# Measurement as a Key for Transparency

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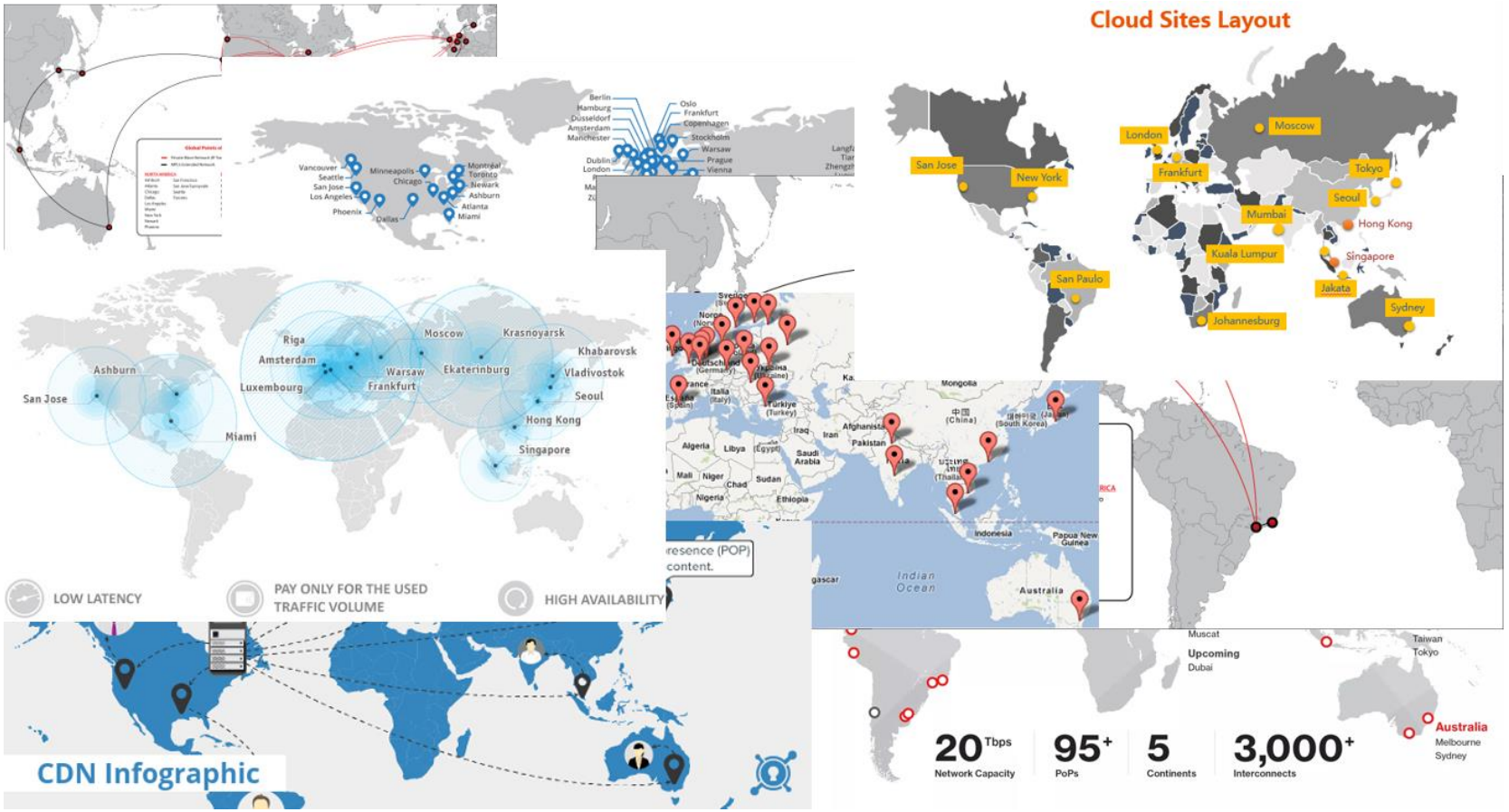
# Imagine…

Imagine that you need something more then just IP-transit.

Imagine that you need some «cloud service».

And you need reasonable latency in different regions.

# ISP Market


Cloud Sites Layout
London
Moscow
San Jose
New York
Frankfurt
Tokyo
Seoul
Mumbai
Hong Kong
Kuala Lumpur
Singapore
San Paulo
Jakata
Sydney
Johannesburg
Riga
Moscow
Krasnoyarsk
Khabarovsk
Amsterdam
Ashburn
Ekaterinburg
Vladivostok
Luxembourg
Warsaw
Frankfurt
San Jose
Seoul
Hong Kong
Miami
Singapore
LOW LATENCY
PAY ONLY FOR THE USED TRAFFIC VOLUME
HIGH AVAILABILITY
CDN Infographic
Upcoming
Dubai
Muscat
Taiwan
Tokyo
Australia
Melbourne
Sydney
20 Tbps
Network Capacity
95+
PoPs
5
Continents
3,000+
Interconnects

# ISP Market


How to find the one ISP you need?

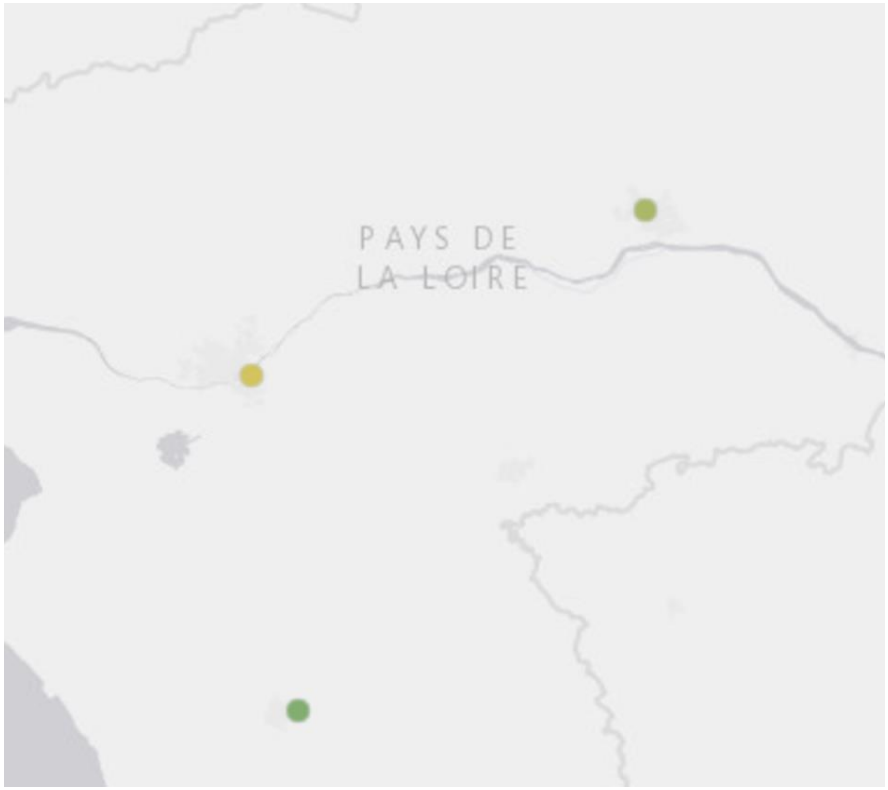
# Problem Statement

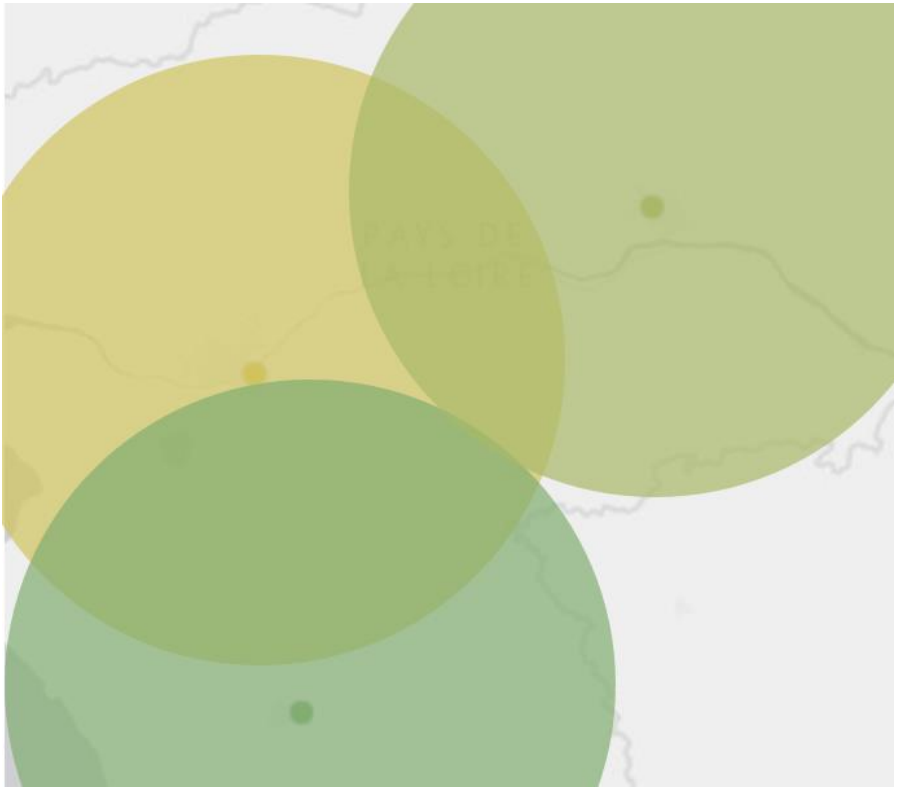
- Create nice pictures!
- Opportunity to compare latency instead of maps;
- Check DNS output;
- Opportunity to control latency and reachability.

# A Simple Tool

- Abstraction from RIPE Atlas API;
- Create a latency heatmap without probe limit;
- Create country latency maps without probe limit;
- Create emergency tool for NOC teams;

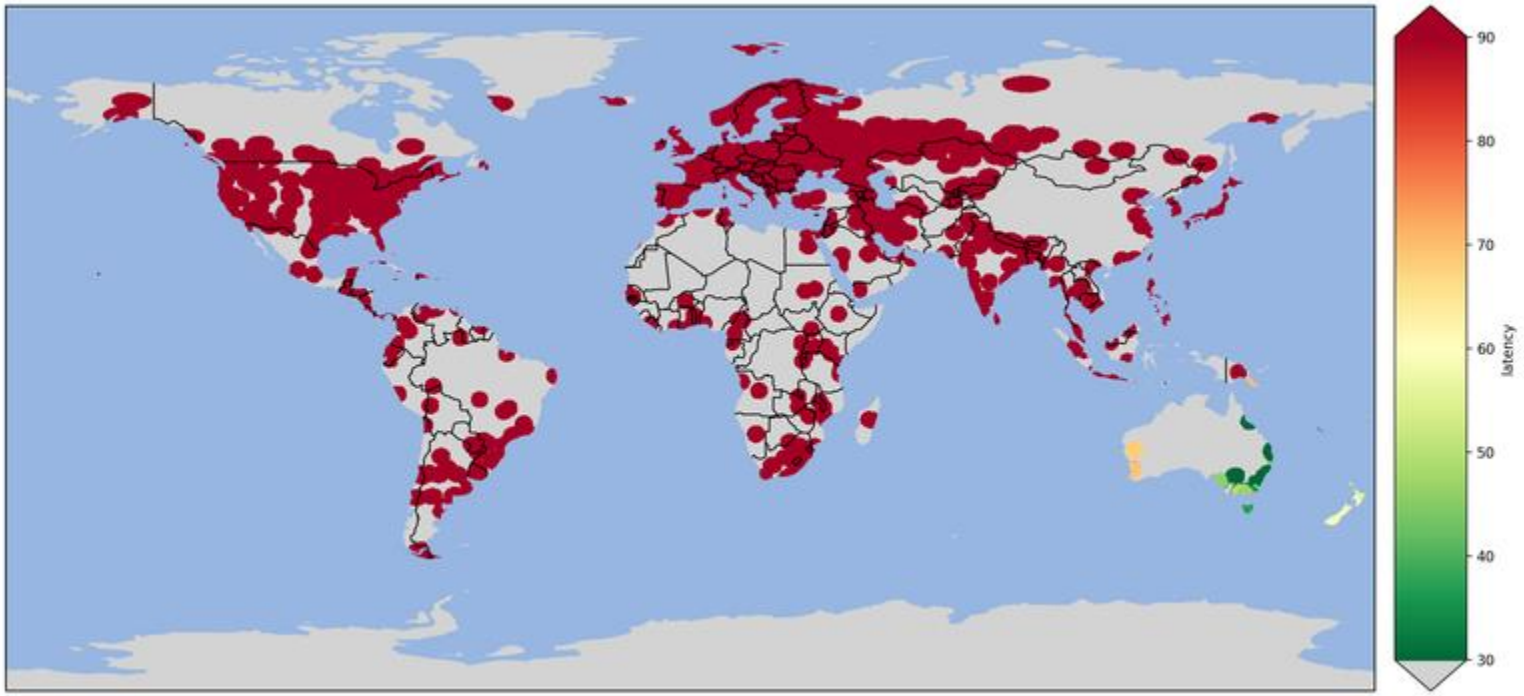
# From Dots to Heatmap



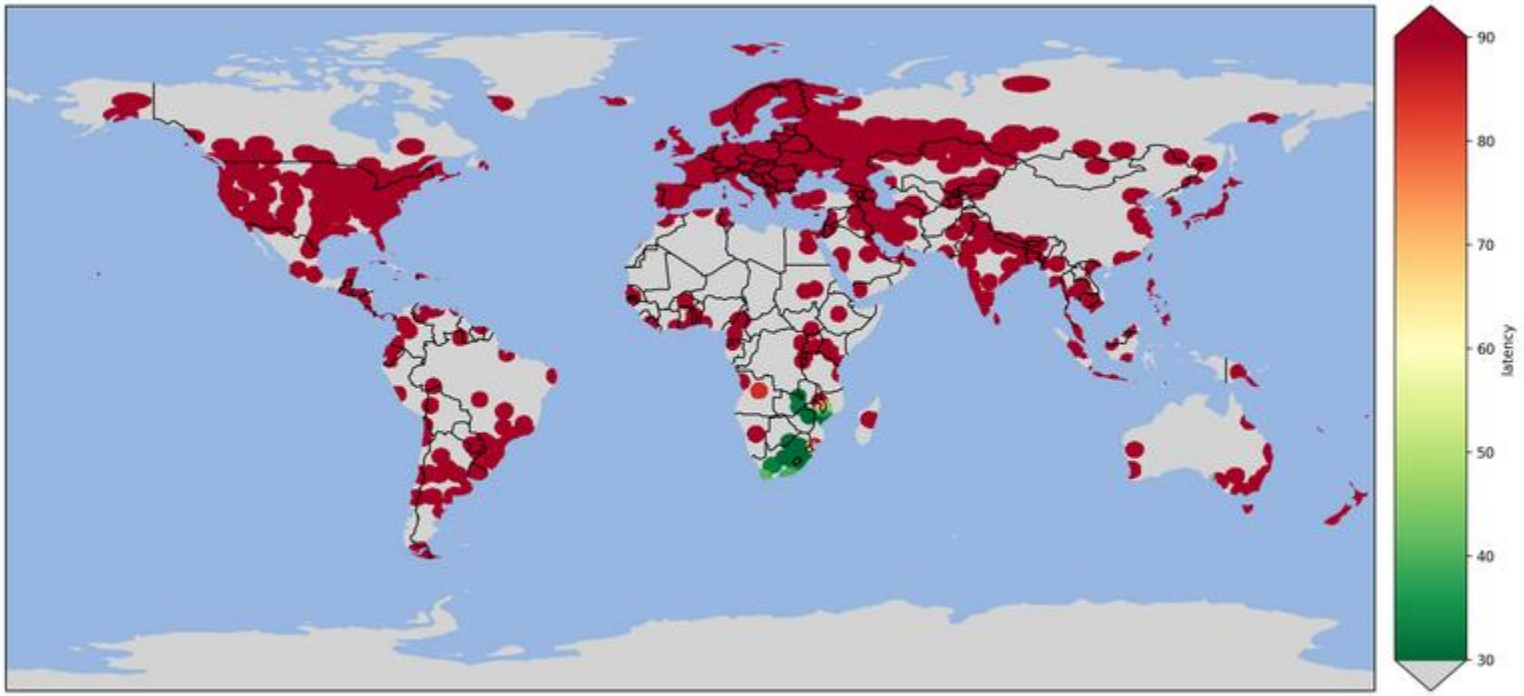



Radius = 250km

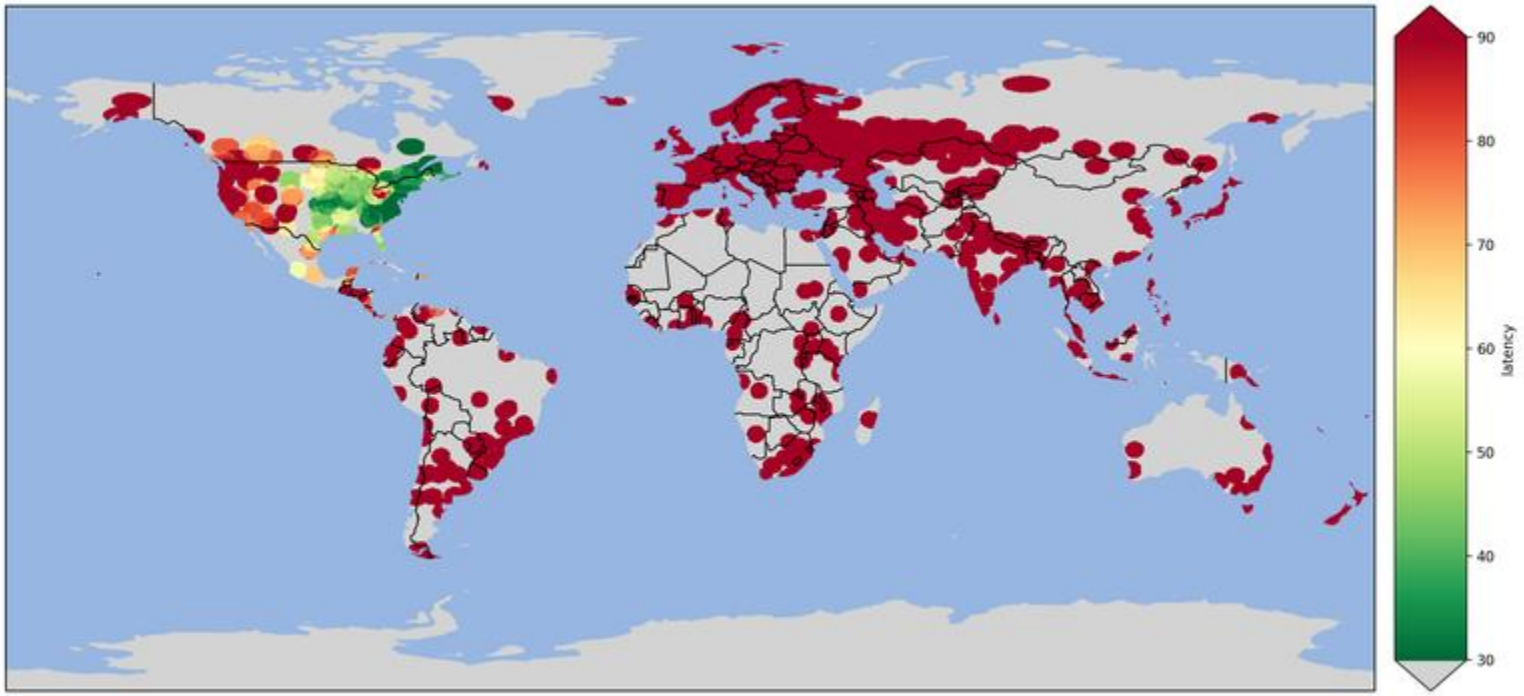
# Nice Pictures: apnic.net



# Nice Pictures: afranic.net



# Nice Pictures: arin.net



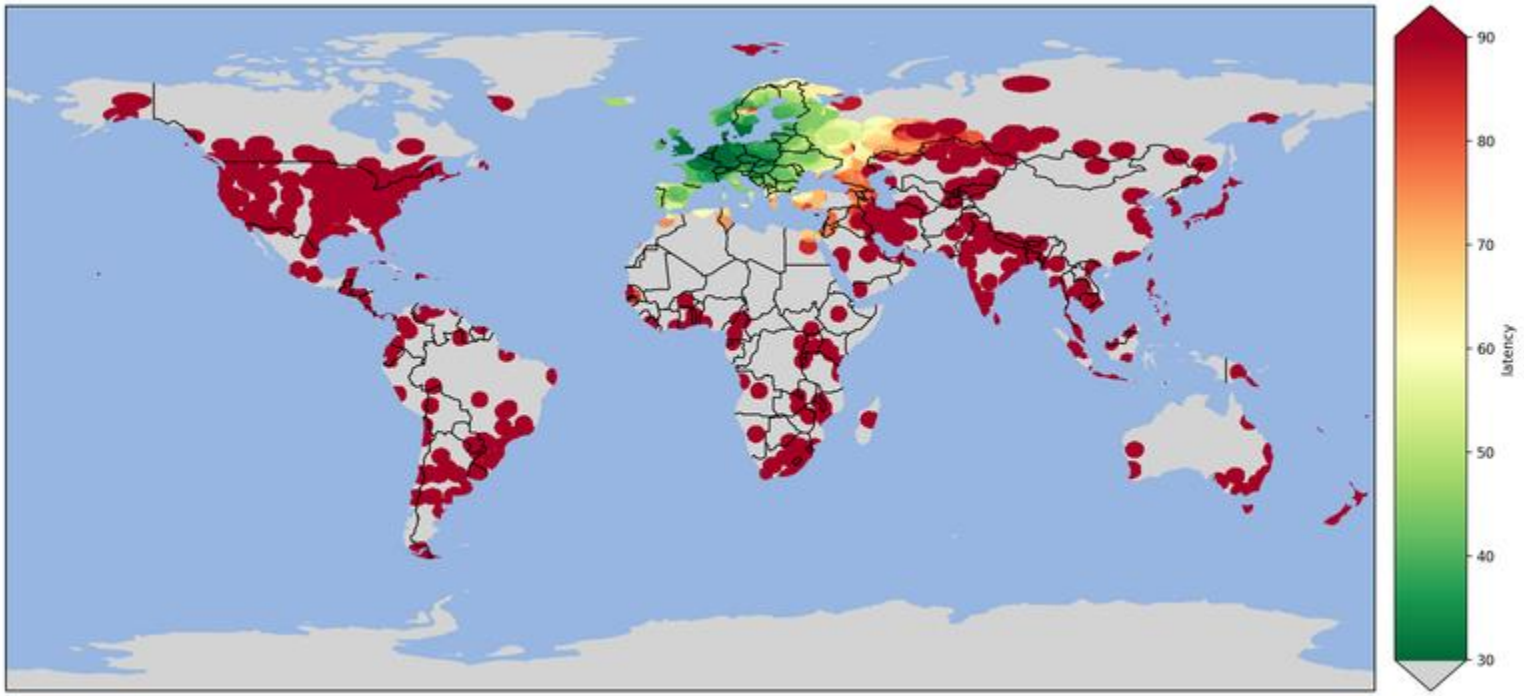
# Nice Pictures: ripe.net

You can’t ping ripe!

And you can’t send SYN from RIPE Atlas… ☹

Do we need more transparency from RIPE?

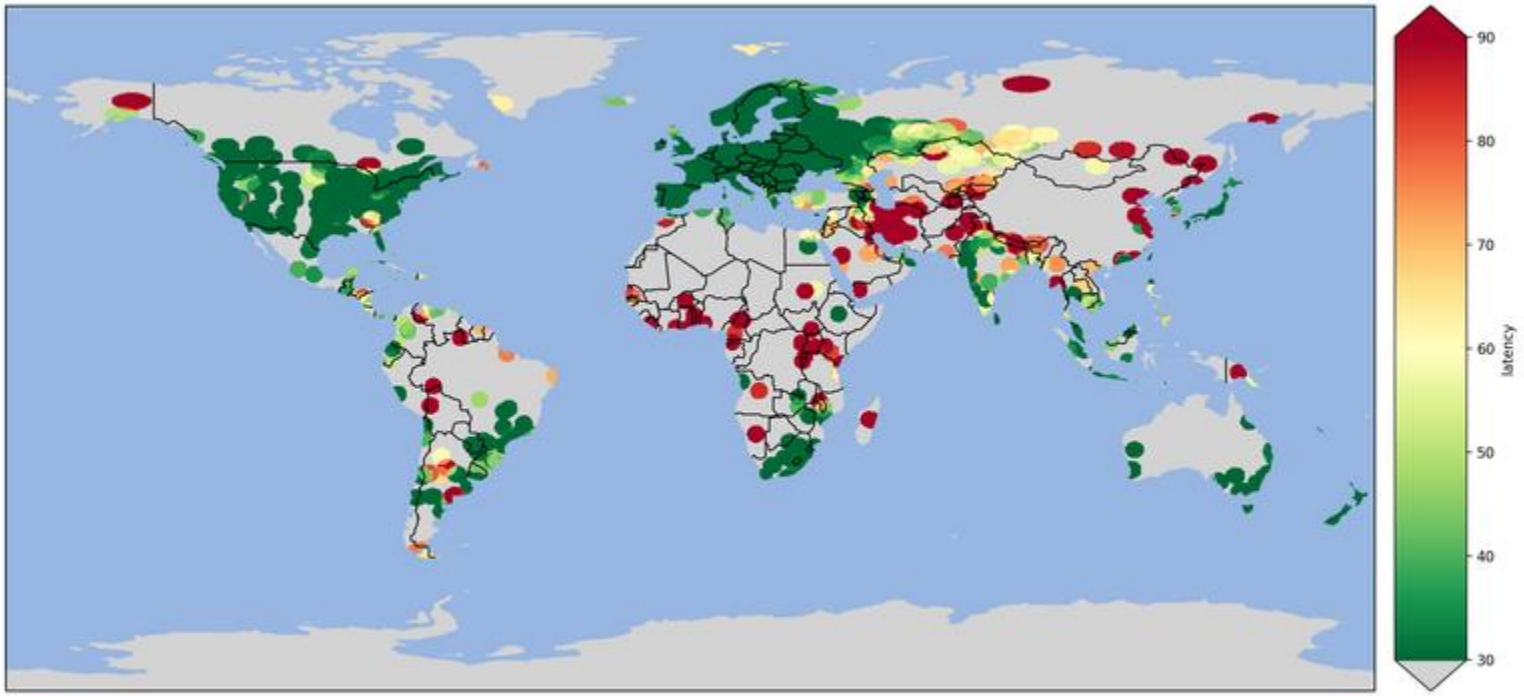
# Nice Pictures: enog.org



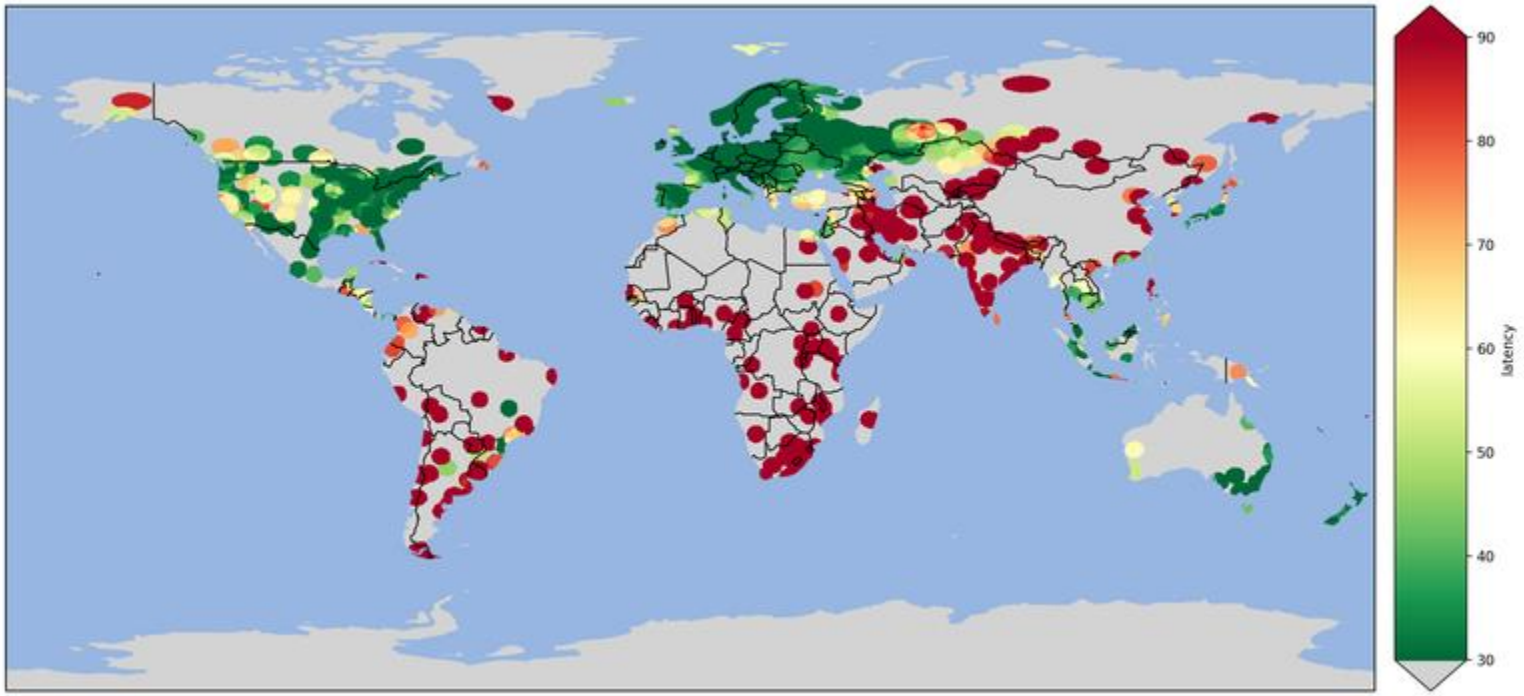
# No more games!

Comparing DDoS mitigation providers

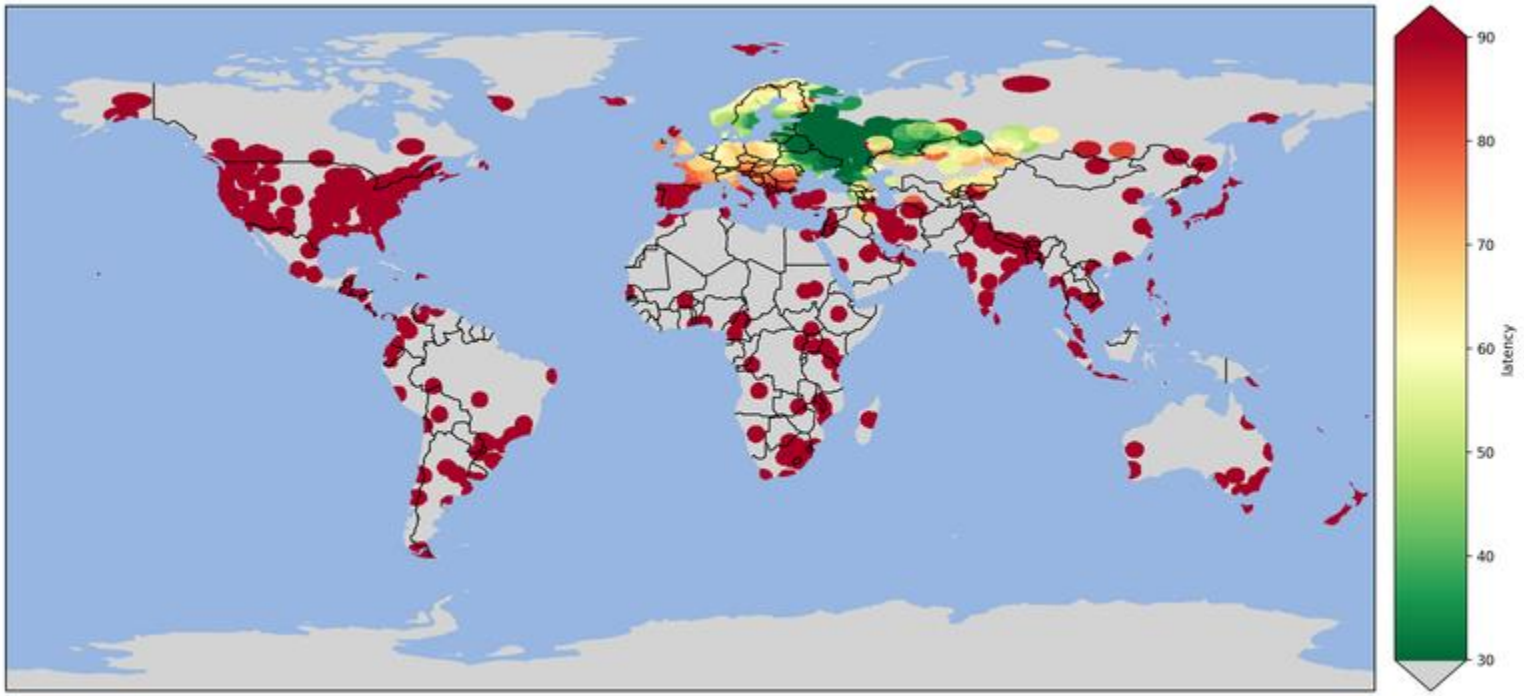
# >100 PoPs



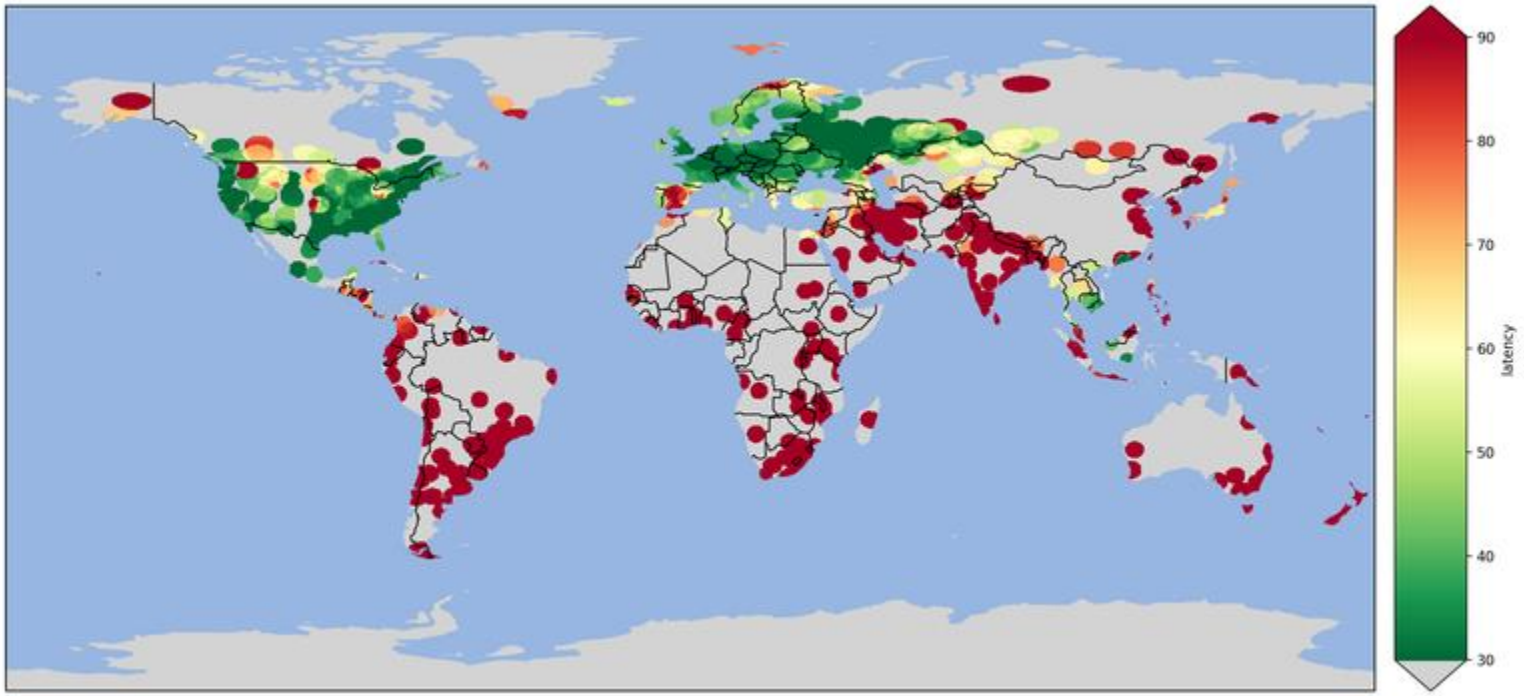
# >30 PoPs



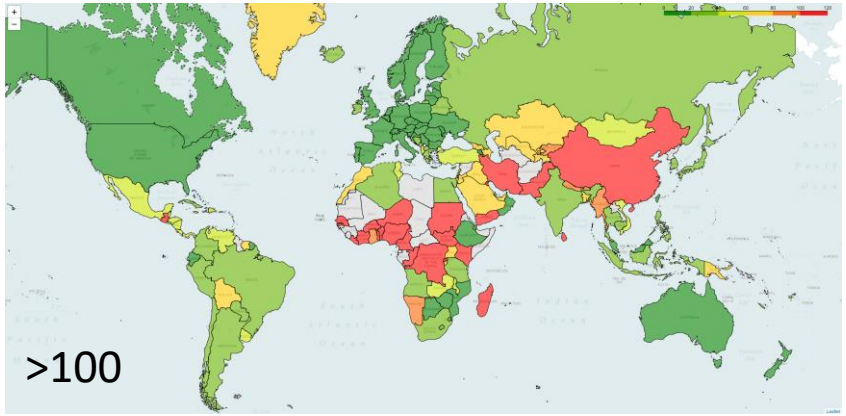
# ~10 PoPs

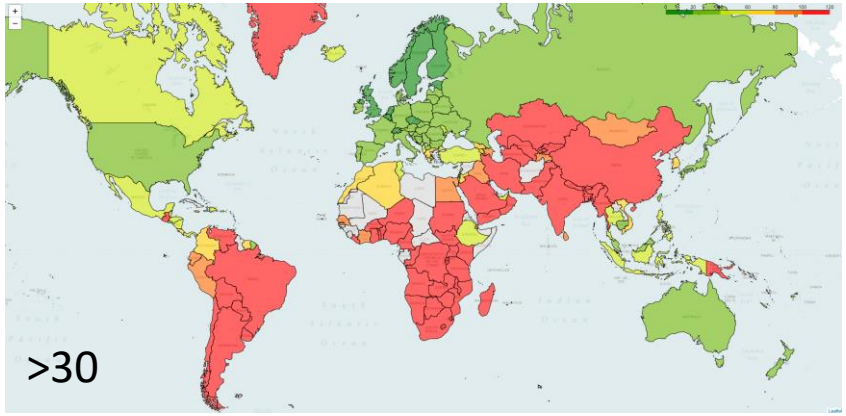


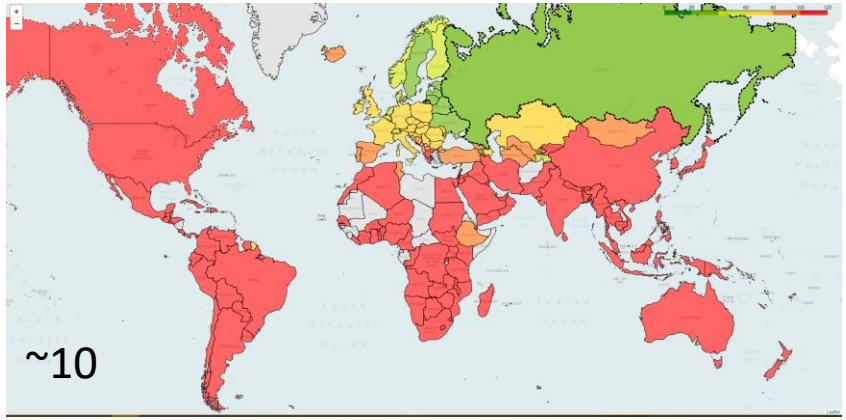
# ~10 PoPs

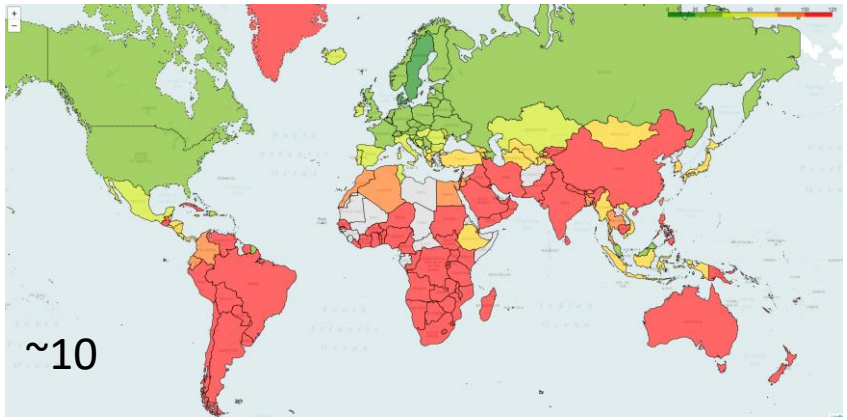


# Country View Mode

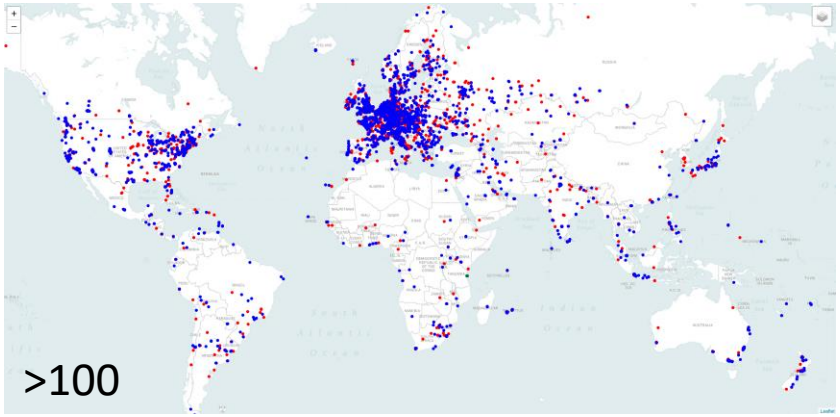


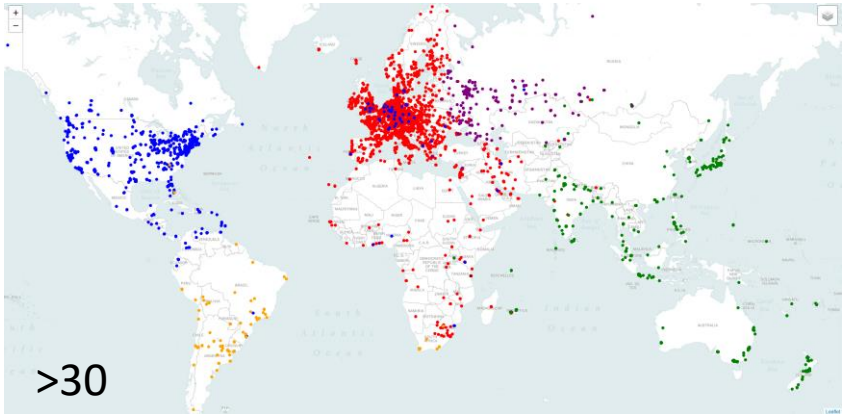



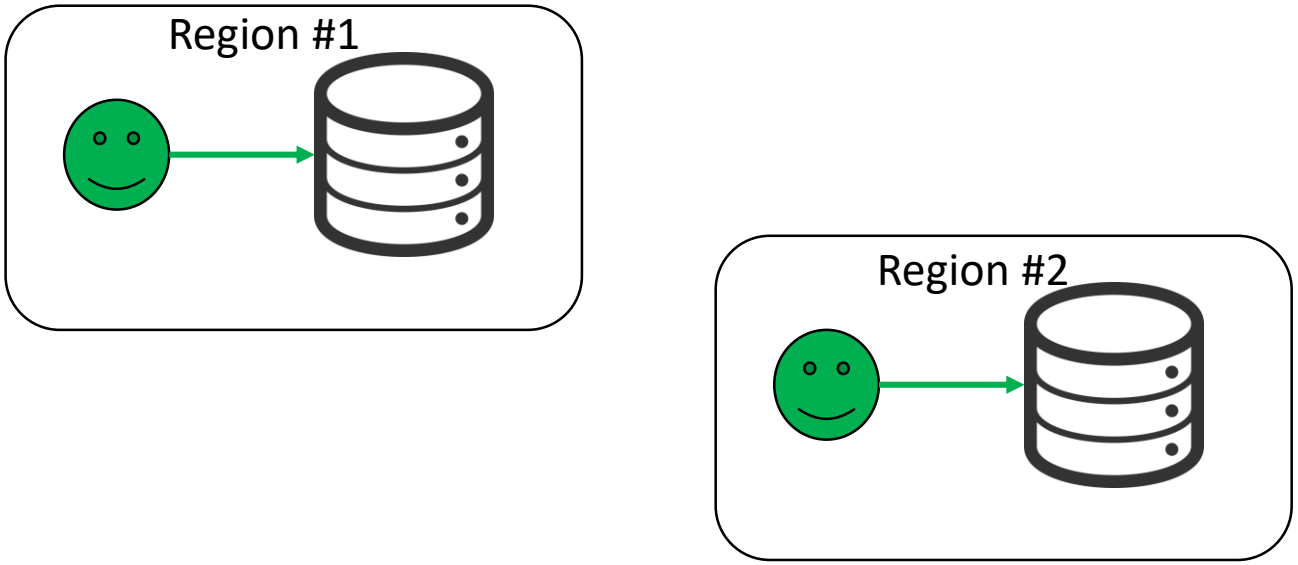



# NS lookup Mode

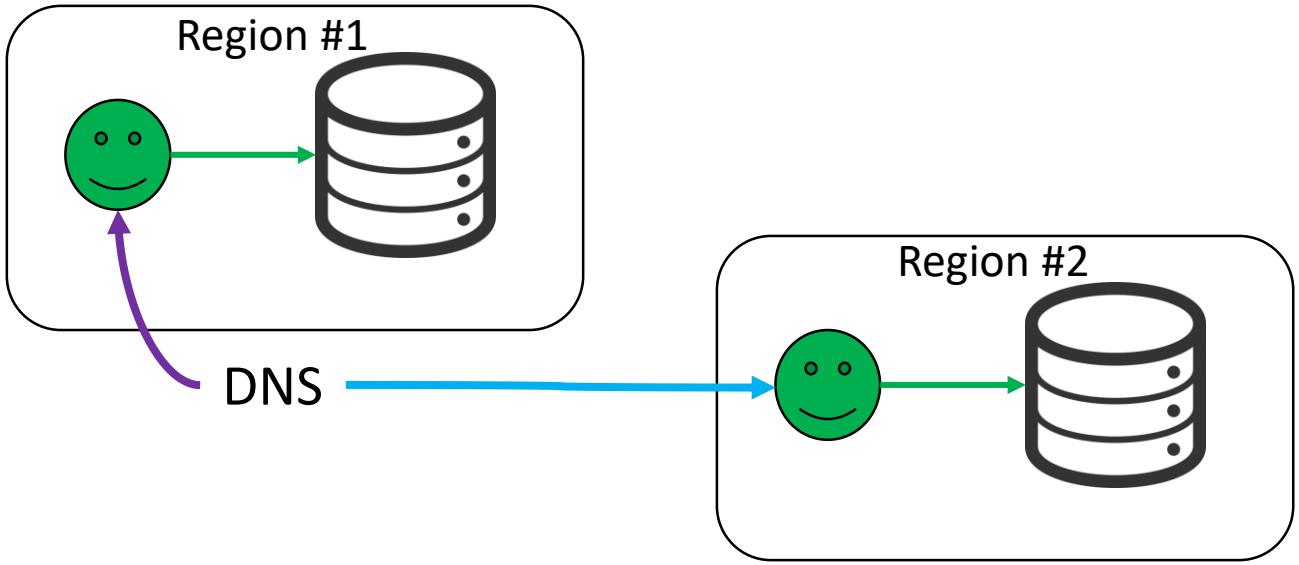



# BGP Anycast




# GEO DNS



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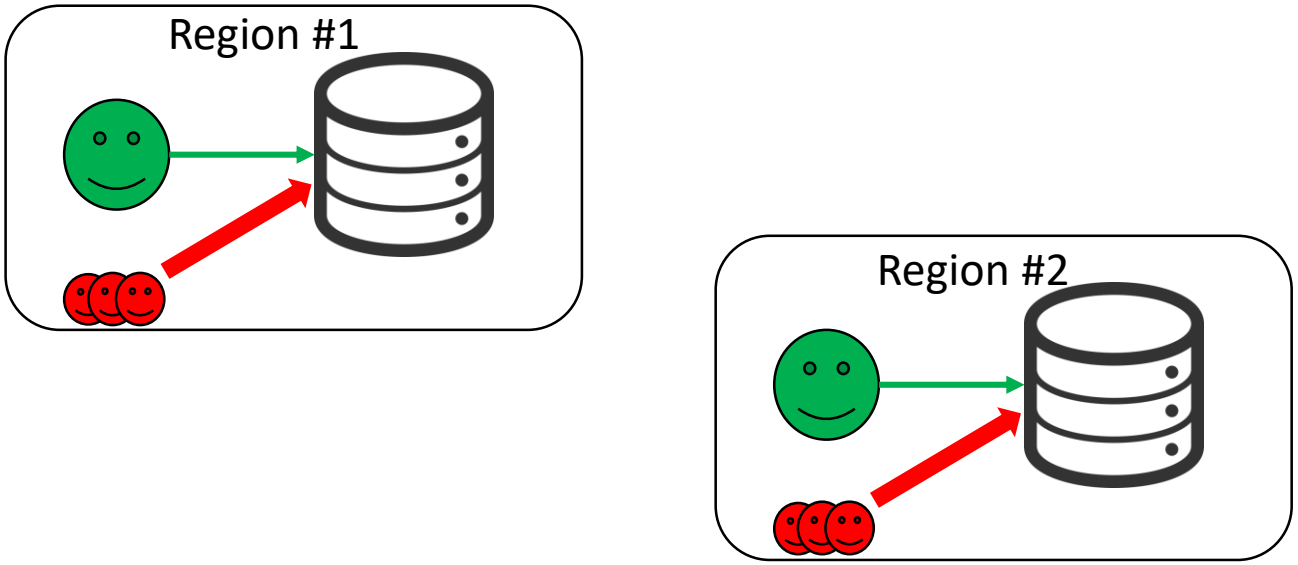


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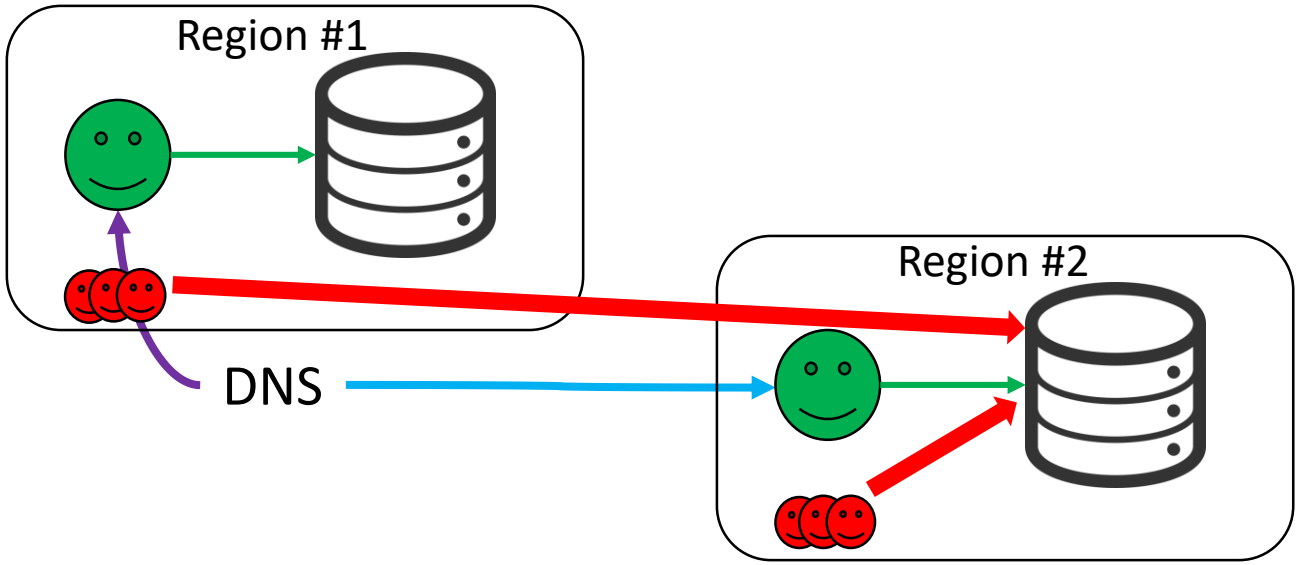

# Comparing Clouds

It’s possible to compare incomparable ☺.

Many thnx to RIPE Atlas!

Number of PoPs does meter, BUT:

- the difference between 10 and 30 PoP may not be so dramatic;
- an equal number of PoPs and even geographic diversity does not guarantee reasonable latency;
- There are other important qualities then number of PoPs.

https://github.com/QratorLabs/measurement_tools

Modes:
atlas-heatmap
atlas-countrymap
atlas-nslookupmap
atlas-reachability

Additional options:
--area=
--country=
--probe_number=
--UDP (by default all measurements are ICMP)