



**RIPE  
NCC**

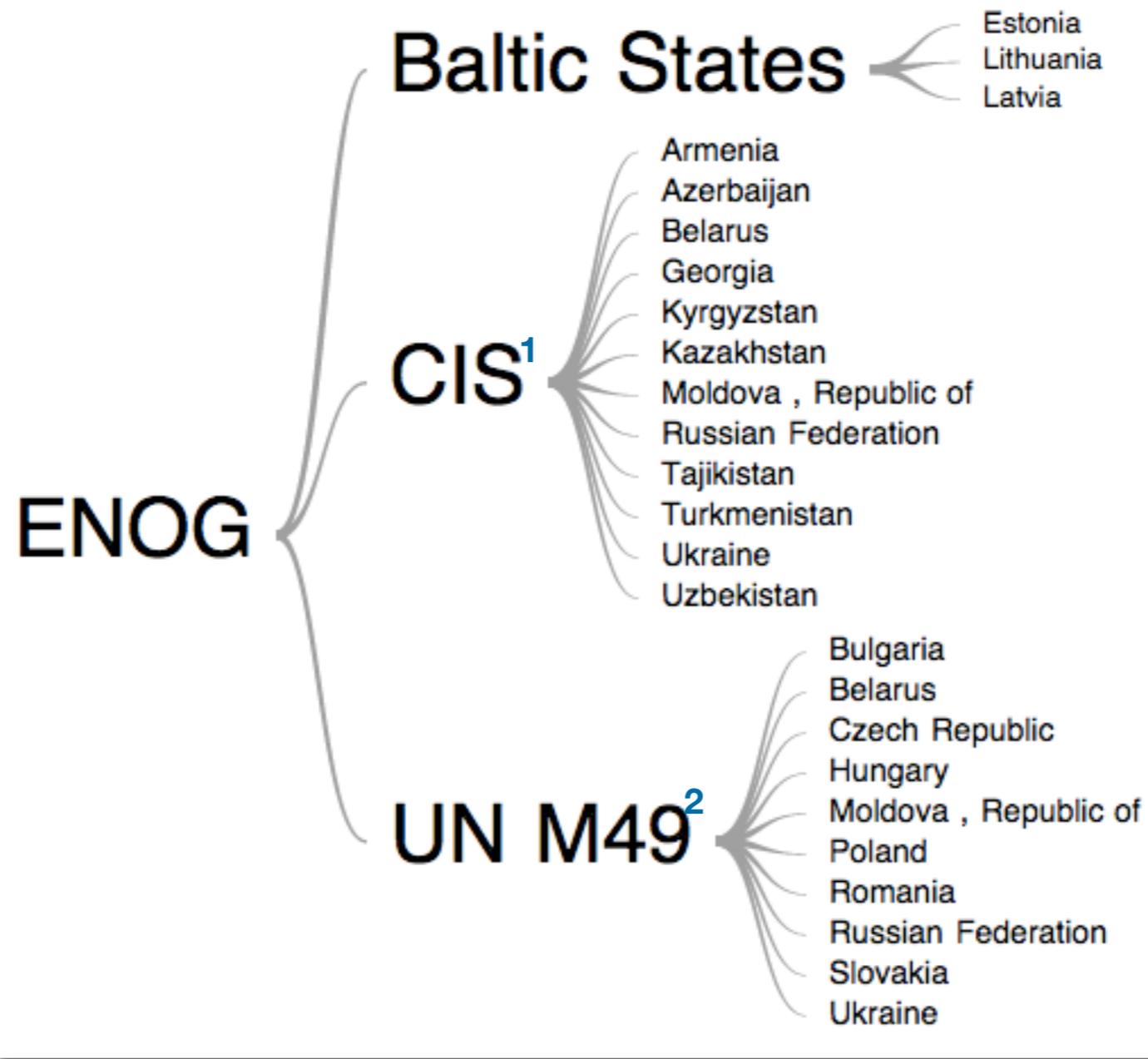
## **Regional Internet Data Analysis**

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Sr. Software Engineer

- Statistics are important
  - They help shaping informed business decision, set regulatory policies, etc.
- We provide a large measurement platform
  - RIPE Atlas (<https://atlas.ripe.net>)
  - Routing Information System (<http://ris.ripe.net>)
- We generate statistics based on those measurements
  - RIPEstat (<https://stat.ripe.net>)
- All data is publicly available

- An attempt to define the ENOG region



<sup>1</sup> <http://www.cisstat.com/eng/cis.htm>

<sup>2</sup> <http://unstats.un.org/unsd/methods/m49/m49regin.htm#europe>



[http://www.amcharts.com/visited\\_countries/#AM,AZ,BG,BY,CZ,EE,GE,HU,LT,LV,MD,PL,RO,SK,UA,RU,KG,KZ,TJ,TM,UZ](http://www.amcharts.com/visited_countries/#AM,AZ,BG,BY,CZ,EE,GE,HU,LT,LV,MD,PL,RO,SK,UA,RU,KG,KZ,TJ,TM,UZ)

**22,327** million sq. km land area



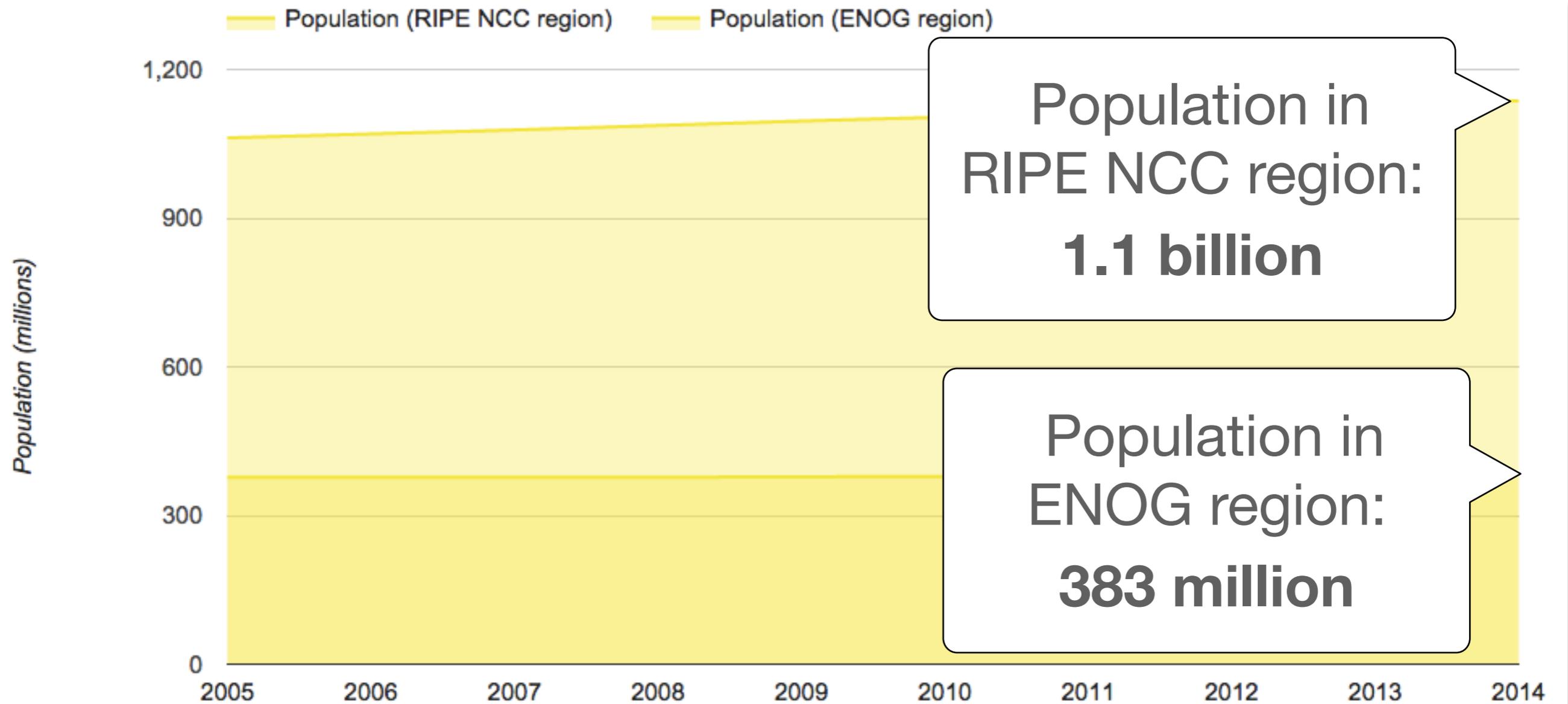
\* <http://data.worldbank.org/indicator/AG.LND.TOTL.K2>

**22,327** million sq. km land area  
~**68%** of RIPE NCC region

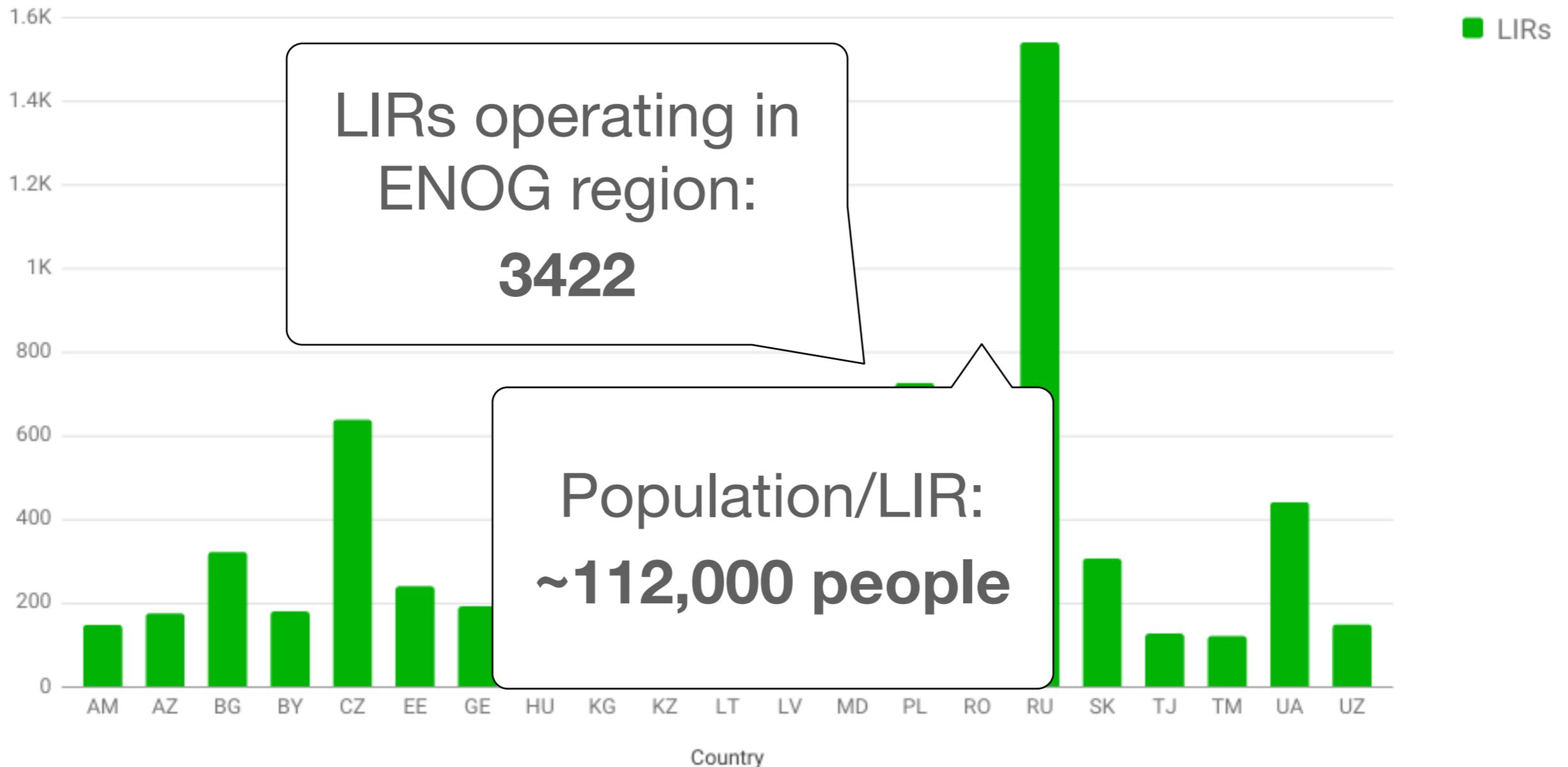


\* <http://data.worldbank.org/indicator/AG.LND.TOTL.K2>

- Population



- LIRs operating in ENOG region by country



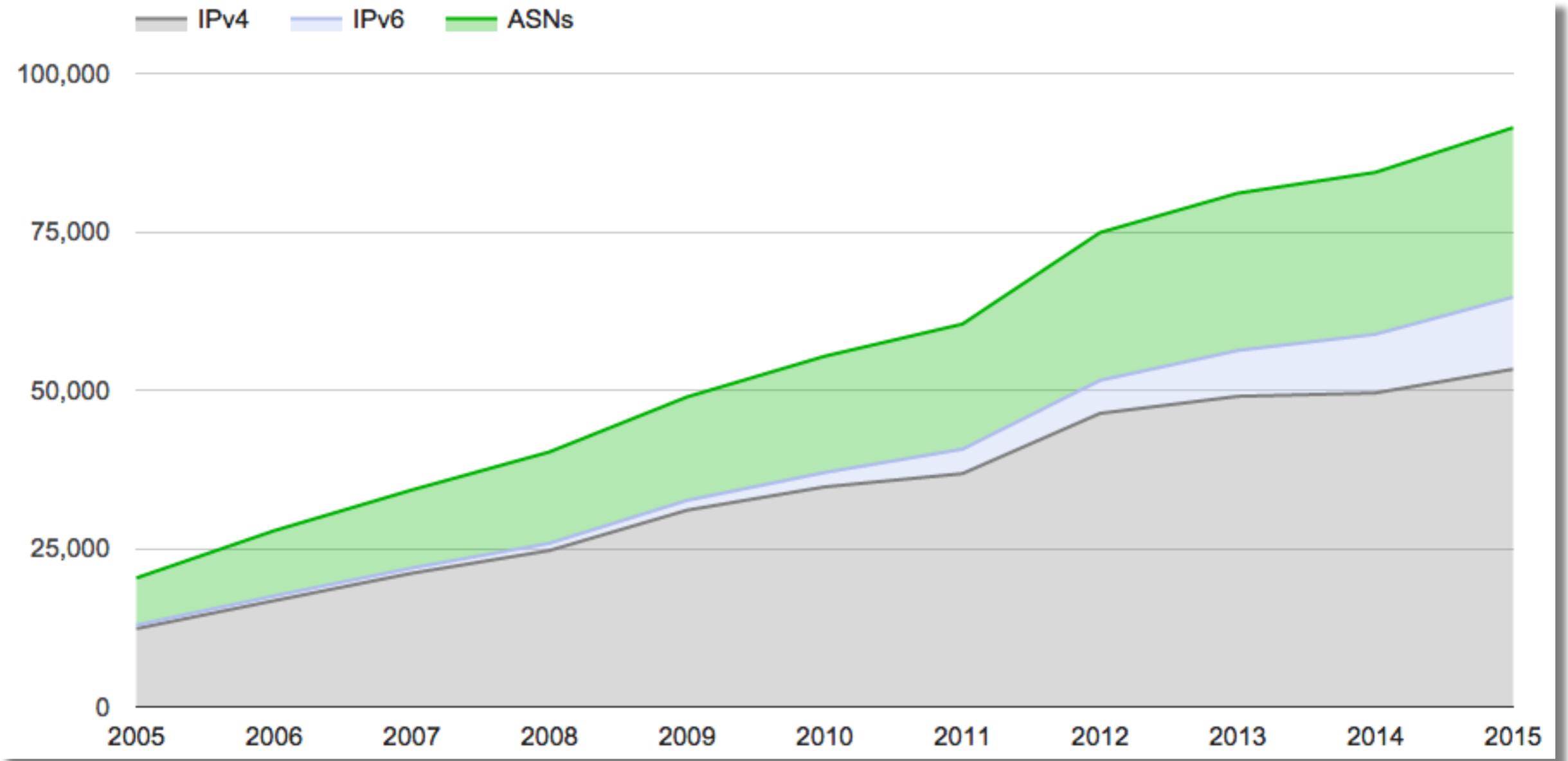


# Registration Data

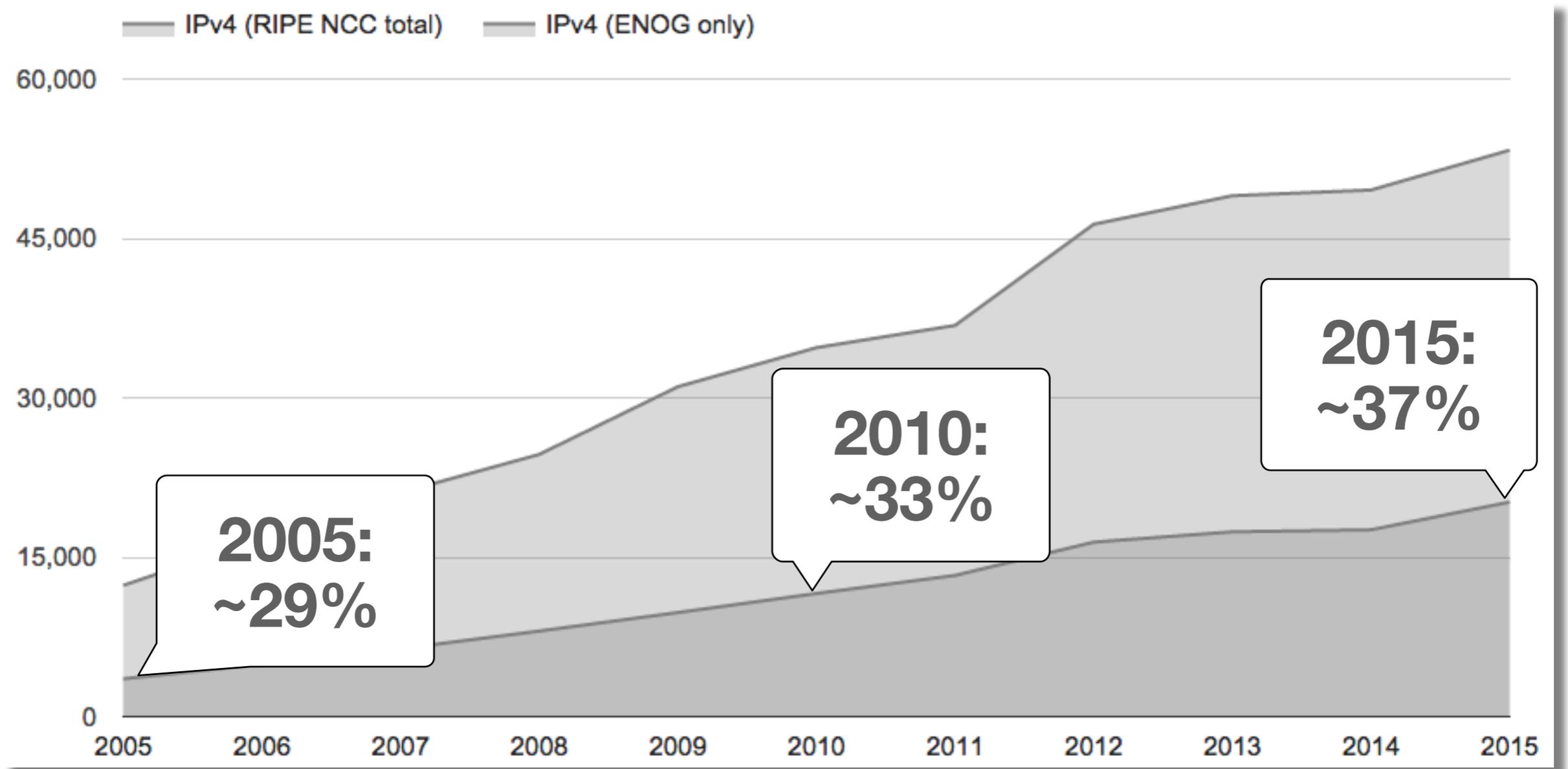
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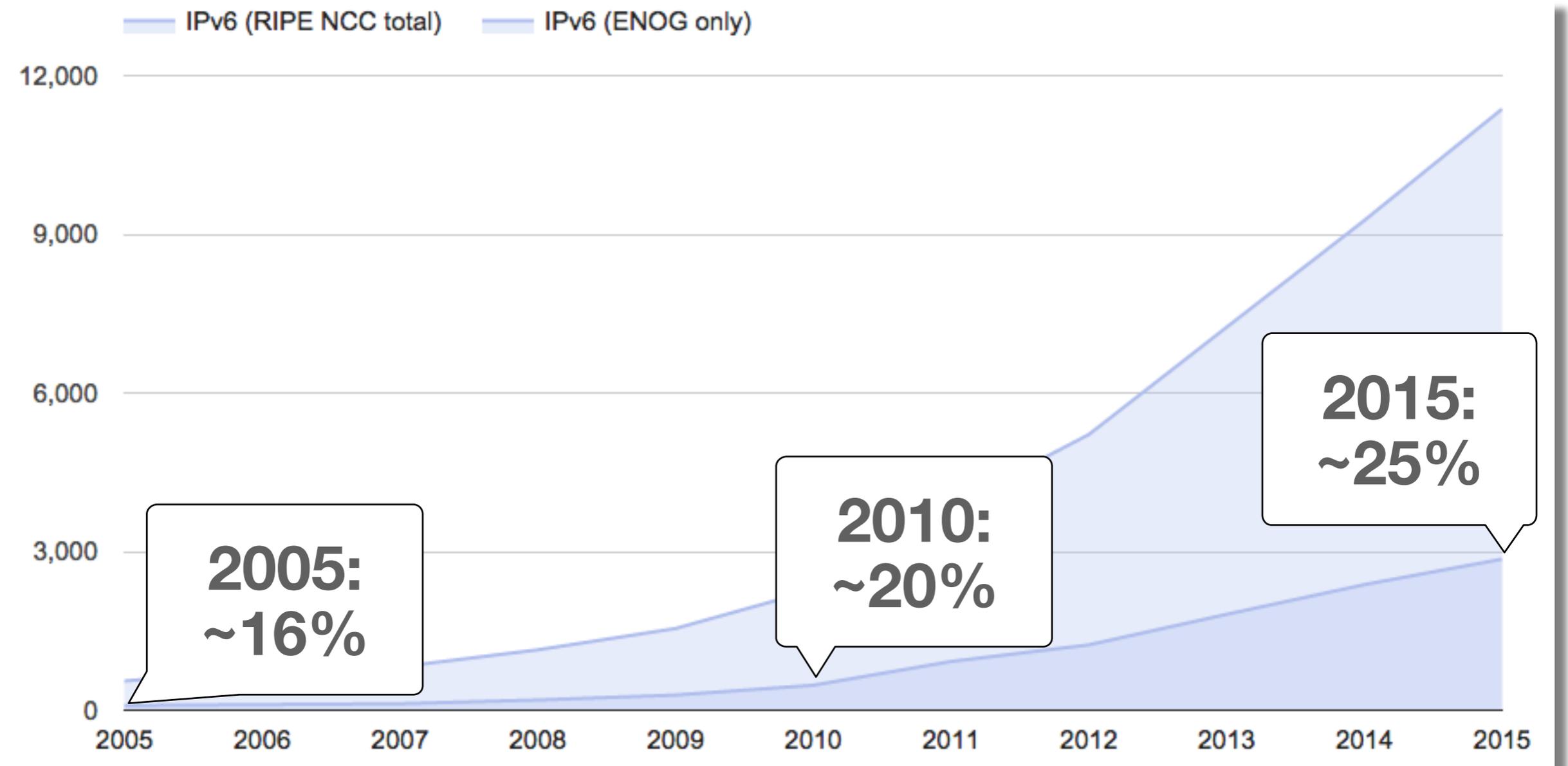
- Resources handed out in the RIPE NCC region



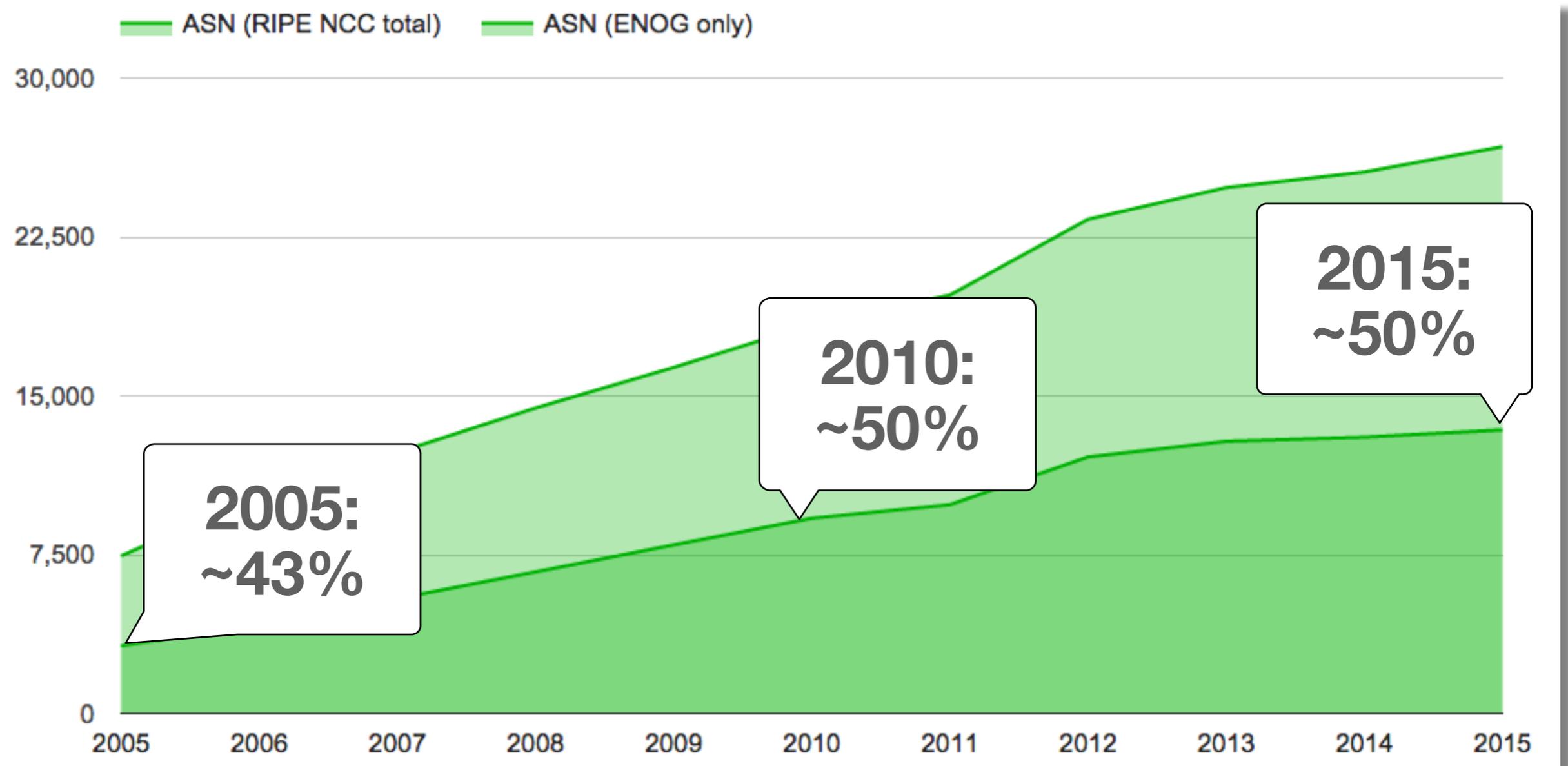
- Registered IPv4 resources (RIPE NCC and ENOG)



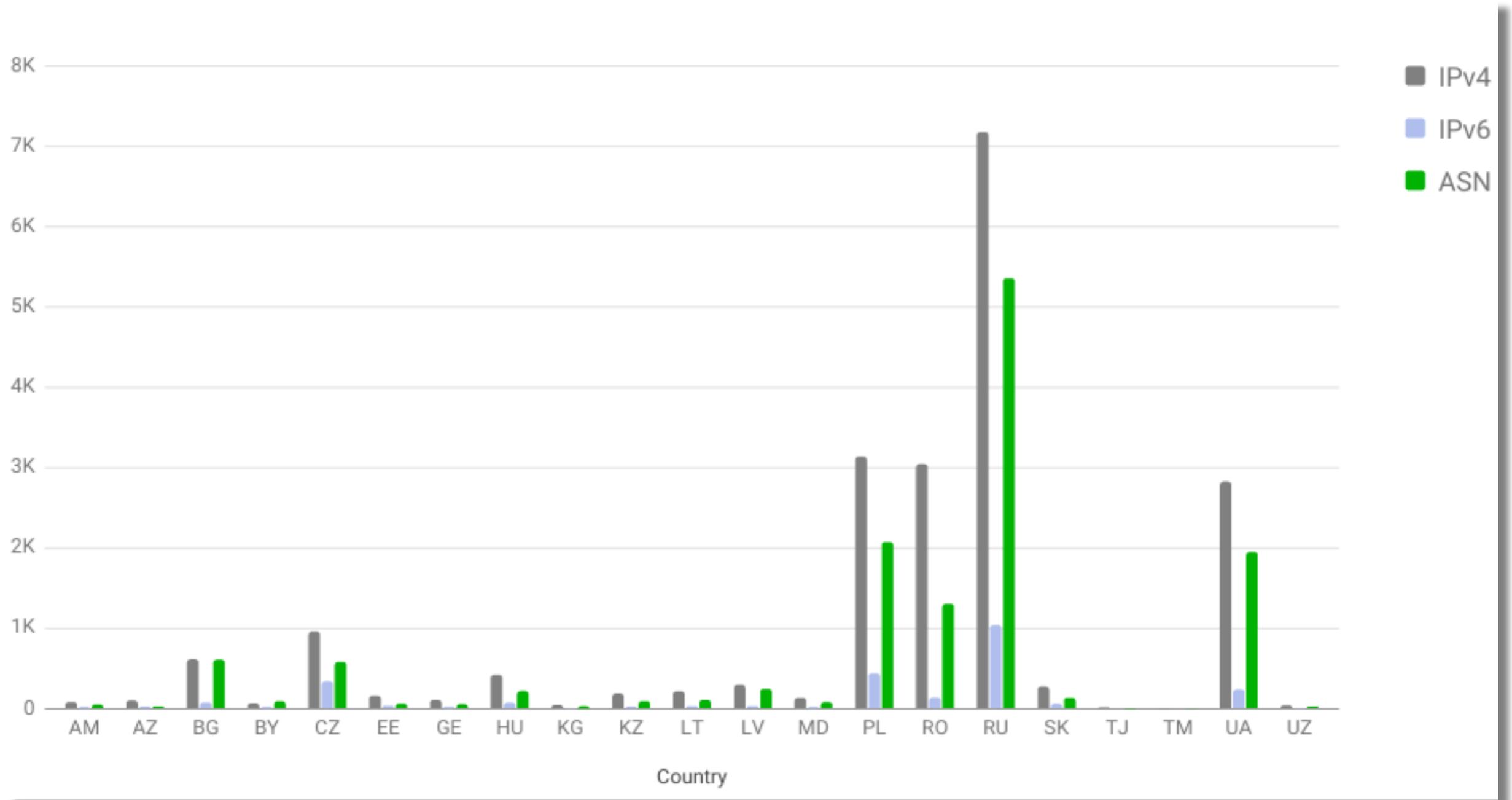
- Registered IPv6 resources (RIPE NCC and ENOG)



- Registered ASN resources (RIPE NCC and ENOG)



- Registered resource in ENOG region by country



Date: 2015-07-01

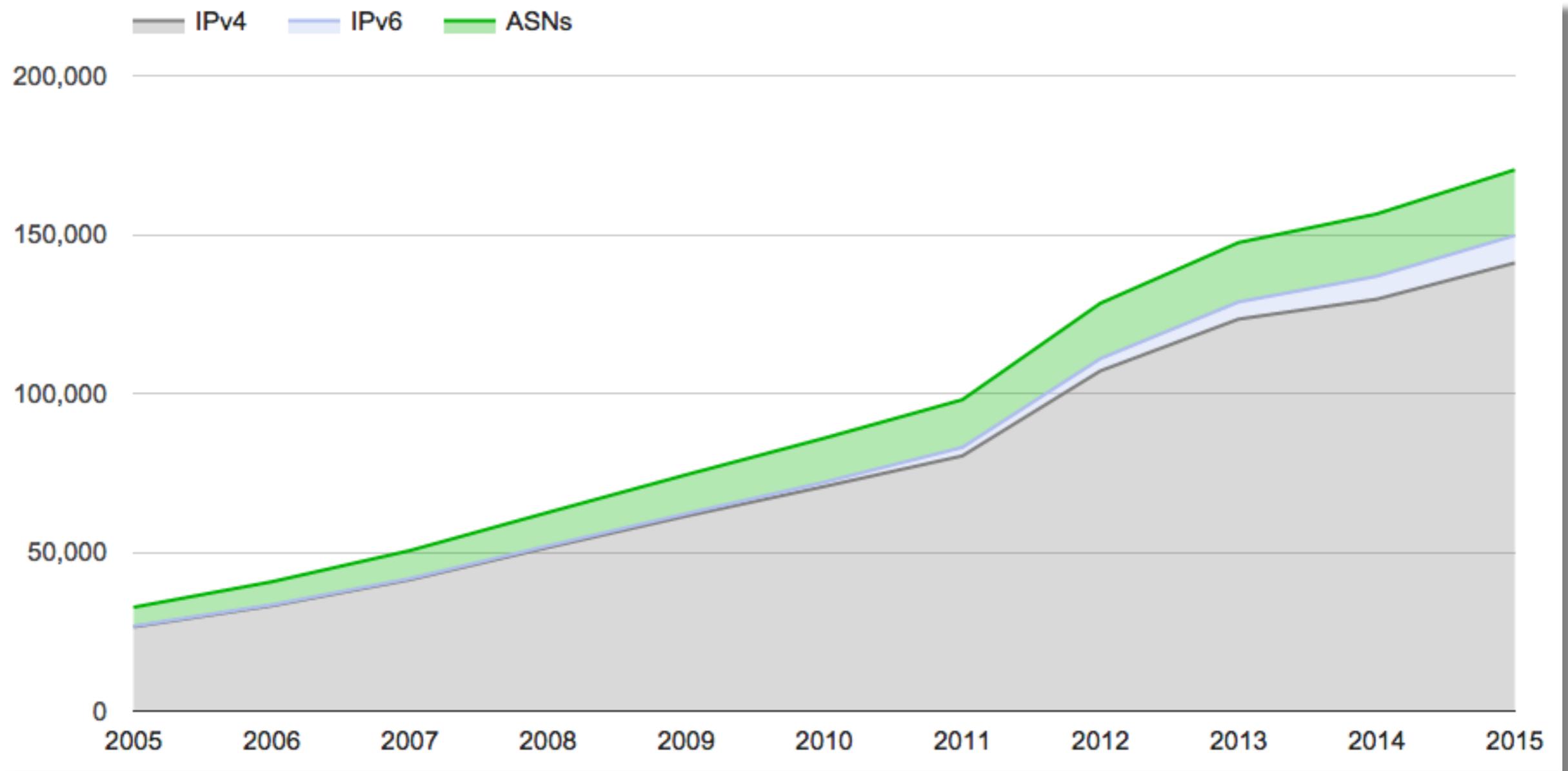


# Routing Data

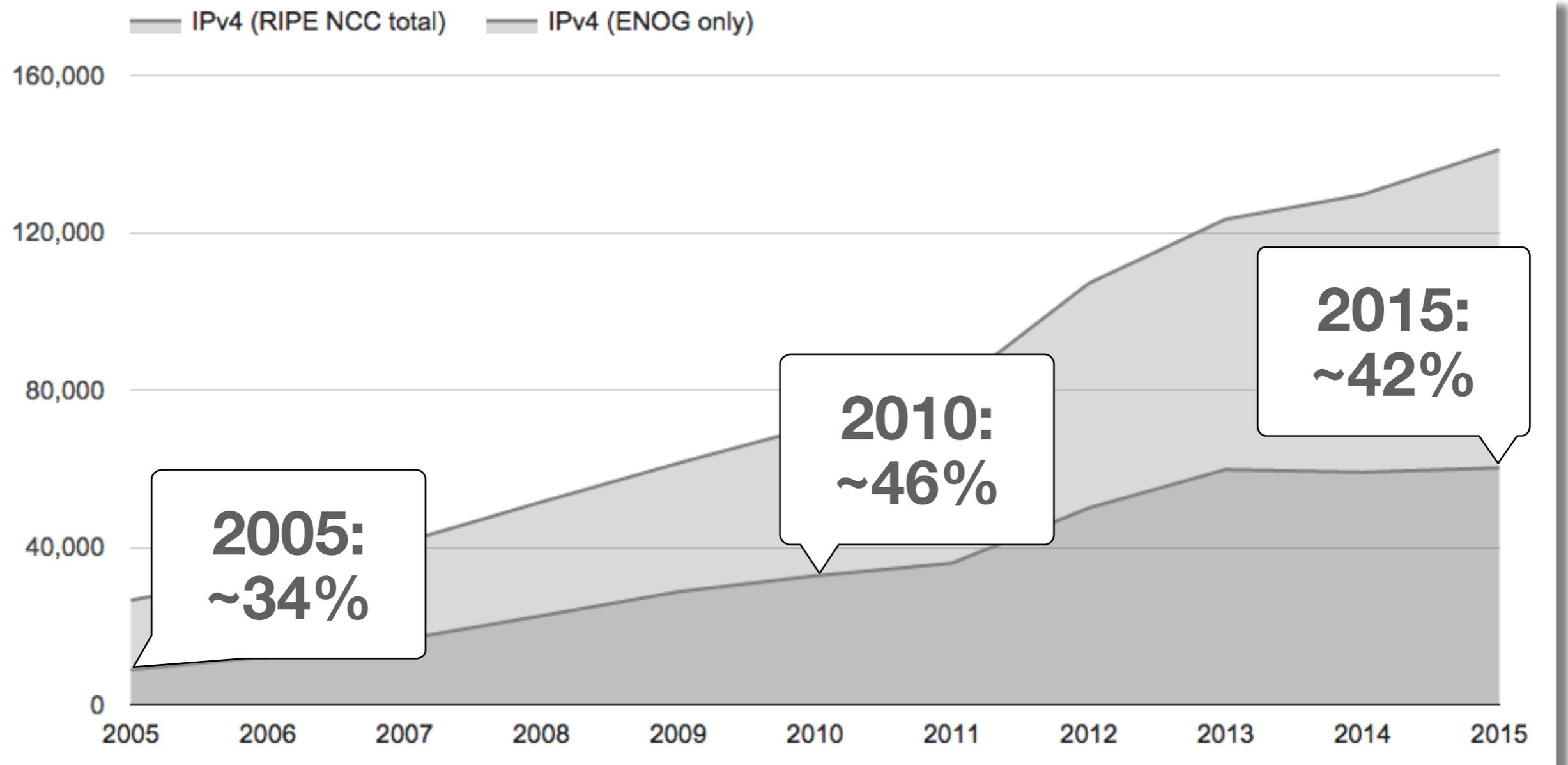
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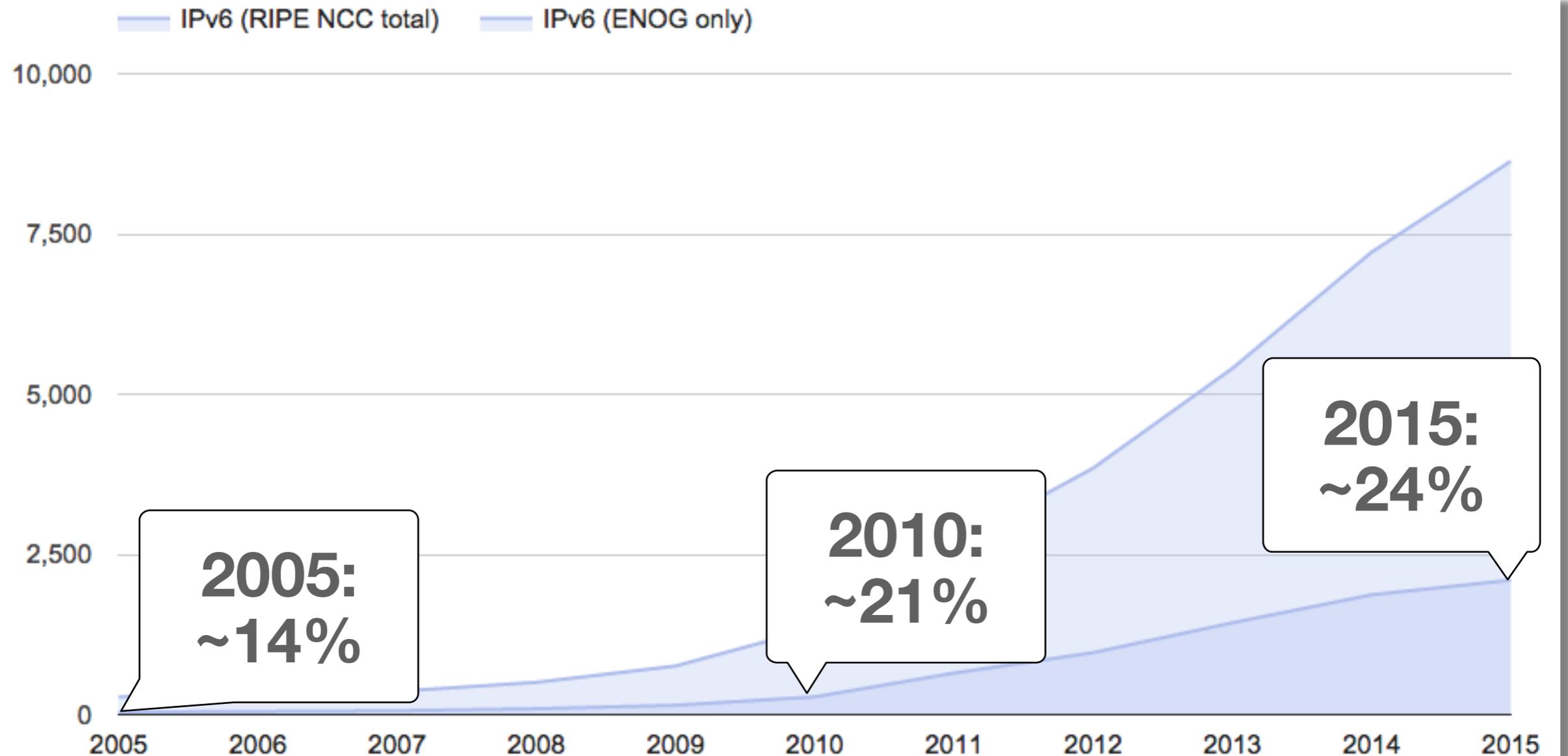
- Routed resources in the RIPE NCC region



- Routed IPv4 prefixes (RIPE NCC and ENOG region)



- Routed IPv6 prefixes (RIPE NCC and ENOG region)



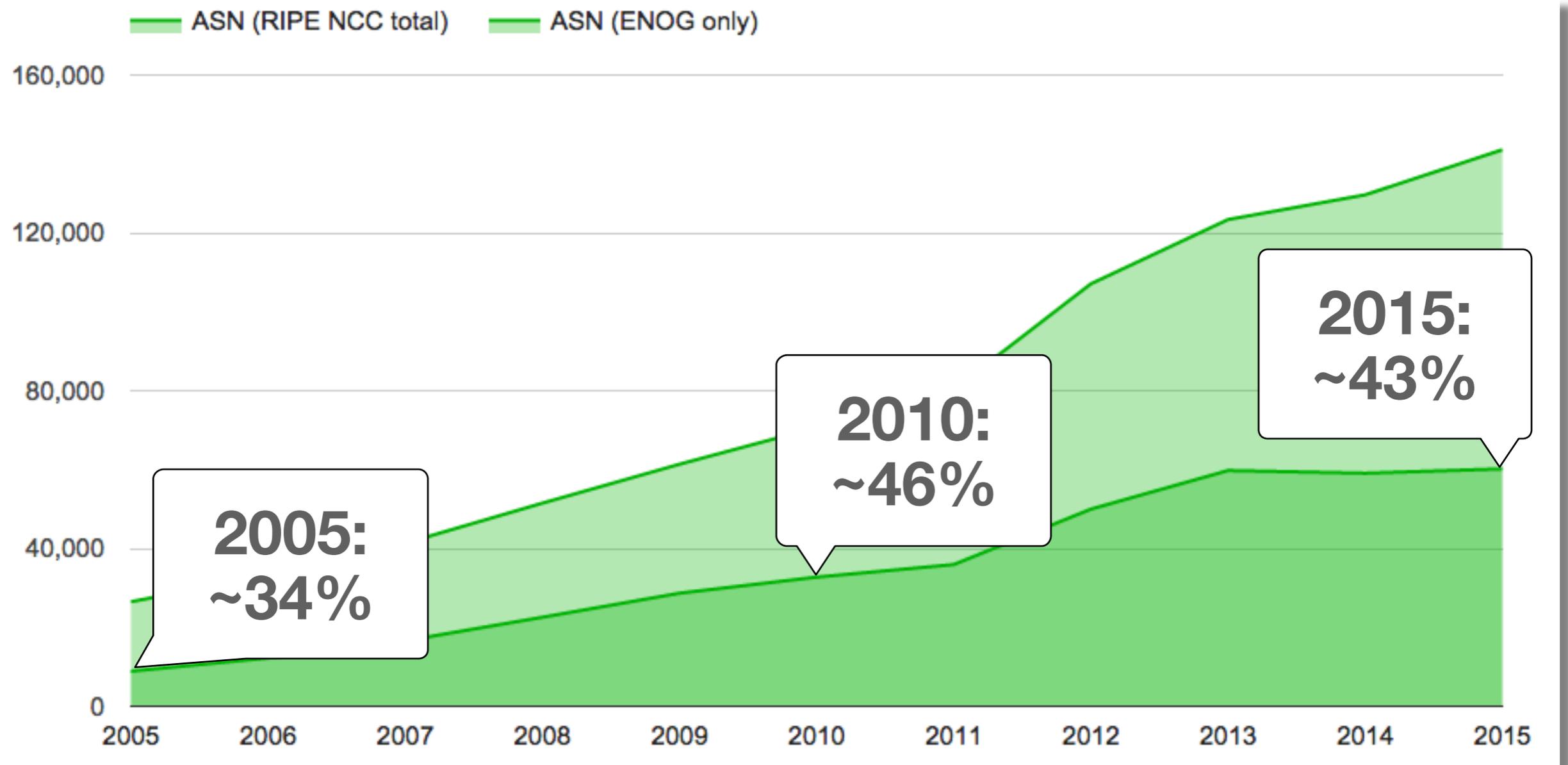
CC ▲	Country	IPv6 Capable	IPv6 Preferred	Samples
AD	Andorra, Southern Europe, Europe	0.00%	0.00%	84732
AE	United Arab Emirates, Middle East, Asia	0.01%	0.00%	1956653
AF	Afghanistan, Southern Asia, Asia			
AG	Antigua and Barbuda, Caribbean, Americas			
AI	Anguilla, Caribbean, Americas			
AL	Albania, Southern Europe, Europe			
AM	Armenia, Western Asia, Asia			
AO	Angola, Middle Africa, Africa			
AR	Argentina, South America, Americas			
AS	American Samoa, Pacific, Americas			
AT	Austria, Western Europe, Europe			
AU	Australia, Australia and New Zealand, Oceania	3.32%	2.57%	1093157
AW	Aruba, Caribbean, Americas	0.00%	0.00%	76108
AX	Aland Islands, Northern Europe, Europe	1.80%	1.80%	4779
AZ	Azerbaijan, Western Asia, Asia	0.00%	0.00%	900191
BA	Bosnia and Herzegovina, Southern Europe, Europe	1.70%	1.62%	6519357
BB	Barbados, Caribbean, Americas	0.01%	0.00%	149028
BD	Bangladesh, Southern Asia, Asia	0.02%	0.01%	1607555

Median for region:  
RIPE NCC = 0.03%  
ENOG = 0.1%

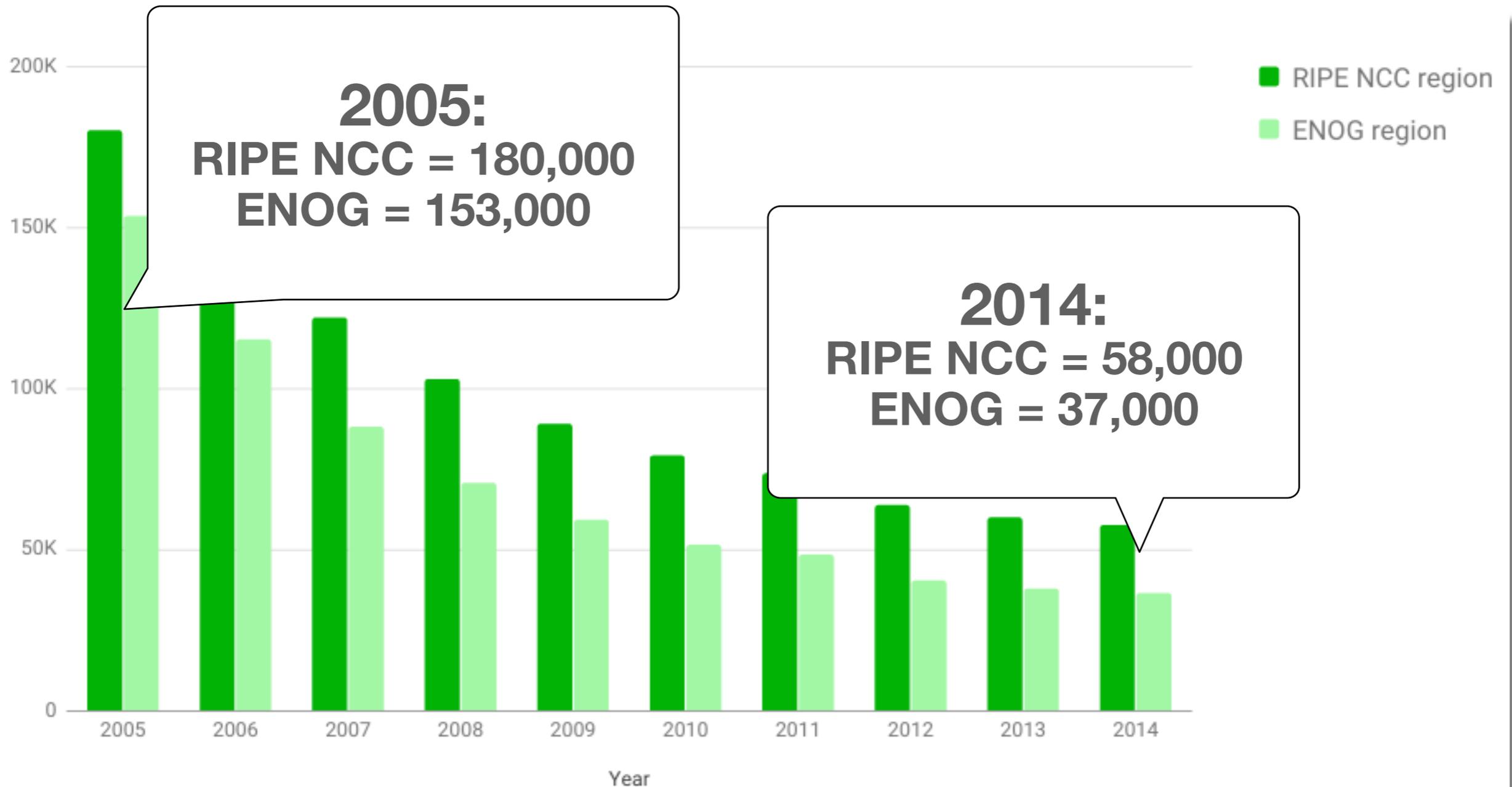
Median for region:  
RIPE NCC = 0.0%  
ENOG = 0.07%

<http://stats.labs.apnic.net/ipv6>

- Routed ASNs (RIPE NCC and ENOG region)



- Routed ASNs and population (people/ASN)





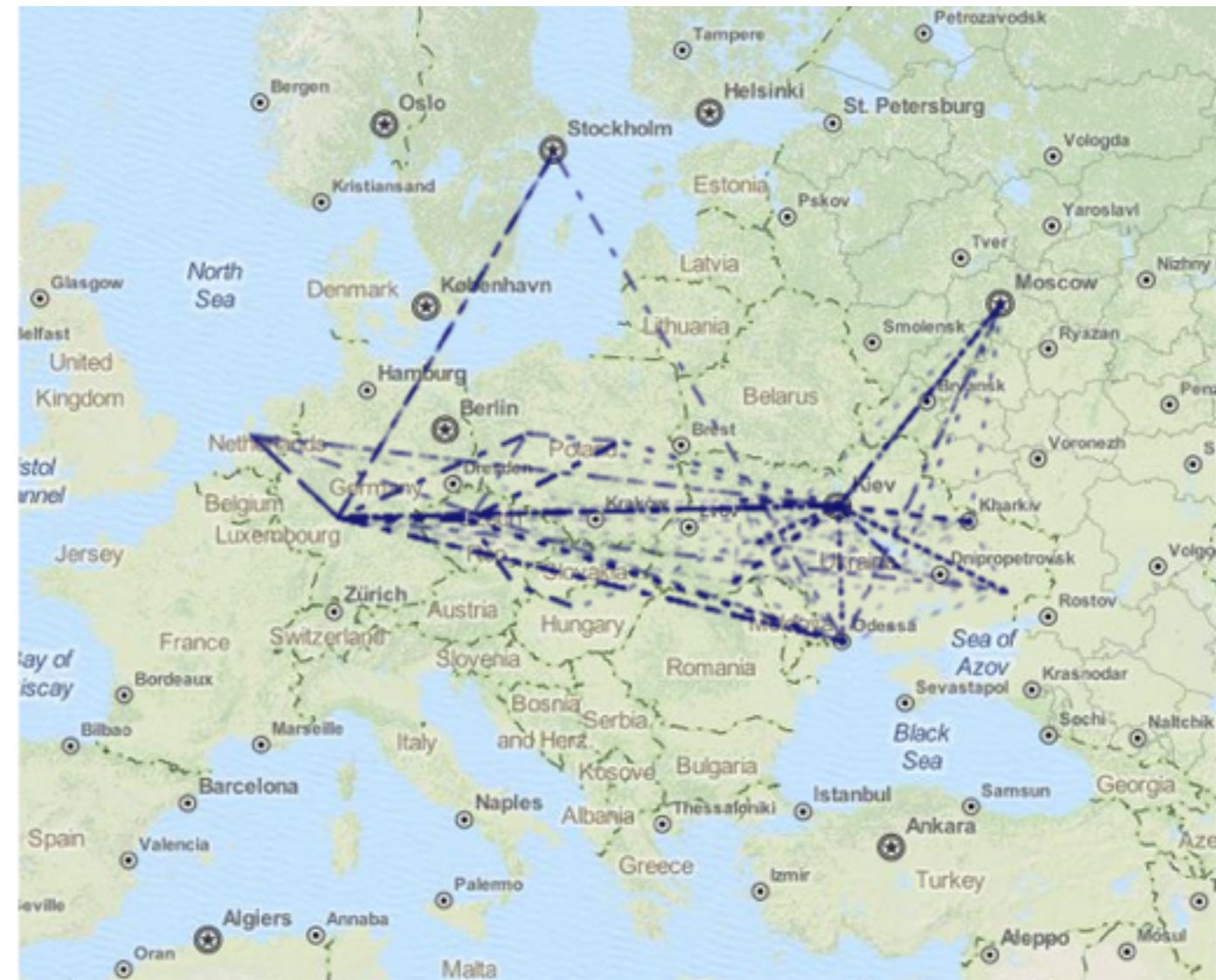
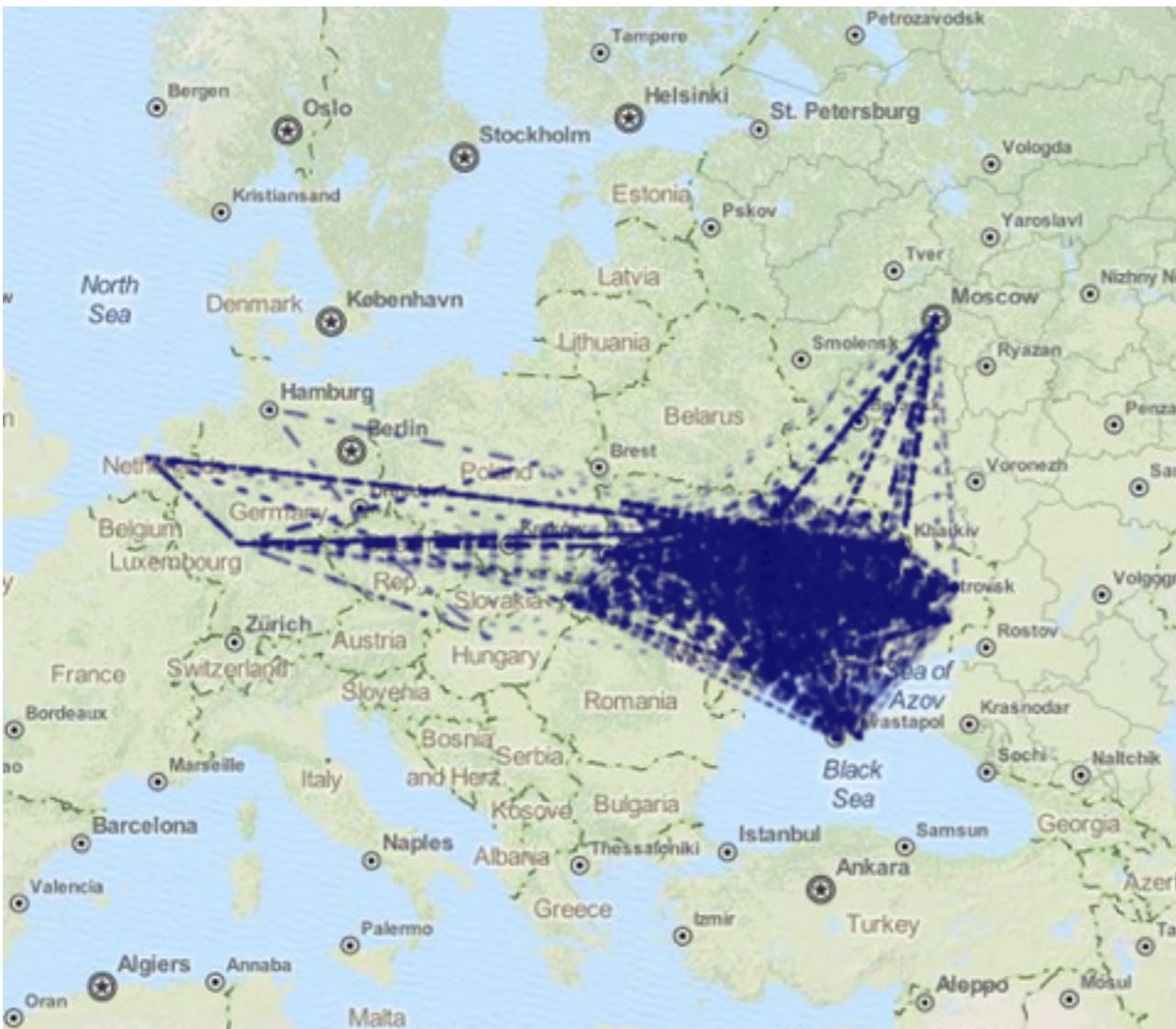
# RIPE Atlas Measurements

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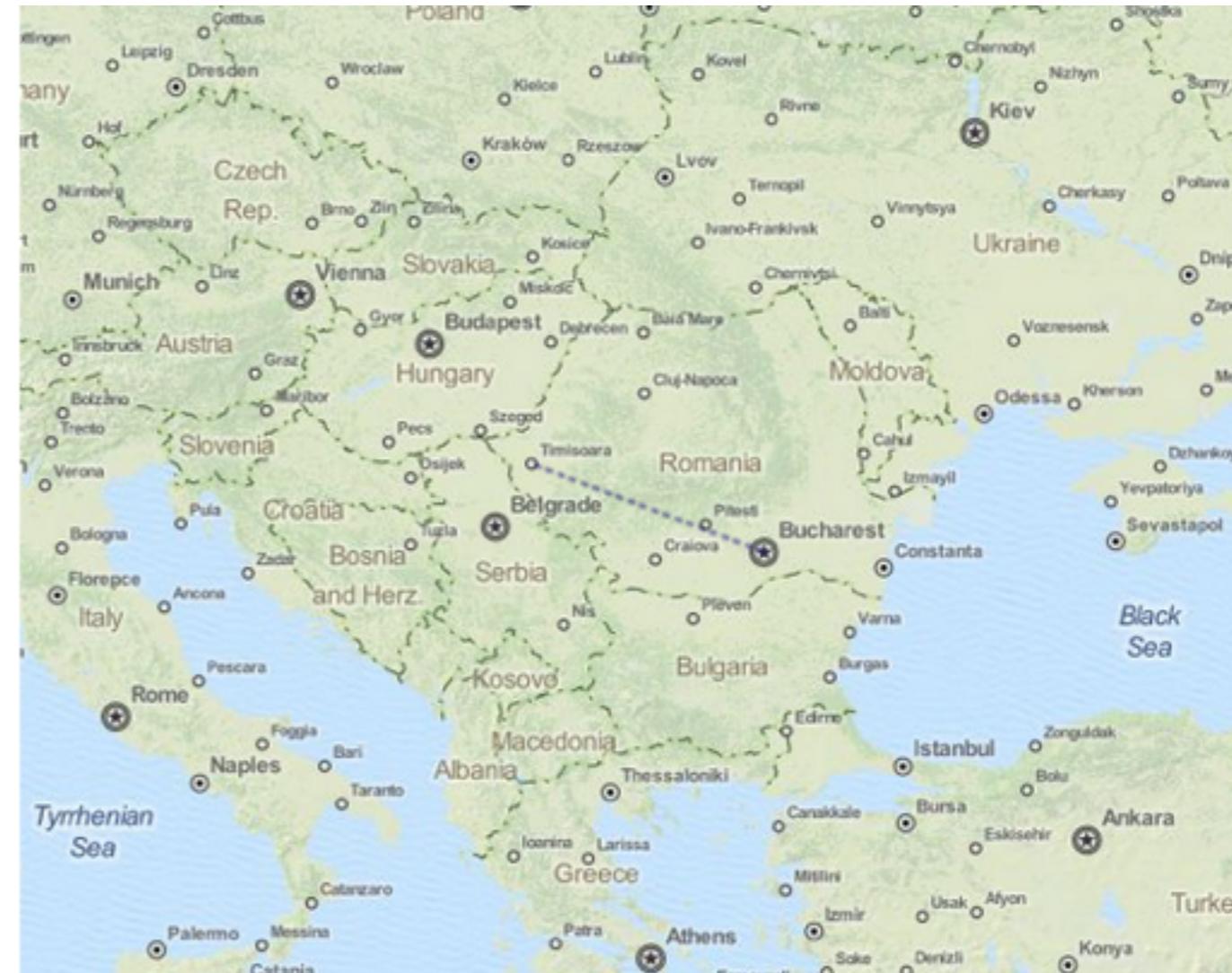
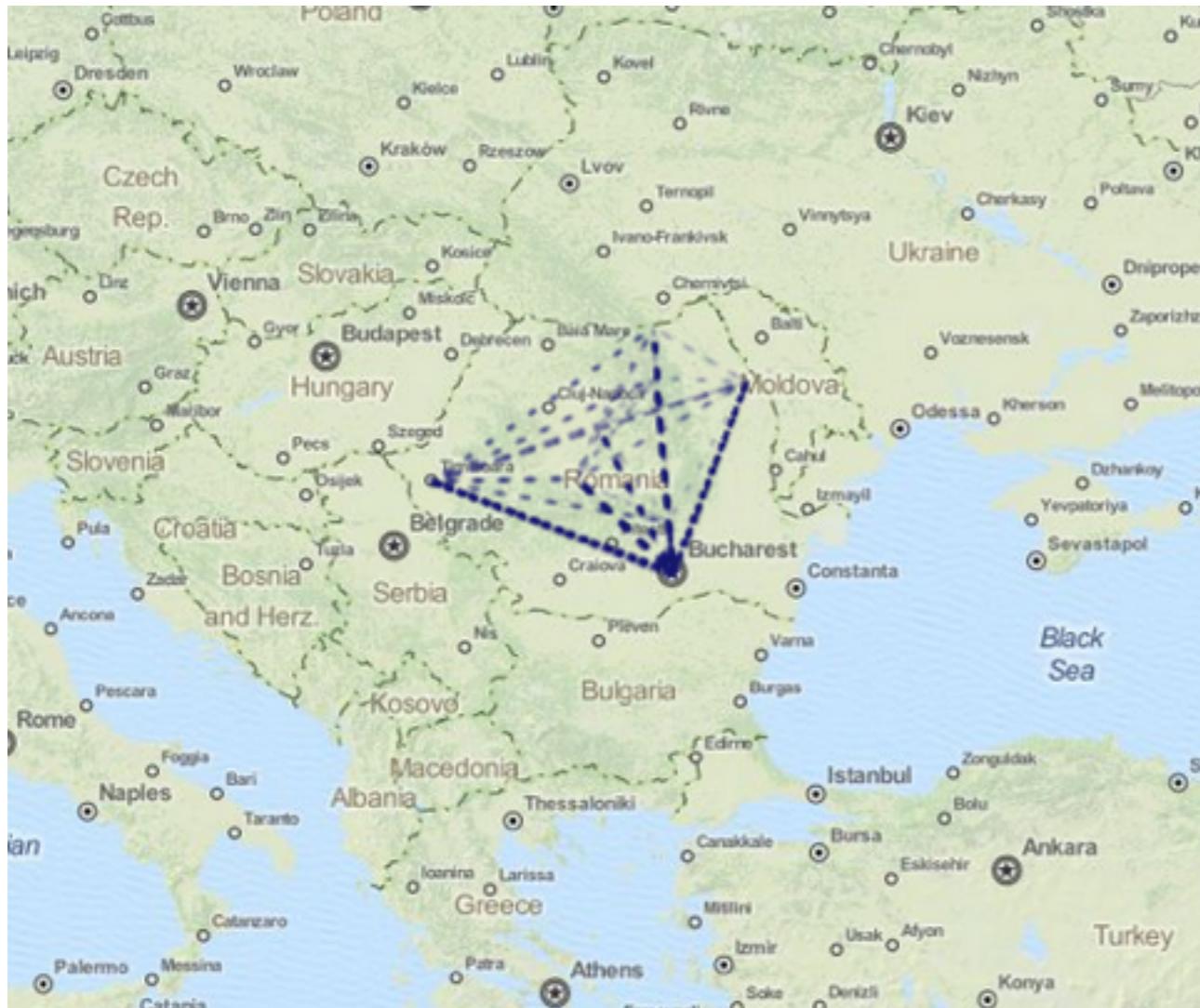
- What is IXP Country Jedi?
  - RIPE Atlas traceroute measurements
  - Geolocating observed hops
  - **Indicator whether local traffic stays local**
- Two examples from the region:
  - Ukraine
  - Romania

- Ukraine



<http://sg-pub.ripe.net/emile/ixp-country-jedi/history/2015-10-01/UA/geopath/>

- Romania



<http://sg-pub.ripe.net/emile/ixp-country-jedi/history/2015-10-01/RO/geopath/>



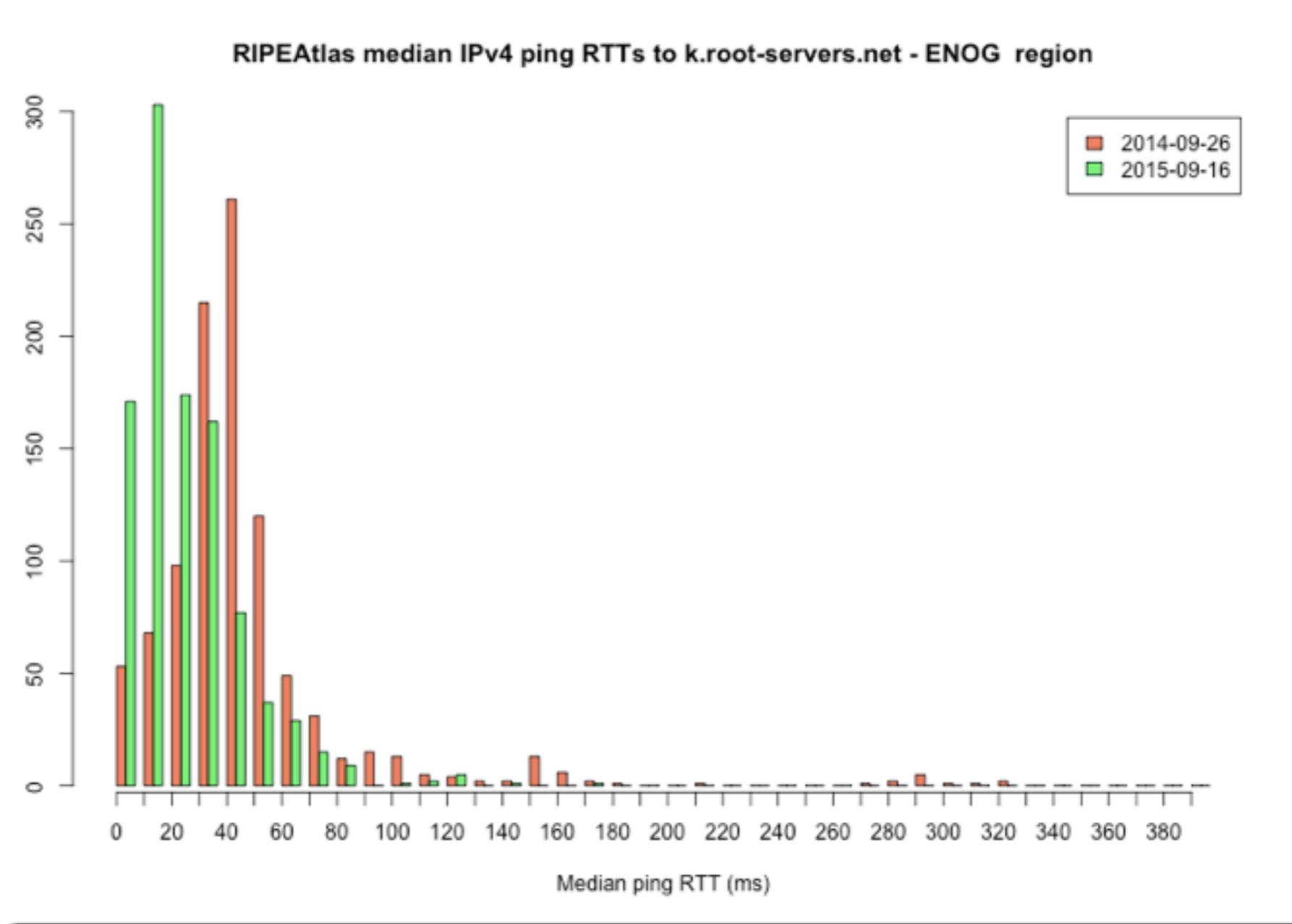
# K-root

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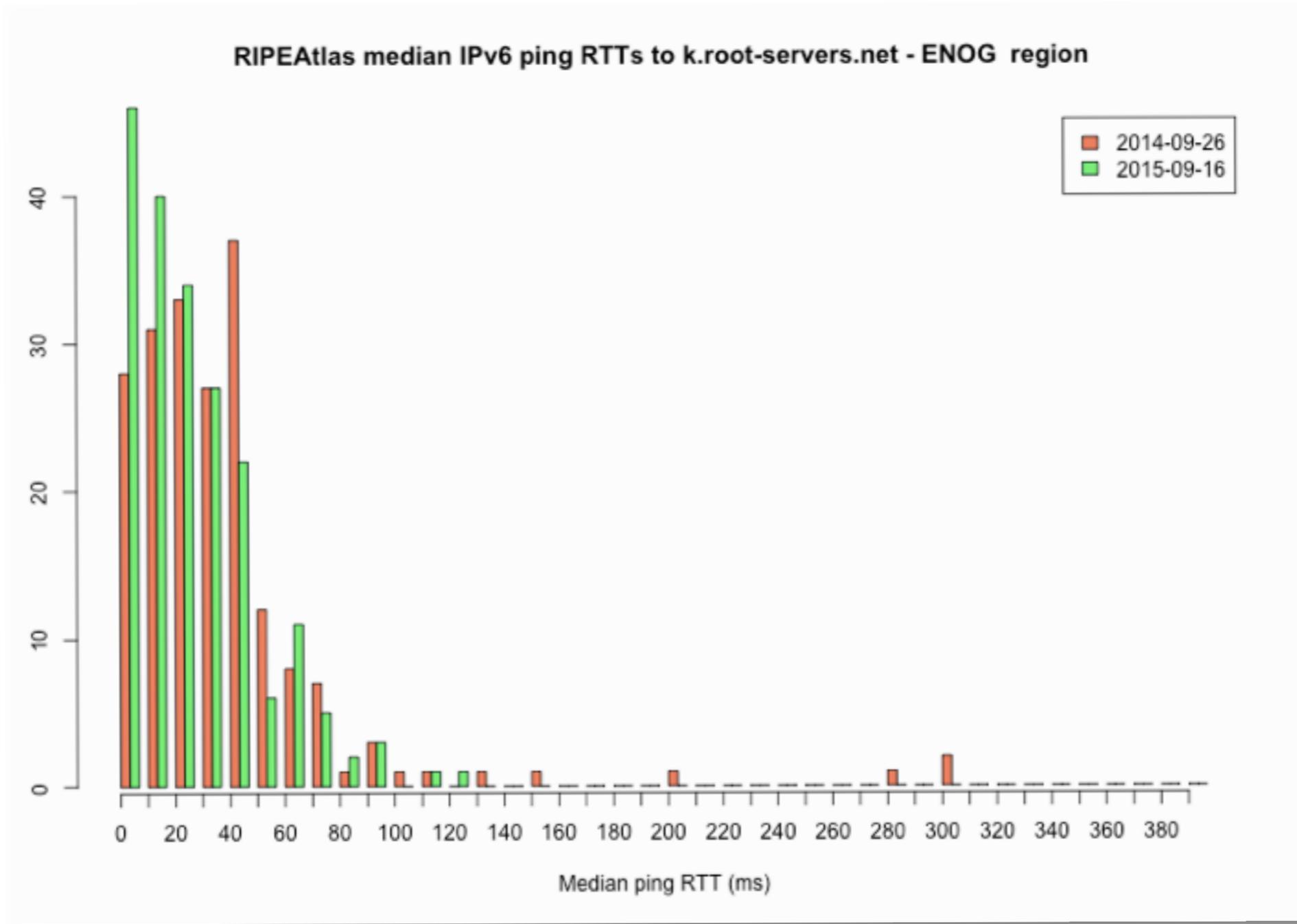


- New nodes of K-root in ENOG since last year
  - Prague, CZ
  - Riga, LV
  - Semey, KZ
  - St. Petersburg, RU
  - Yerevan, AM
  - Warsaw, PL

- Observed change in RTT to K-root (IPv4)



- Observed change in RTT to K-root (IPv6)



Feedback: [stat@ripe.net](mailto:stat@ripe.net)

Graphs accessible via:

[https://stat.ripe.net/special/enog10\\_statistics](https://stat.ripe.net/special/enog10_statistics)