



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

RIPE Atlas

Presentation for INNOG

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INNOG



What is it?



An Introduction

- RIPE Atlas is a **global active measurements platform**
- **Goal:** view Internet reachability
- Using **probes** hosted by volunteers
- Data **publicly available**





RIPE Atlas

Measurements

- **Built-in** global measurements towards root nameservers
 - Visualised as Internet traffic maps
- **Built-in** regional measurements towards “anchors”
- **Users** can run customised measurements
 - ping, traceroute, DNS, SSL/TLS, NTP and HTTP*



Probes and Anchors



- **11,000+** probes connected (**600+** RIPE Atlas Anchors)
- **10,000+** results collected per second
- **24,000+** measurements currently running



*RIPE Atlas
probe*



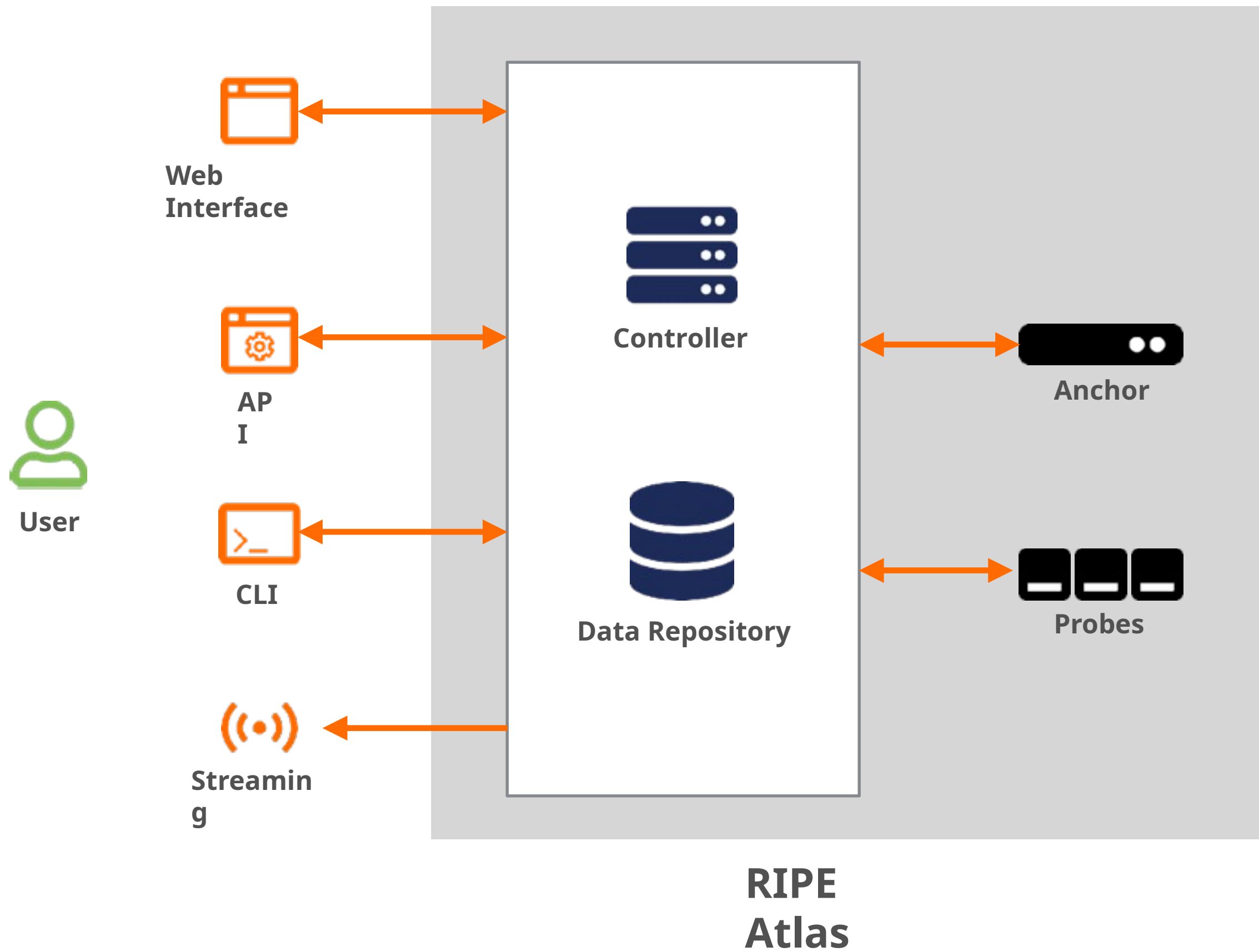
*RIPE Atlas
anchor*

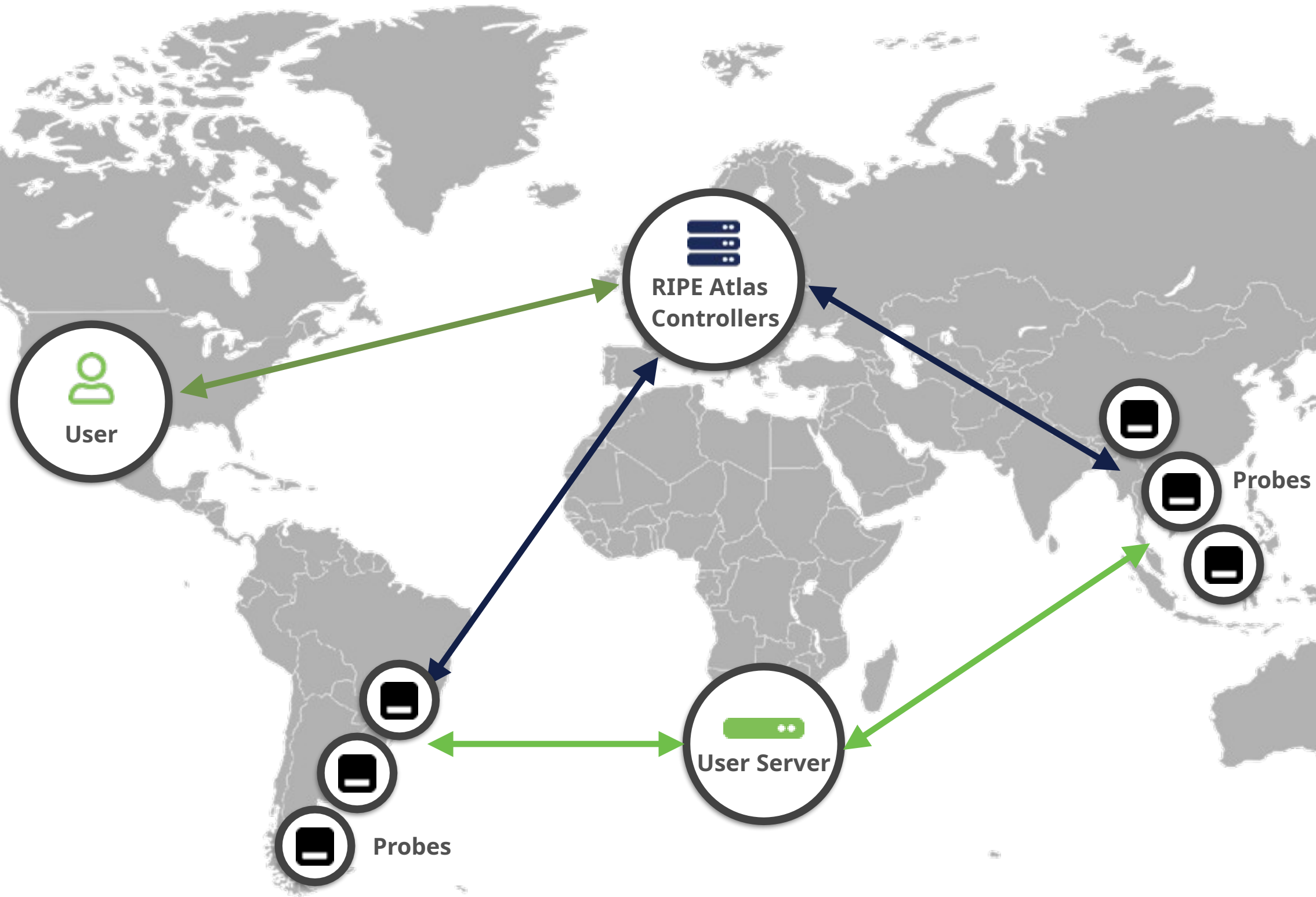
Software probes too!



- Run the software probe on VMs, routers and other computers you already have
 - <https://github.com/RIPE-NCC/ripe-atlas-software-probe>









What does it do?

Create measurements



Create a New Measurement

1

2

Step 1 Definitions

Ping measurement to bbc.co.uk

Target:
bbc.co.uk
An IP address or hostname

Address Family*:
IPv4

Packets:
3

Size:
40

Description:
Ping measurement to bbc.co.uk

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

+ Ping

+ Traceroute

+ DNS

+ SSL

+ HTTP

+ NTP

Step 2 Probe Selection

Worldwide 10

+ New Set - manual

+ New Set - manual

+ IPv6

+ Reuse a set from a measurement

Step 3 Timing

This is a One-off: ☐

Start time (UTC):
As soon as possible

Stop time (UTC):
Never

> Measurement API Compatible Specification

3

Create My Measurement(s)

Costs summary

Daily cost: 16800 credits

You will run out of credits in about 124 days

Balance

Total Expenses

Users who will supply credits for this measurement:
ferenczi@pe.net



Looking Up Measurements Results

Go to “Measurements, Maps and Tools” > “Measurements”

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RIPE Database (Whois) Website
Search IP Address or ASN

Manage IPs and ASNs > Analyse > Participate > Get Support > Publications > About Us >

You are here: Home > Analyse > Internet Measurements > RIPE Atlas > Measurements

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Measurements + Create a Measurement

Filter by target and/or description Any Status IPv4/v6 All types Of all time T X

Id	Type	Target	Description	Probes	Time (UTC)	Status
3460108	Michela Galante	*4 ping.xs4all.nl	My First API Measurement	Calculating...	2016-02-04 16:07 No Stop Defined	▶
3070733	Michela Galante	*4 nu.nl	Ping measurement to nu.nl	499	2015-12-09 15:22 2015-12-09 15:30	■
3051463	Michela Galante	*1 nu.nl	Ping measurement to nu.nl	100	2015-12-01 13:16 2015-12-01 15:20	■
3051440	Michela Galante	*4 belastingsdienst.nl	Ping measurement to belastingsdienst.nl	100	2015-12-01 13:06 2015-12-01 15:10	■
3051434	Michela Galante	*1 nos.nl	Ping measurement to nos.nl	100	2015-12-01 13:04 2015-12-01 15:10	■
3050477	Michela Galante	*4 nu.nl	Ping measurement to nu.nl	50	2015-11-30 16:20 2015-11-30 16:30	■

Available Visualisations:

Ping



Probe	ASN (v4)	ASN (v6)		Time	RTT
6019	3333	3333		2015-05-19 09:23	1.157
6059	59459	59459		2015-05-19 09:23	15.253
6111	198068	198068		2015-05-19 09:23	37.760
6112	197216	197216		2015-05-19 09:23	35.494
10008	3851			2015-05-19 09:23	24.664
10218	6876			2015-05-19 09:23	37.952
10246	39608			2015-05-19 09:23	36.313
10252	50288			2015-05-19 09:23	62.441
10267	12322			2015-05-19 09:23	31.498
10296	51214			2015-05-19 09:23	Unreachable

*List of probes
sortable by RTT*

*Map
colour-coded by
RTT*



*LatencyMON
compare multiple latency
trends*

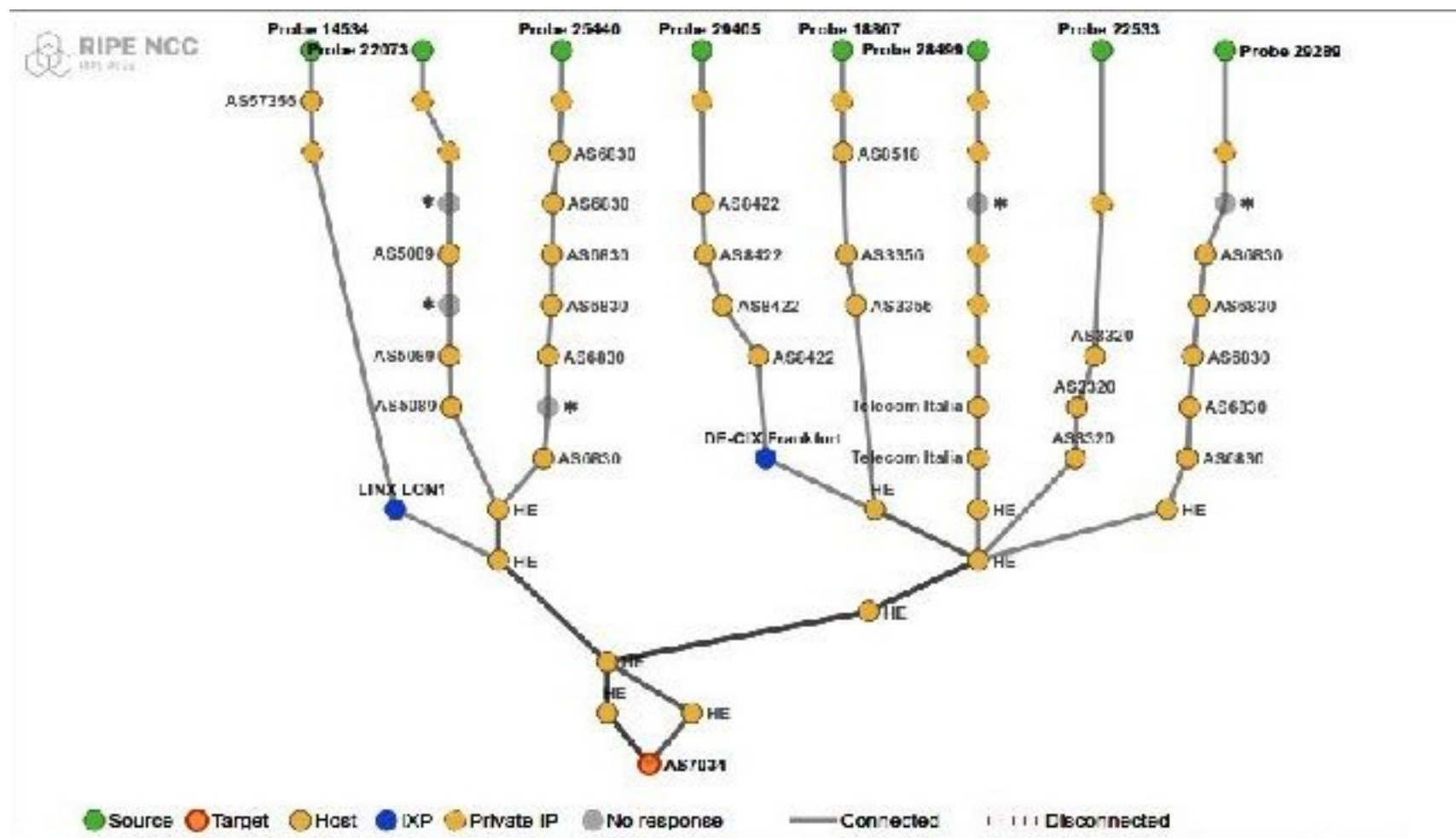


Use Cases

What can you use it for?



- Troubleshooting the Internet
 - Find where the problem is
 - From different vantage points on the Internet



What can you use it for?



- Monitoring your network
 - Keep your finger on the pulse
 - Measurement results in real-time

► View Config For This Hostgroup

Set Filters

Service Status Details For Host Group 'Internet'

Page 1 of 1 Results: 50

Host ▲▼	Service ▲▼	Status ▲▼	Last Check ▲▼	Duration ▲▼	Attempt ▲▼	Status Information
anchor-eu	Internet connectivity	OK	2015-09-14 15:45:52	8c 21h 8m 22s	1/3	CLUSTER OK: Host cluster: 7 up, 0 down, 0 unreachable
	PING	OK	2015-09-14 15:50:21	4c 19h 23m 55s	1/3	PING OK - Packet loss = 0%, RTA = 30.47 ms
anchor-us	Internet connectivity	OK	2015-09-14 15:50:44	8c 21h 3m 28s	1/3	CLUSTER OK: Host cluster: 7 up, 0 down, 0 unreachable
	PING	OK	2015-09-14 15:56:30	0c 13h 57m 42s	1/3	PING OK - Packet loss = 0%, RTA = 111.07 ms

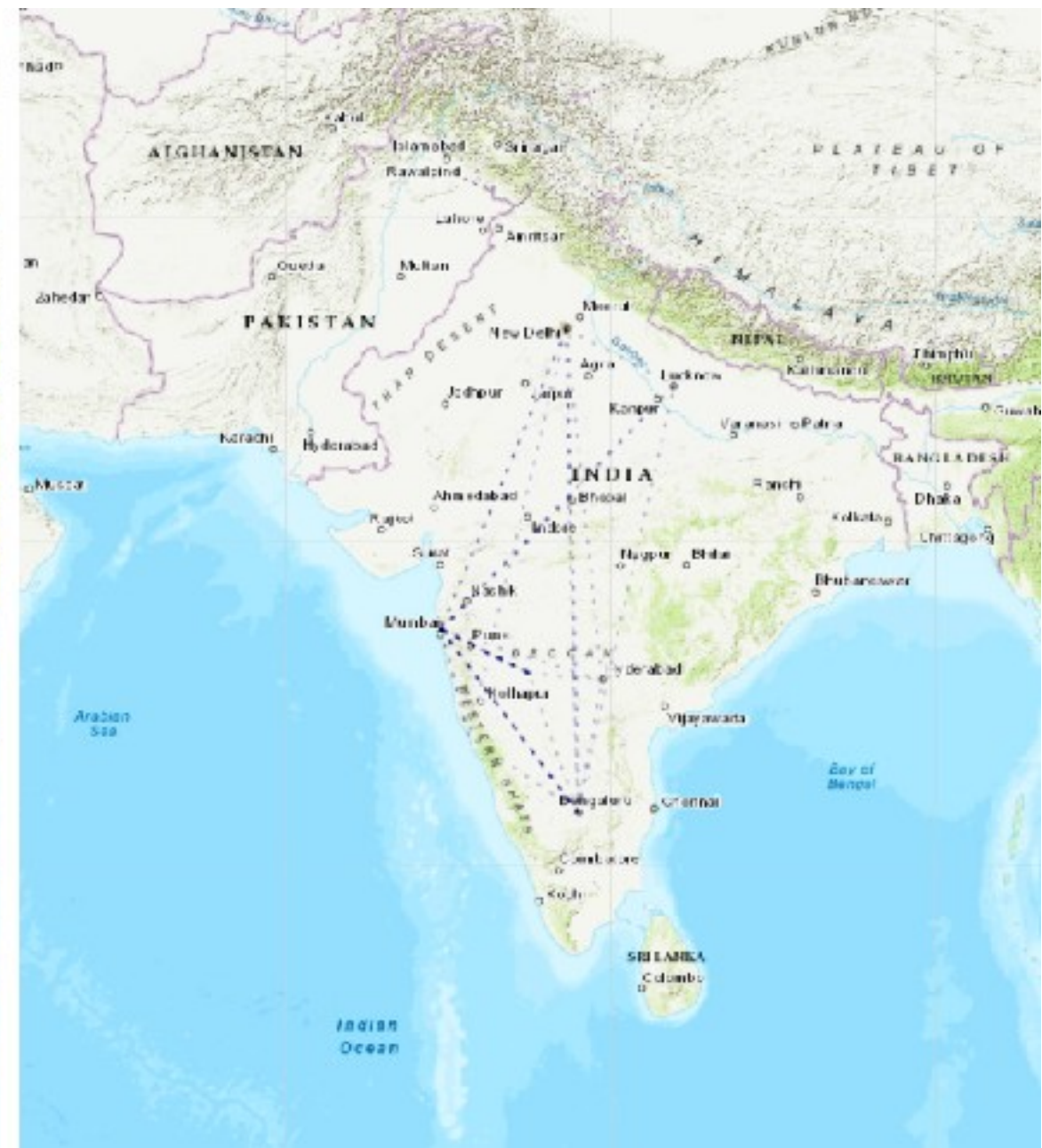
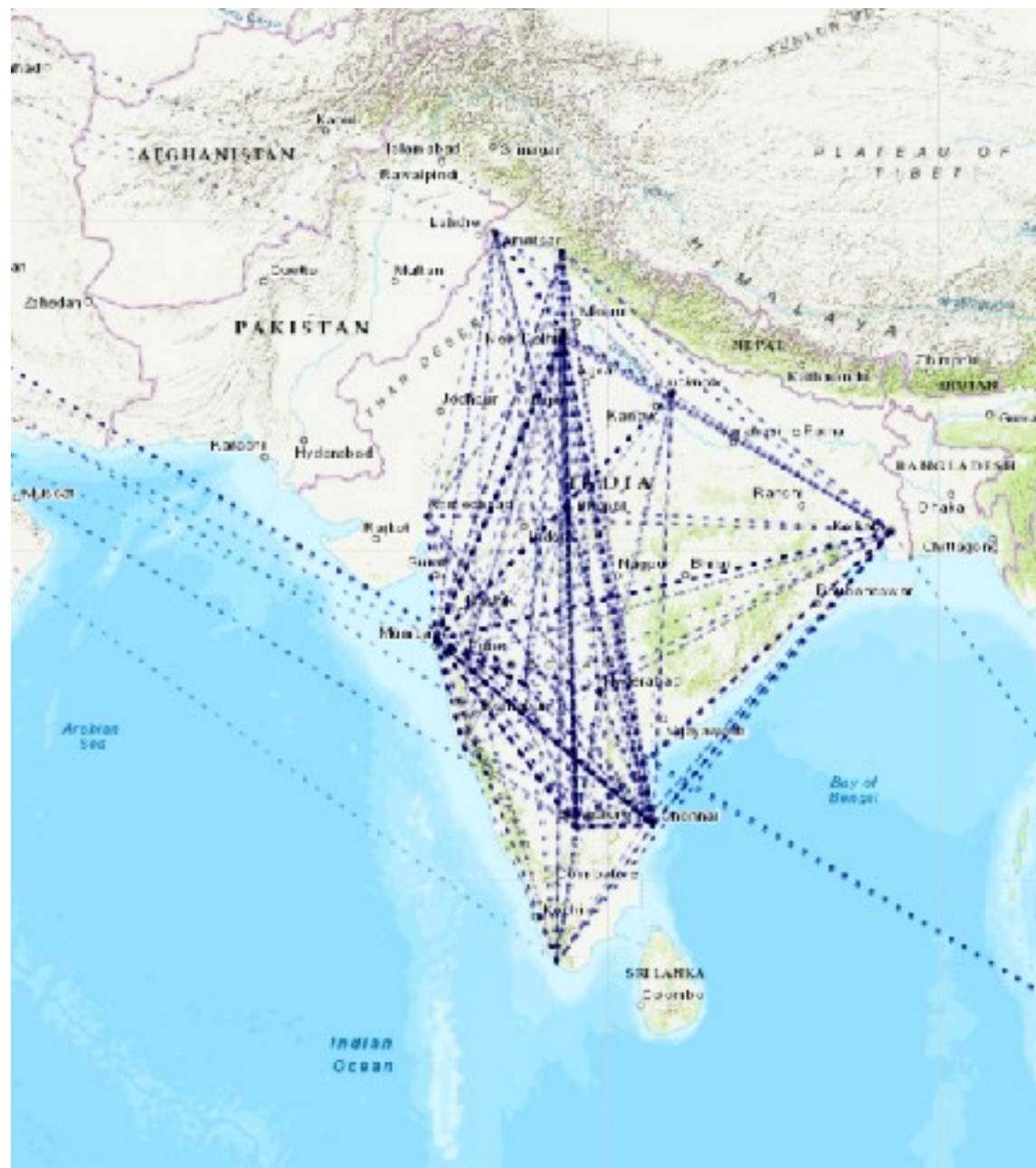
IXP Country Jedi



- Does the path completely stay in the country?

<https://>

www.ripe.net/analyse/internet-measurements/ixp-country-jedi





**Making it better
better**

Why more probes?



- It improves the usability of RIPE Atlas
- More vantage points from where to measure a network





RIPE Atlas Community

- Lots of people involved
 - Probe hosts, Anchor hosts, Ambassadors, software developers, sponsors, scientists and, most important, the users
- Many ways you can participate

Prominent Probes	Big Spenders	New Arrivals	Sponsors	Anchor Hosts	Photos	Conferences
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Here are the top 25 probes showing the most results per month.

June/2020

Probe	Results
matrixelement	 3,602,567
KZ.BUZACHI	 3,357,410
CityLink Albuquerque NM US	 2,166,539
Arjeplog	 2,123,822
Gelin probe	 2,120,645

May/2020

Probe	Results
matrixelement	 3,691,482
KZ.BUZACHI	 3,152,534
CityLink Albuquerque NM US	 2,241,744
Gelin probe	 2,082,583
Verona networks	 2,055,265



RIPE Atlas Ambassadors

- Want to help spread the word about RIPE Atlas?
- Become an Ambassador!
- Help others get to know about it in your region



Join us to learn more!



- August 18 & 19, 2020 - 10:00 CET (Amsterdam)
 - This is 14:00 IST (India Standard Time)
- RIPE Atlas Ambassadors Anurag and Swapneel will show you how to install a software probe
- Details to follow...



Questions

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