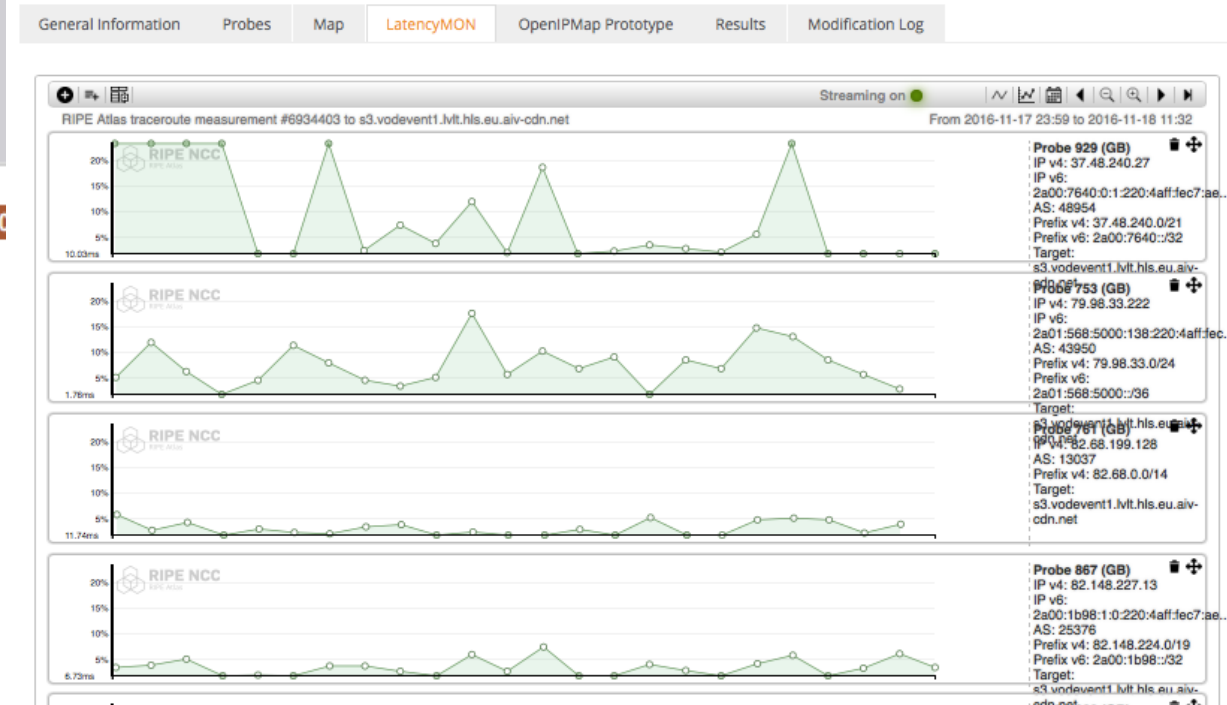
Visual Results



< 10 ms: 3 < 20 ms: 3 < 30 ms: 4 < 40 ms: 8 < 50 ms: 1 < 100 ms: 6 < 200 ms: 5 < 300 ms: 1

Probe	ASN (IPv4)	ASN (IPv6)	Country	Time (UTC)	RTT	Hops
2713	60706	60706	IT	2016-11-18 10:52	33.192	14
2941	25394		DE	2016-11-18 10:51	50.783	20
3055	6412		IT	2016-11-18 10:53	150.683	15
3222	6829		DK	2016-11-18 10:49	36.686	24
4166	50581		UA	2016-11-18 10:52	39.533	16
4554	6703		UA	2016-11-18 10:51	82.704	19
4952	3244		IN	2016-11-18 10:51	35.700	19
6078	202040	202040	DE	2016-11-18 10:47	9.279	14
6091	5459	5459	GB	2016-11-18 10:50	9.719	14
6112	197216	197216	DE	2016-11-18 10:52	33.767	11
6139	18106	18106	ES	2016-11-18 10:47	216.946	19
10166	5379		ES	2016-11-18 10:49	60.850	19
10282	49009	49009	DE	2016-11-18 10:47	32.699	11
10312	11426		US	2016-11-18 10:49	116.443	29

Traceroute measurement to s3.vodevent1.lvt.hls.eu.aiv-cdn.net







Please choose if you are applying for a Hardware anchor or a Virtual Machine anchor:

- Hardware anchor
- Virtual Machine anchor



New measurements detail pages



*⁴ HLOC Geolocation Measurement for location san jose

[General Information](#)
[Probes](#)
[Map](#)
[Results](#)

General Information

ID	#17148116
Group ID	#17148116
Type	* ⁴ Ping
Public measurement?	Yes
Target	189.205.18.69
Resolve on Probe	No
This is a one-off measurement	
Timing	2018-11-07 14:25 - 2018-11-07 14:35
Costs	8 per result, 24 per day
Size	64
Packets	4
Packet interval	1000 ms
Status check URL	/api/v2/measurements/17148116/status-check/
Probe Fulfilment	<div style="background-color: green; color: white; padding: 2px;">Responsive</div> Total responsive: 3 Total allocated: 3 Total requested: NaN
Tags	hloc-geolocation

Probe Specifications

Show 25 entries Search:

When	Action	Specification	Number of Probes	Include probe tags	Exclude probe tags
2018-11-07 14:25 UTC	Add	Probes: 1188, 12579, 13222	3	-	-

Showing 1 to 1 of 1 entries

Previous 1 Next

[General Information](#)
[Latest Results](#)
[Map](#)
[Download Data](#)

OVERVIEW	one-off IPv4 PING "HLOC Geolocation Measurement for..." id 17148116	▼
TARGET	189.205.18.69	▼
PING SPECIFIC SETTINGS	PACKETS: 4, SIZE: 64	▼
STATUS & TIMING	STOPPED ran from 07 Nov 2018 14:25:20 UTC to 07 Nov 2018 14:35:03 UTC	▼
PROBES	3 requested / 3 Actually participated	▼
TAGS & PROJECTS	hloc-geolocation	▼
OWNERSHIP & COSTS	PUBLIC	▼



atlas.ripe.net/measurements/17148116/canary

atlas.ripe.net/measurements/17148116/

Measurements tags



Create a New Measurement

Step 1 Definitions

Traceroute measurement ✕

Target*:

An IP address or hostname

Address Family*:
IPv6

Timeout (ms):
4000

Description:
Traceroute measurement

Protocol*:
ICMP

Interval:
900
How often this should be done (seconds between samples). Note that this value is ignored for one-off measurements.

Tags

A list of comma separated tags

RIPE Atlas Contact Info



- <https://atlas.ripe.net>
- <http://roadmap.ripe.net/ripe-atlas/>
- Users' mailing list: ripe-atlas@ripe.net
- Articles and updates: <https://labs.ripe.net/atlas>
- Questions and bugs: atlas@ripe.net
- Twitter: @RIPE_Atlas and #RIPEAtlas



Questions



avives at ripe dot net