



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

Country View On Serbia

Statistics



- Statistics are important
 - They help shaping informed business decision, influence regulatory policies, etc.
- The RIPE NCC provides essential data sets
 - RIPE DB
 - Routing Information System (RIS; <http://ris.ripe.net>)
 - RIPE Atlas (<https://atlas.ripe.net>)
- Access to all data via RIPEstat
 - <https://stat.ripe.net>



Statistics



- Statistics are important
 - They help shaping informed business decision, influence regulatory policies, etc.
- The RIPE NCC provides
 - RIPE DB
 - Routing Information System
 - RIPE Atlas (<https://atlas.ripe.net>)
- Access to all data via RIPEstat
 - <https://stat.ripe.net>

Open Data API for Internet related data
+45 million daily requests
Hardly any usage limitations

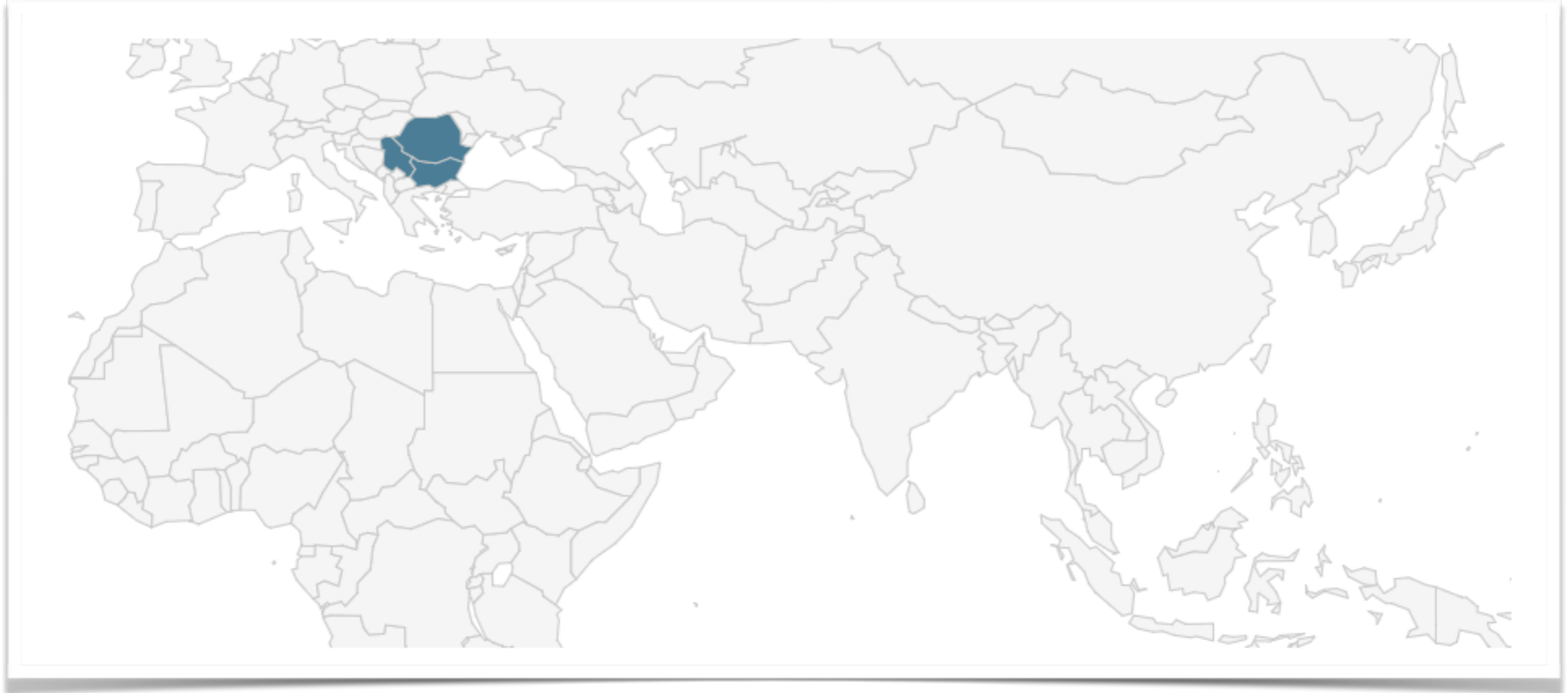




Country View

Serbia and Regional Context

Serbia and Regional Context



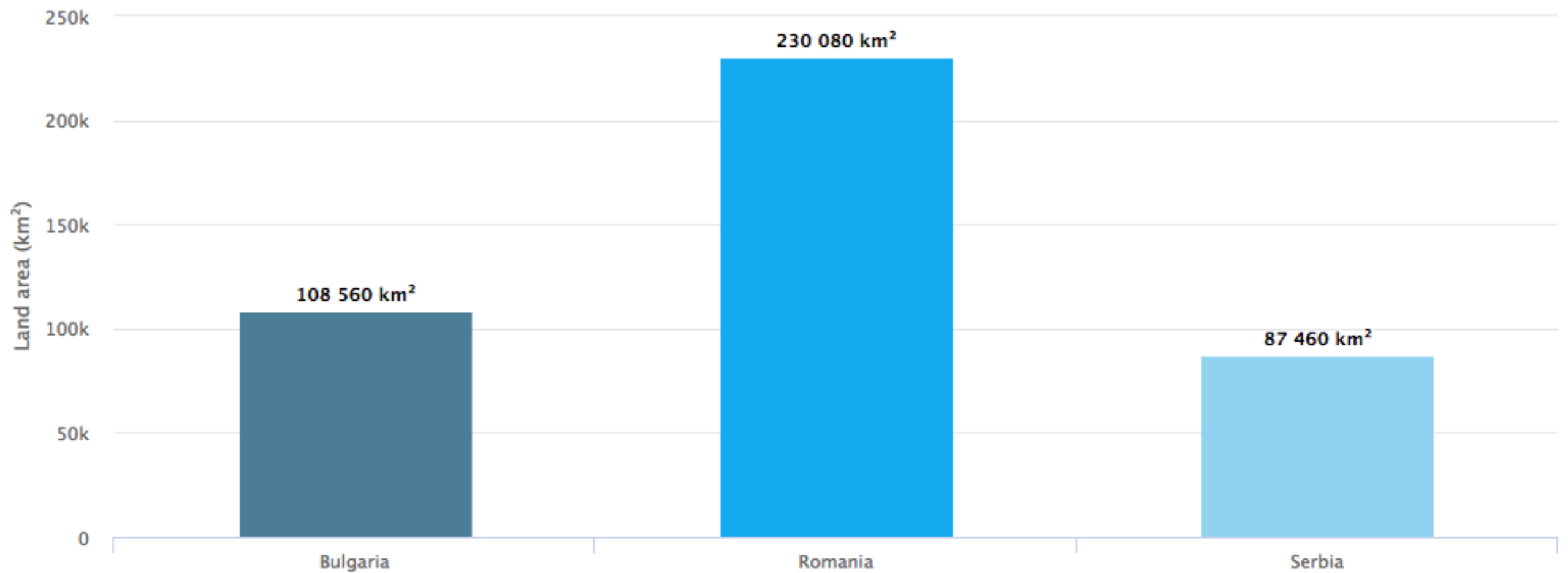
Serbia and Regional Context



Serbia

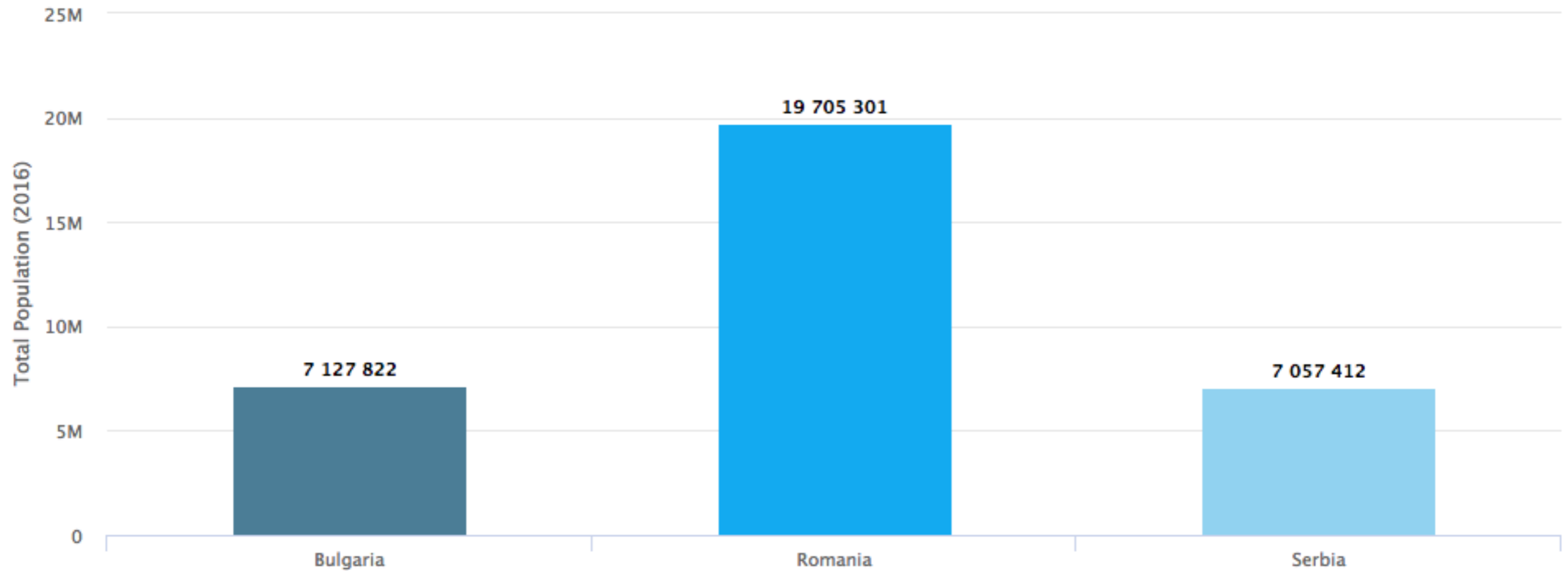
Comparative Context:
Bulgaria
Romania

Land Area



Source: <http://worldbank.org>

Population



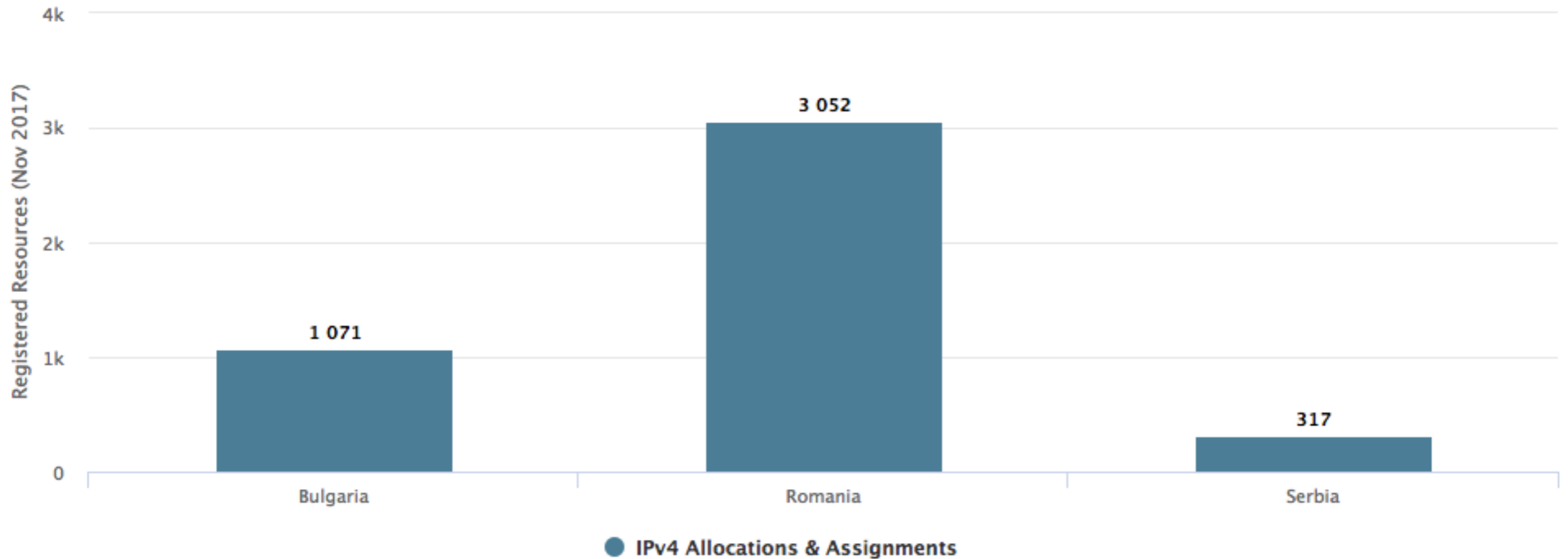
Source: <http://worldbank.org>



IPv4 Depletion

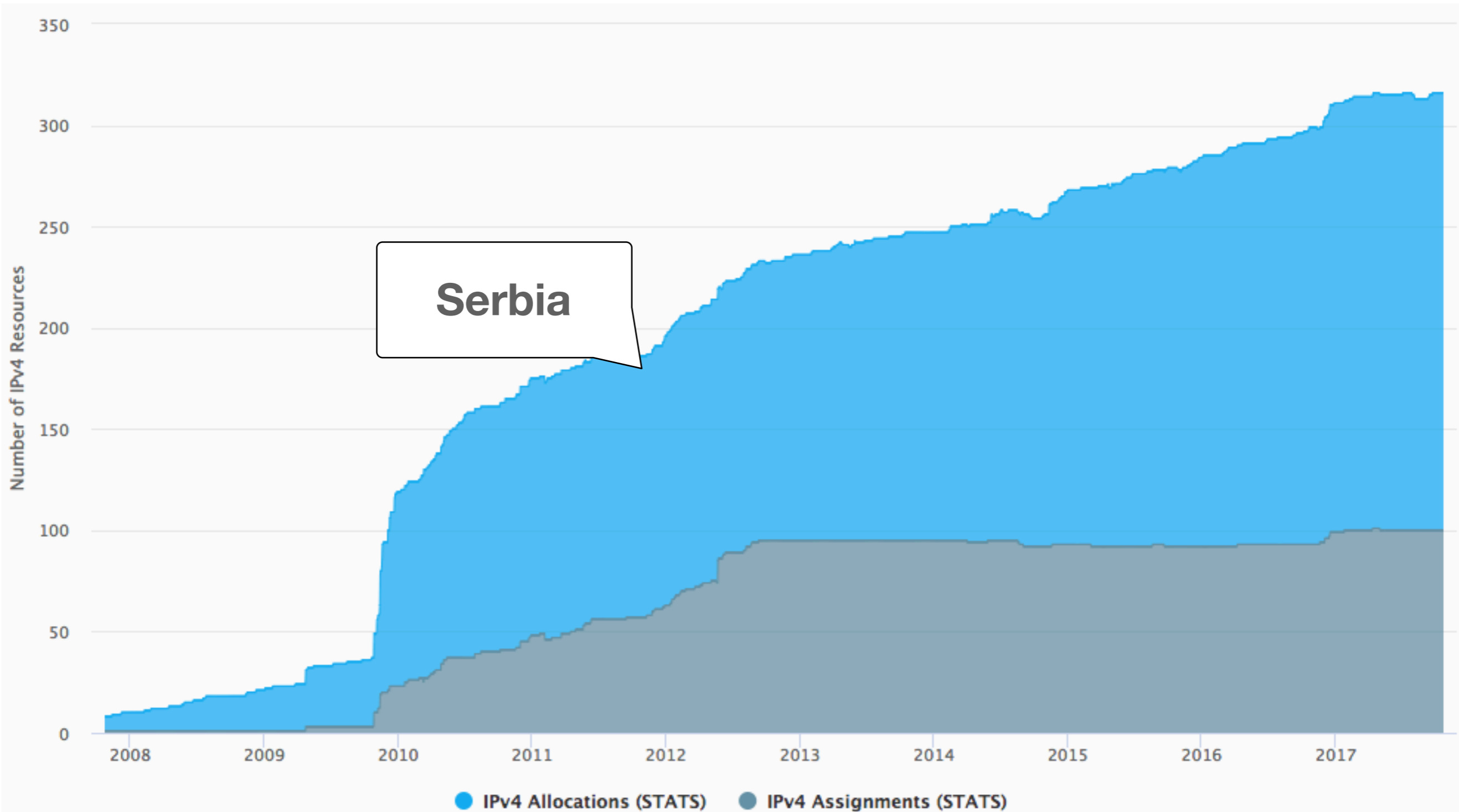
Serbia and Regional Context

Registered IPv4 Resources



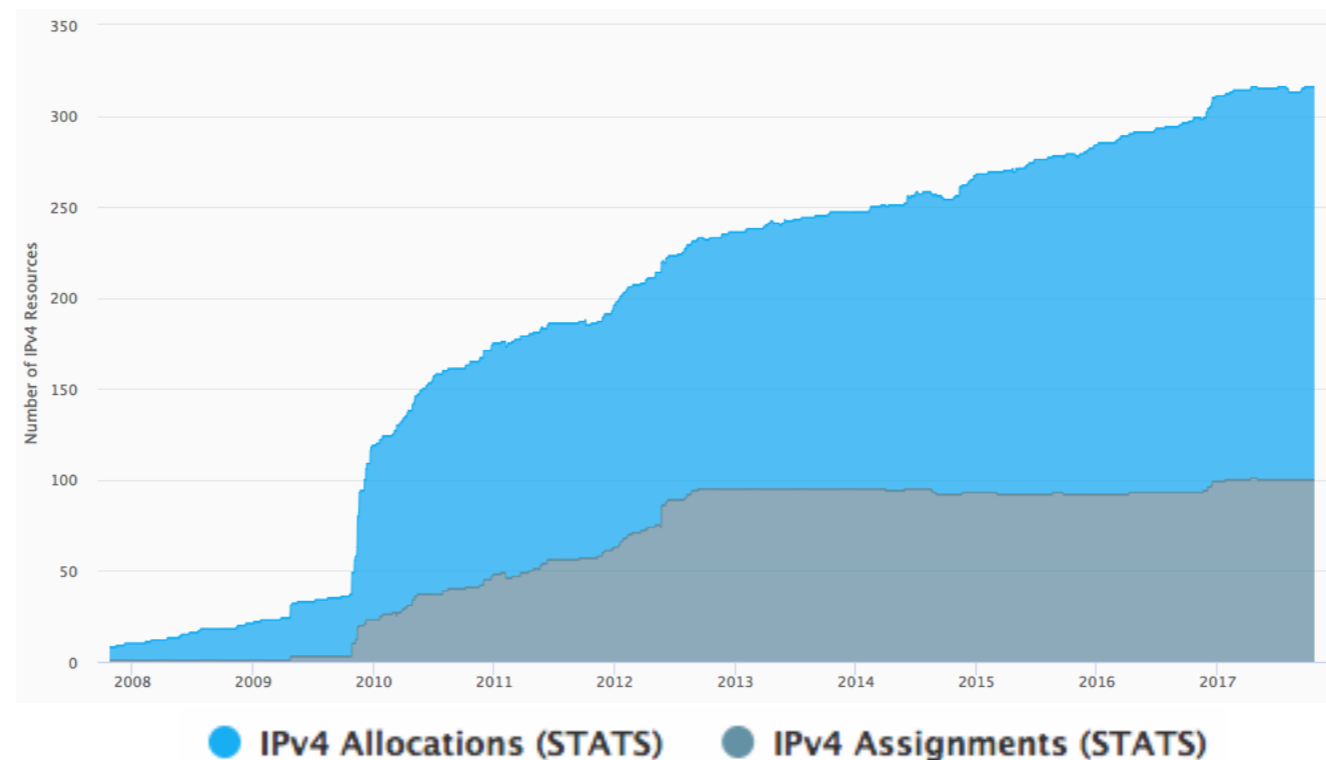
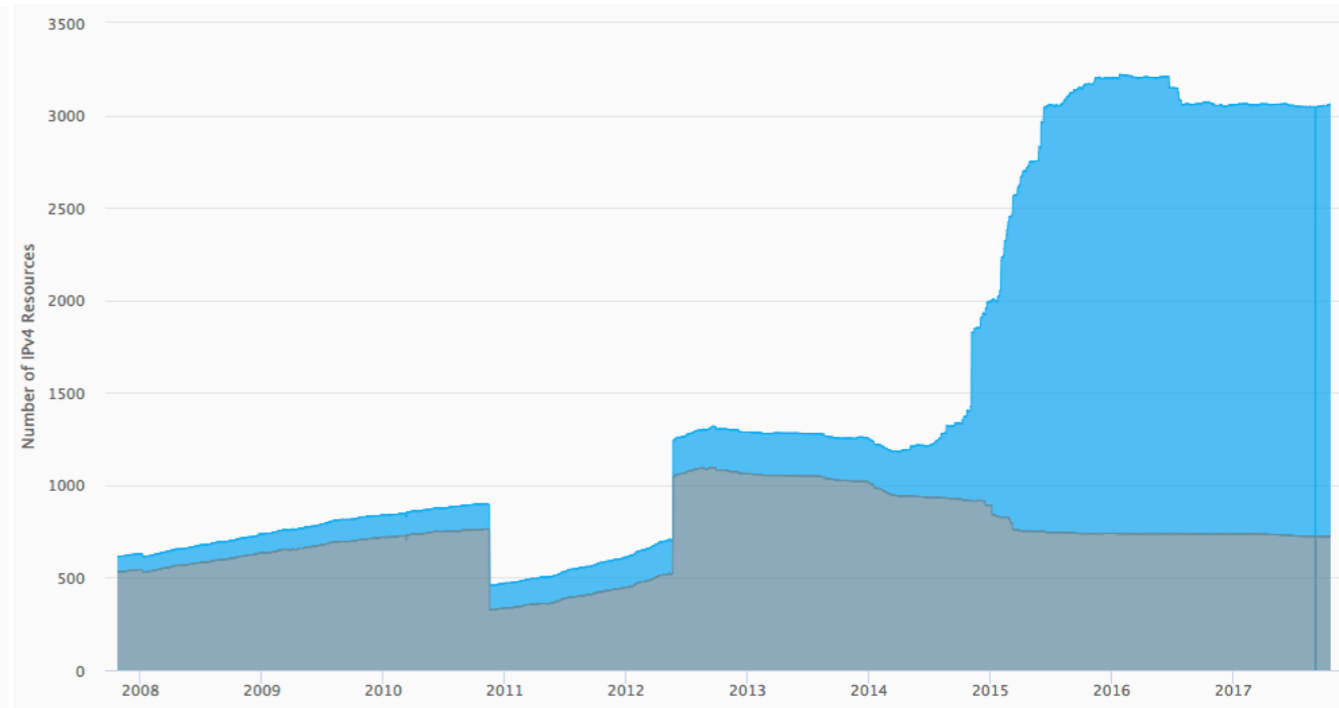
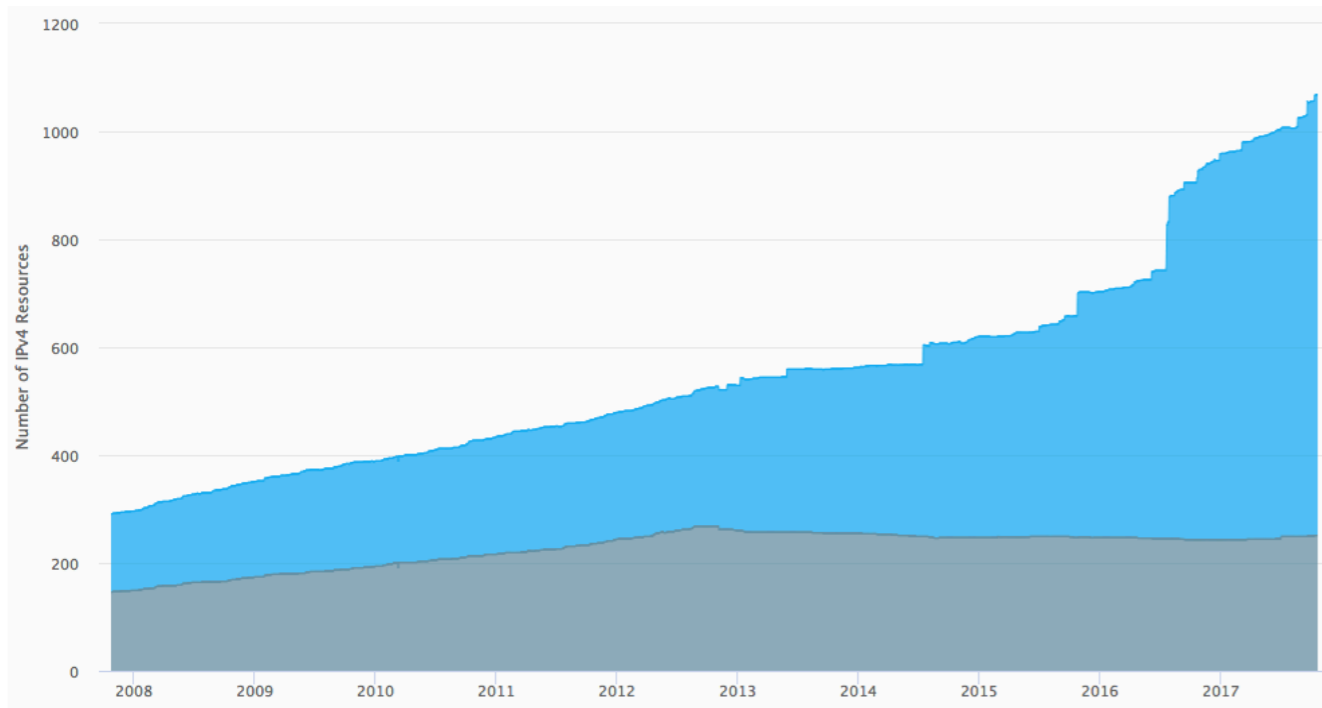
Source: <https://stat.ripe.net>

Registered IPv4 Resources



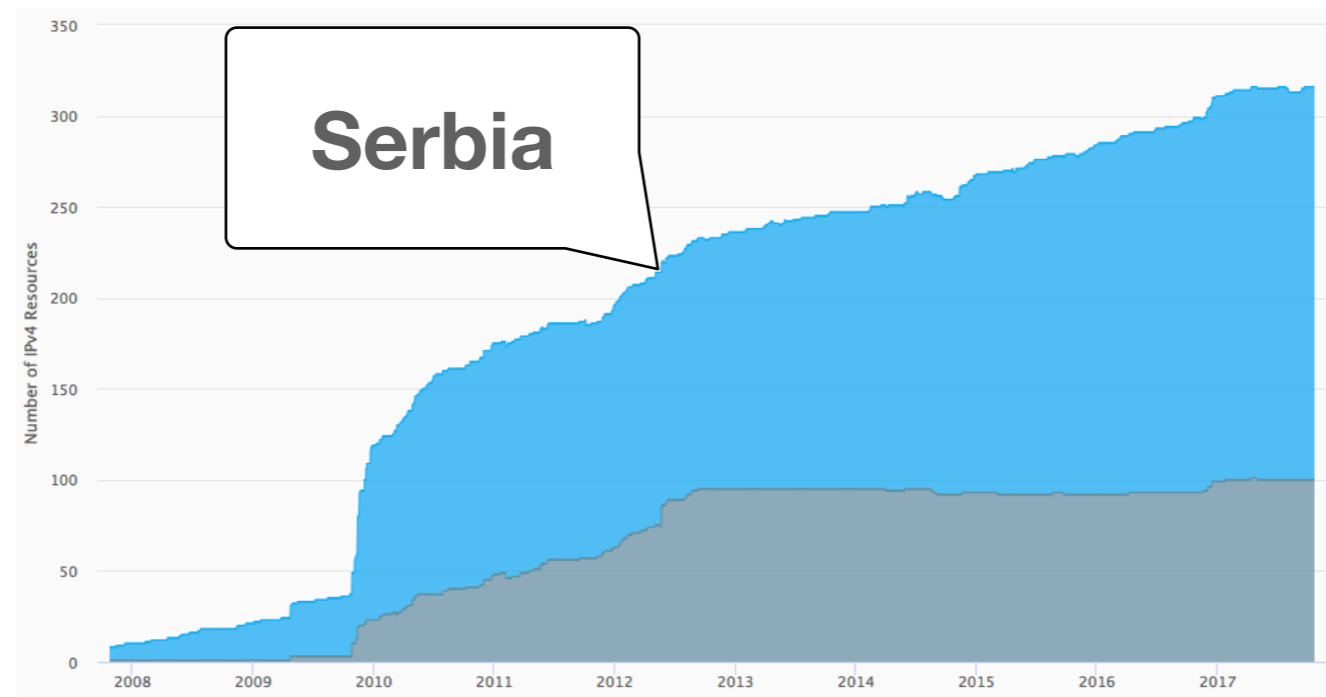
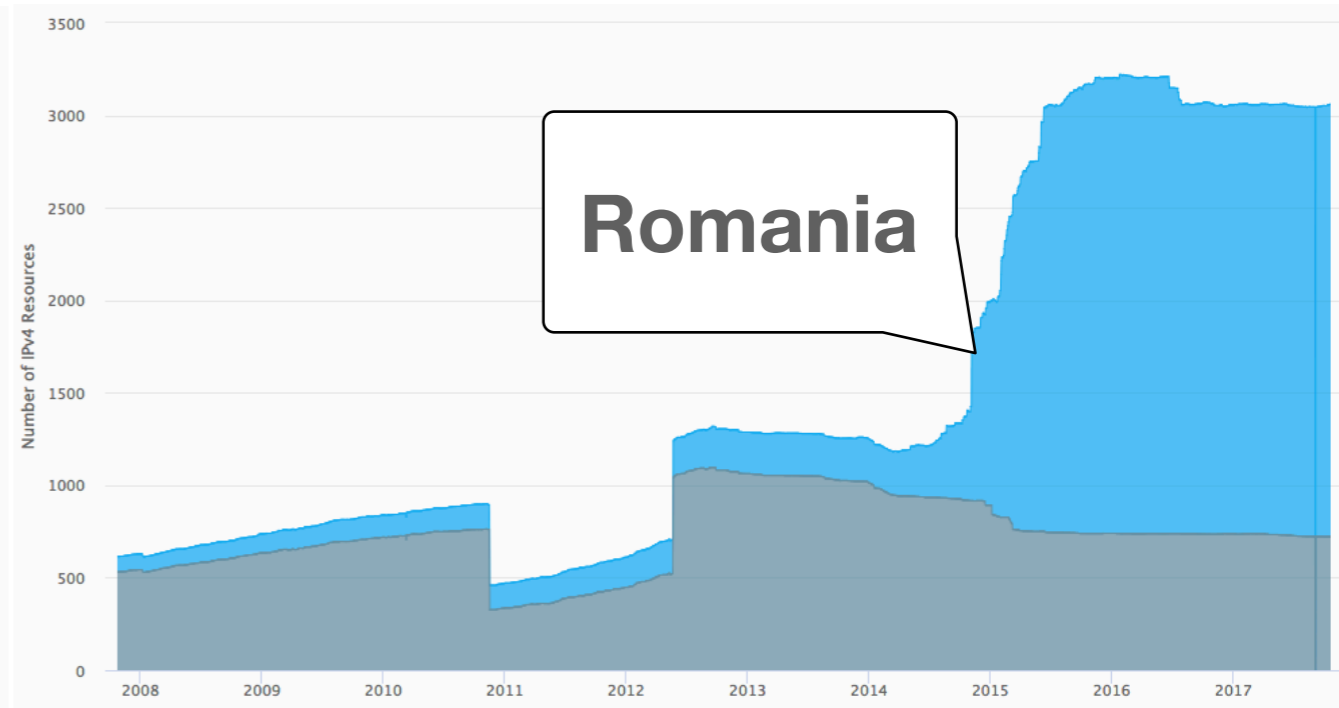
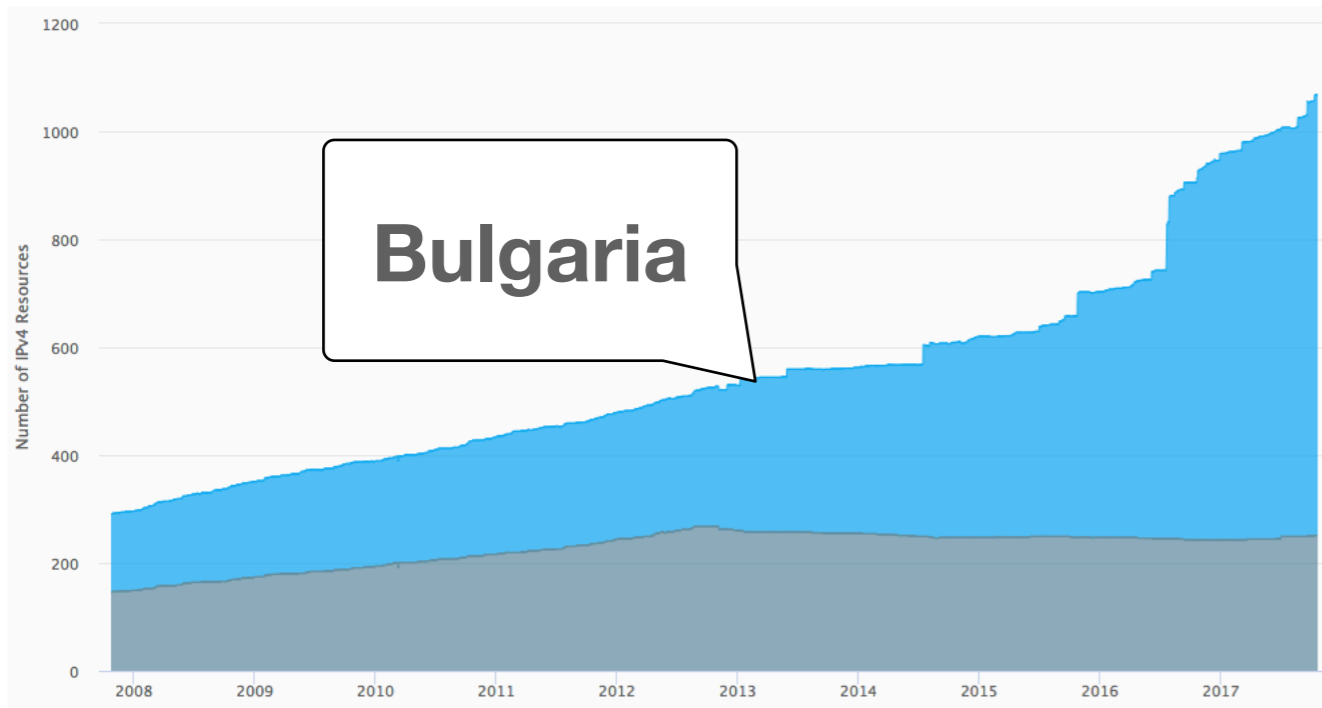
Source: <https://stat.ripe.net>

Registered IPv4 Resources



Source: <https://stat.ripe.net>

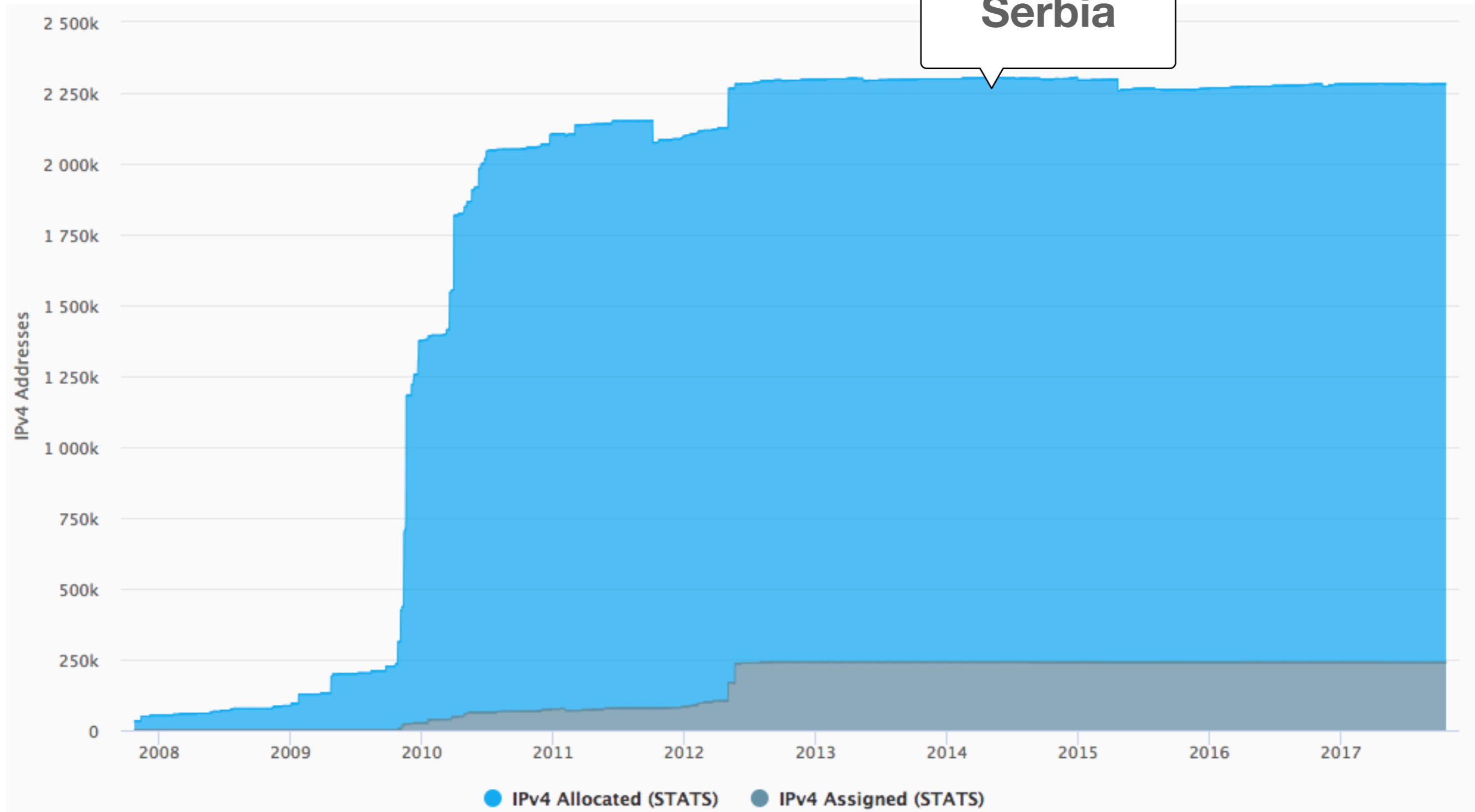
Registered IPv4 Resources



● IPv4 Allocations (STATS) ● IPv4 Assignments (STATS)

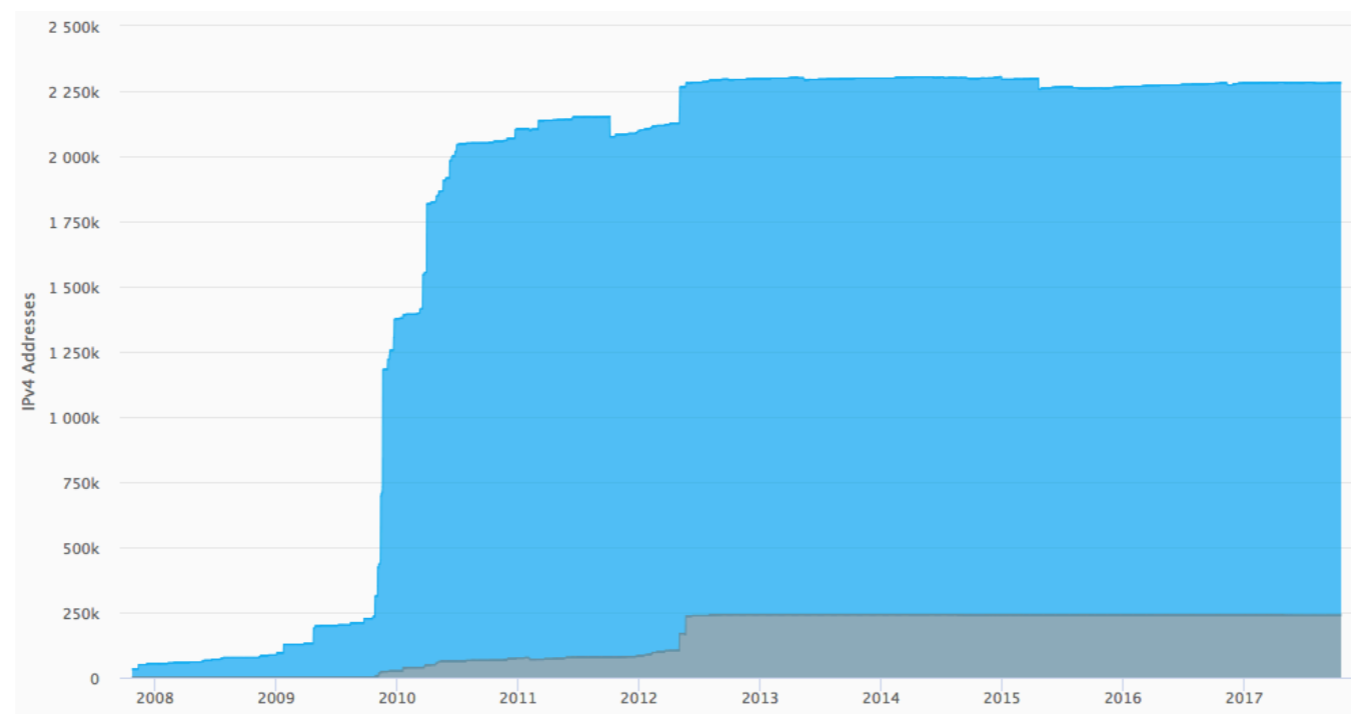
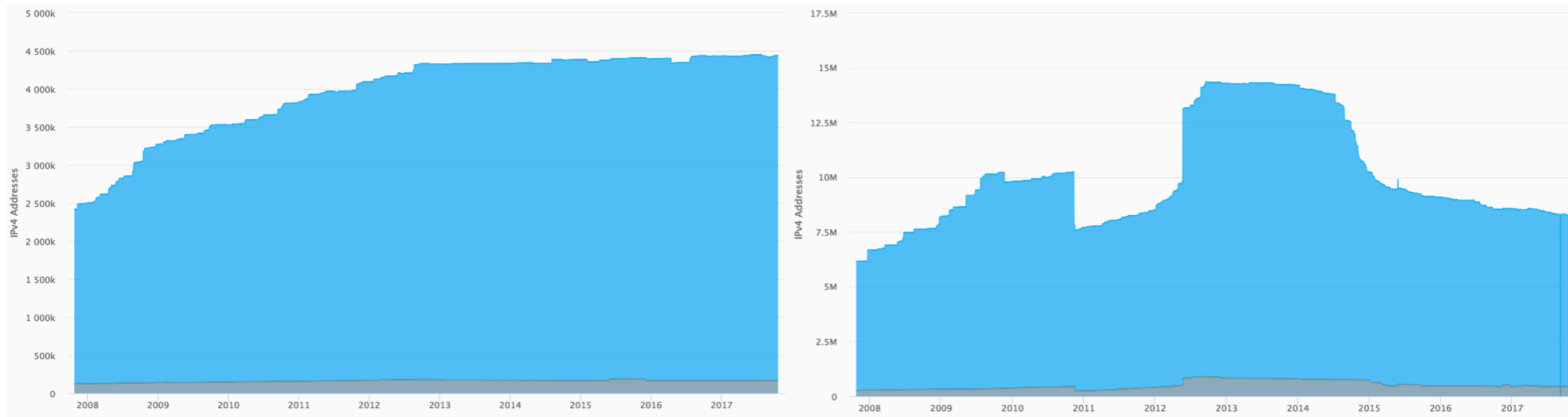
Source: <https://stat.ripe.net>

Registered IPv4 Space



Source: <https://stat.ripe.net>

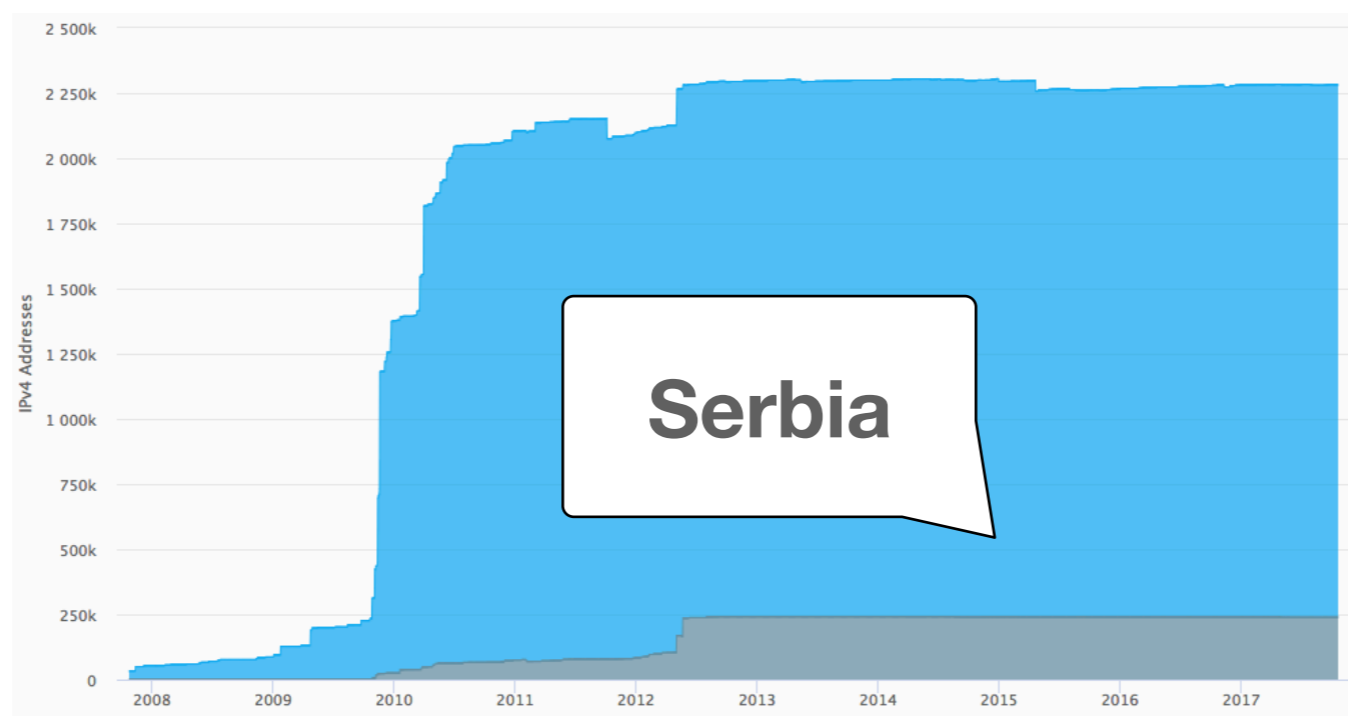
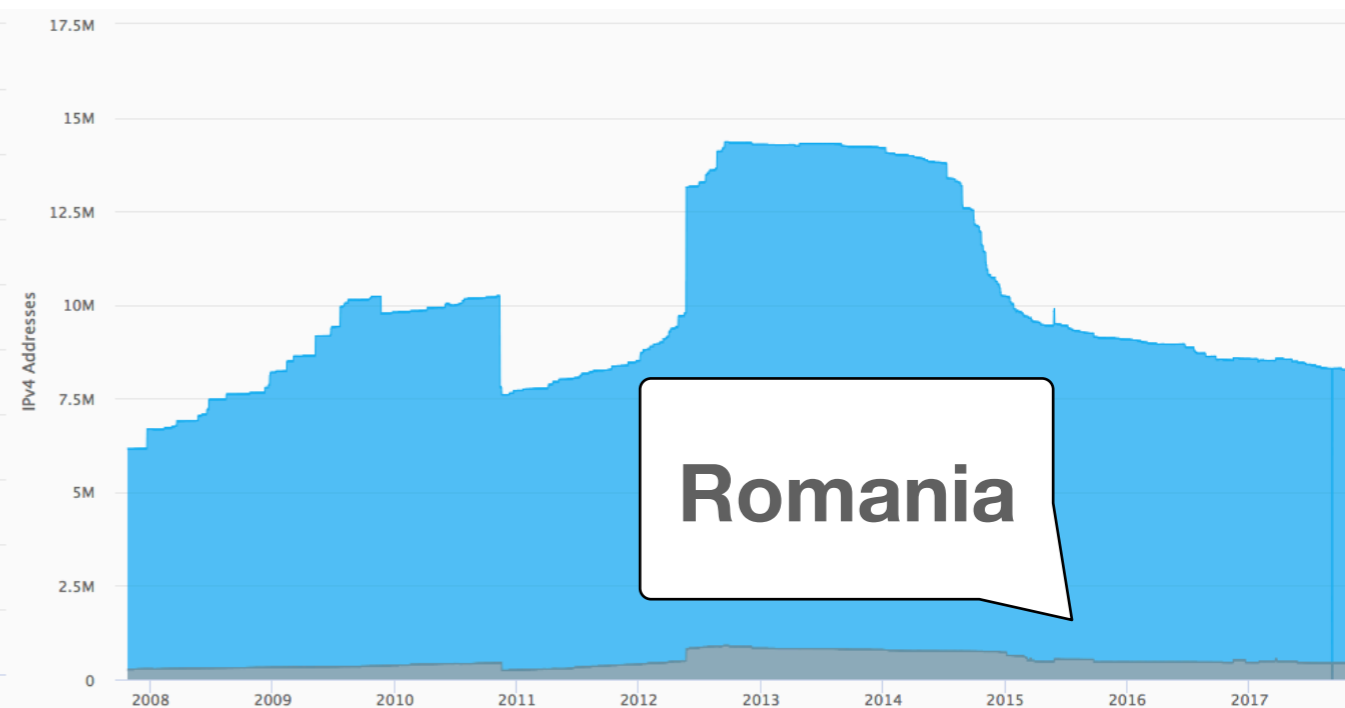
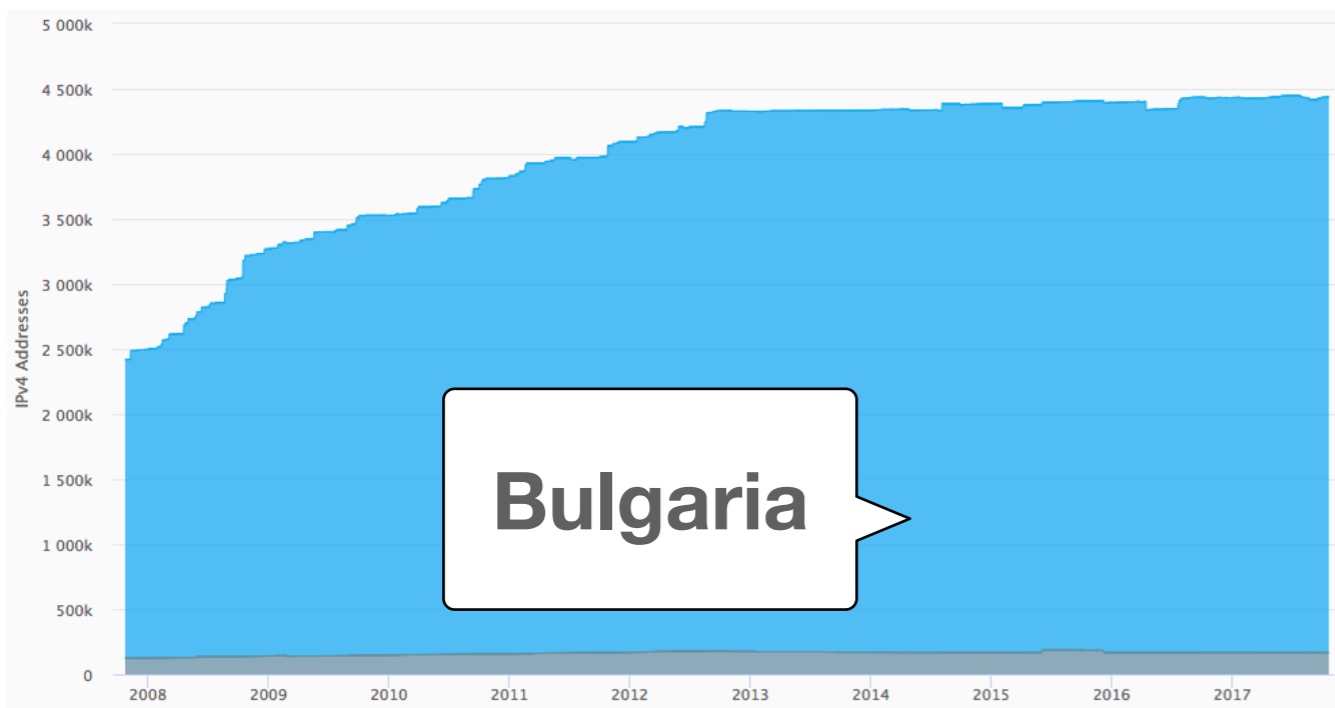
Registered IPv4 Space



● IPv4 Allocations (STATS) ● IPv4 Assignments (STATS)

Source: <https://stat.ripe.net>

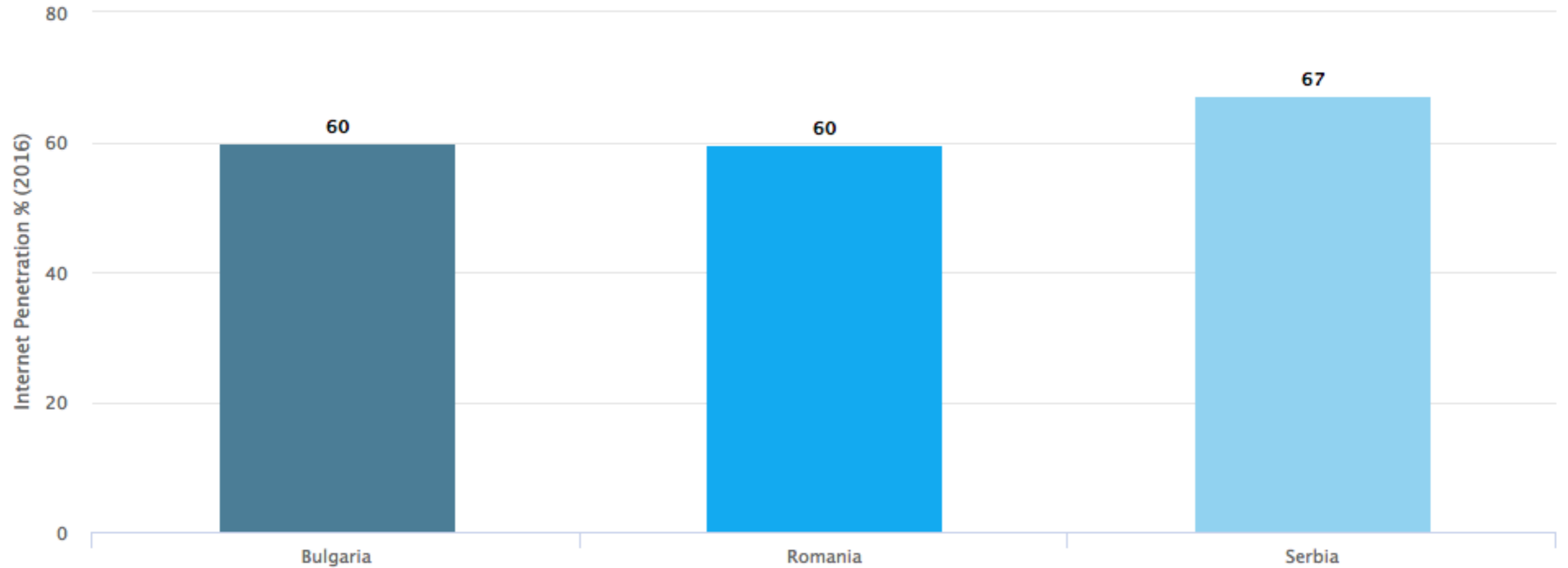
Registered IPv4 Space



● IPv4 Allocations (STATS) ● IPv4 Assignments (STATS)

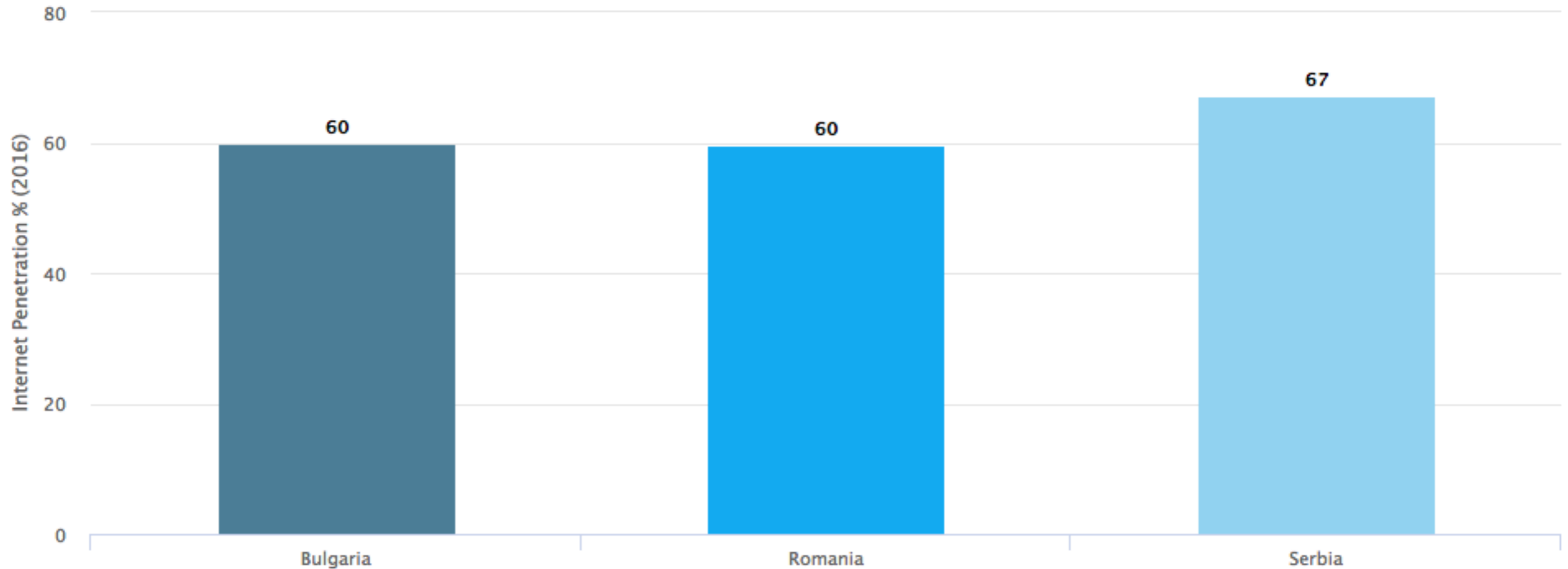
Source: <https://stat.ripe.net>

Internet Penetration



Source: <http://worldbank.org>

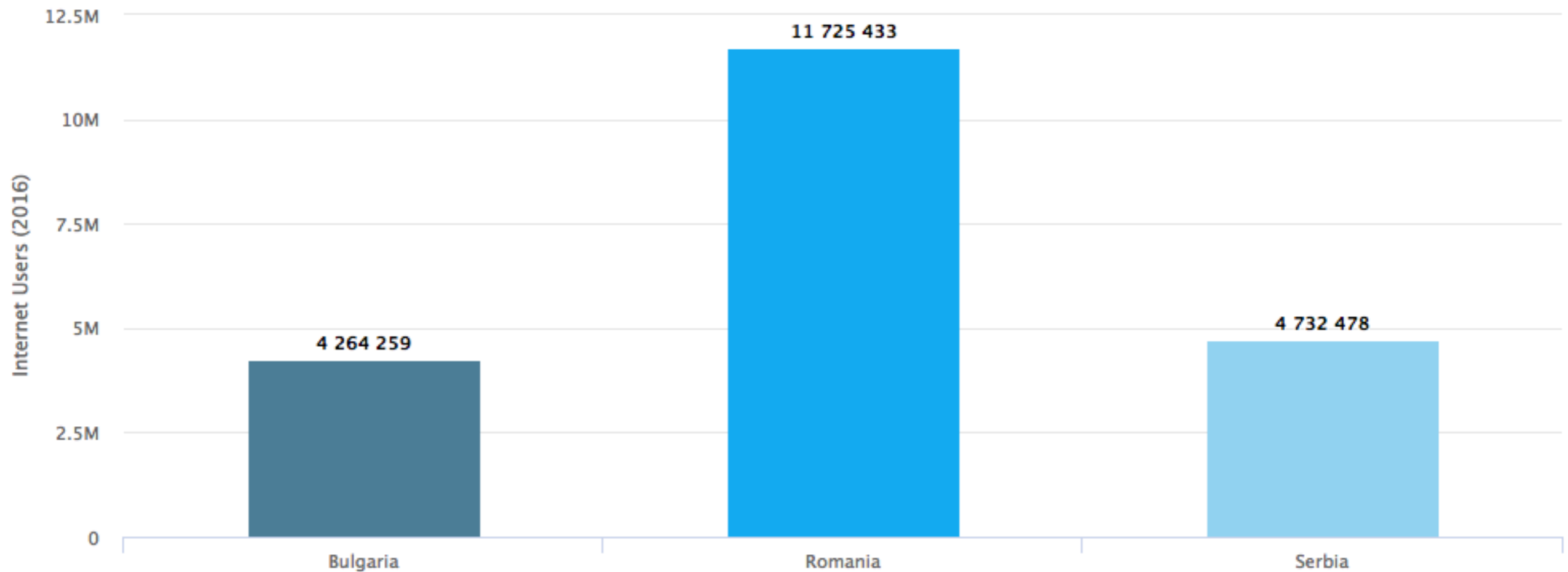
Internet Penetration



Combine with population →

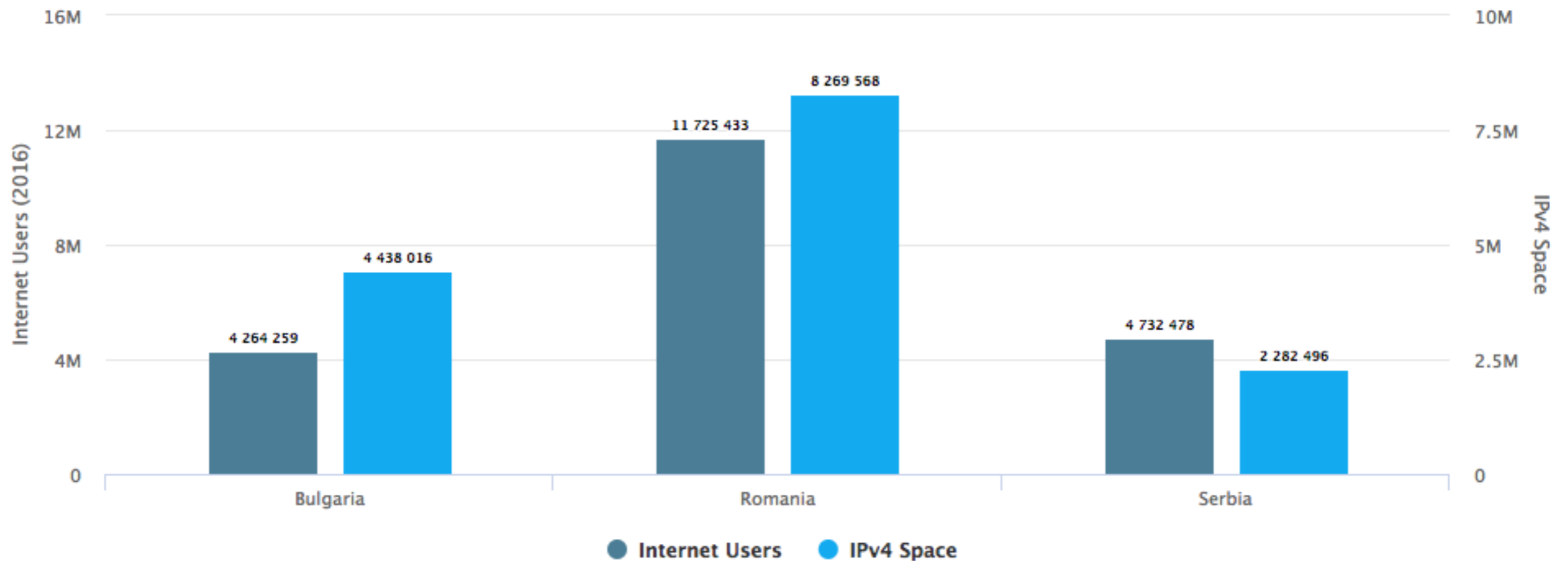
Source: <http://worldbank.org>

Internet Users



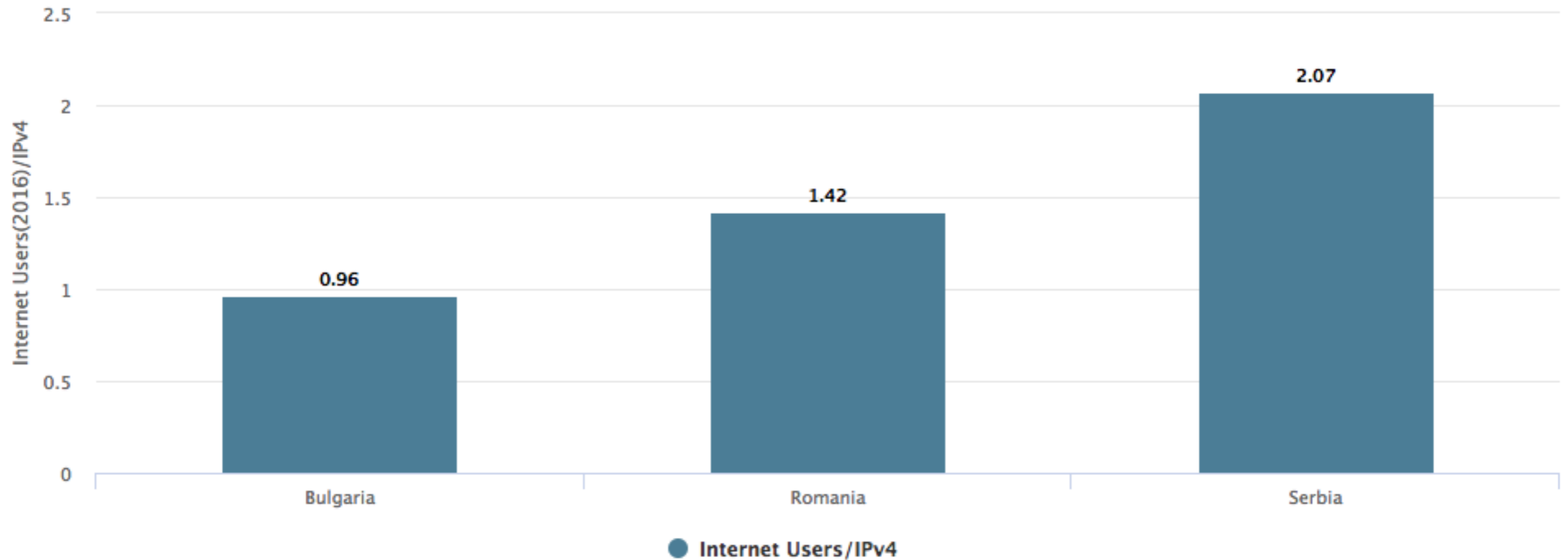
Source: <http://worldbank.org>

Internet Users & IPv4 Space



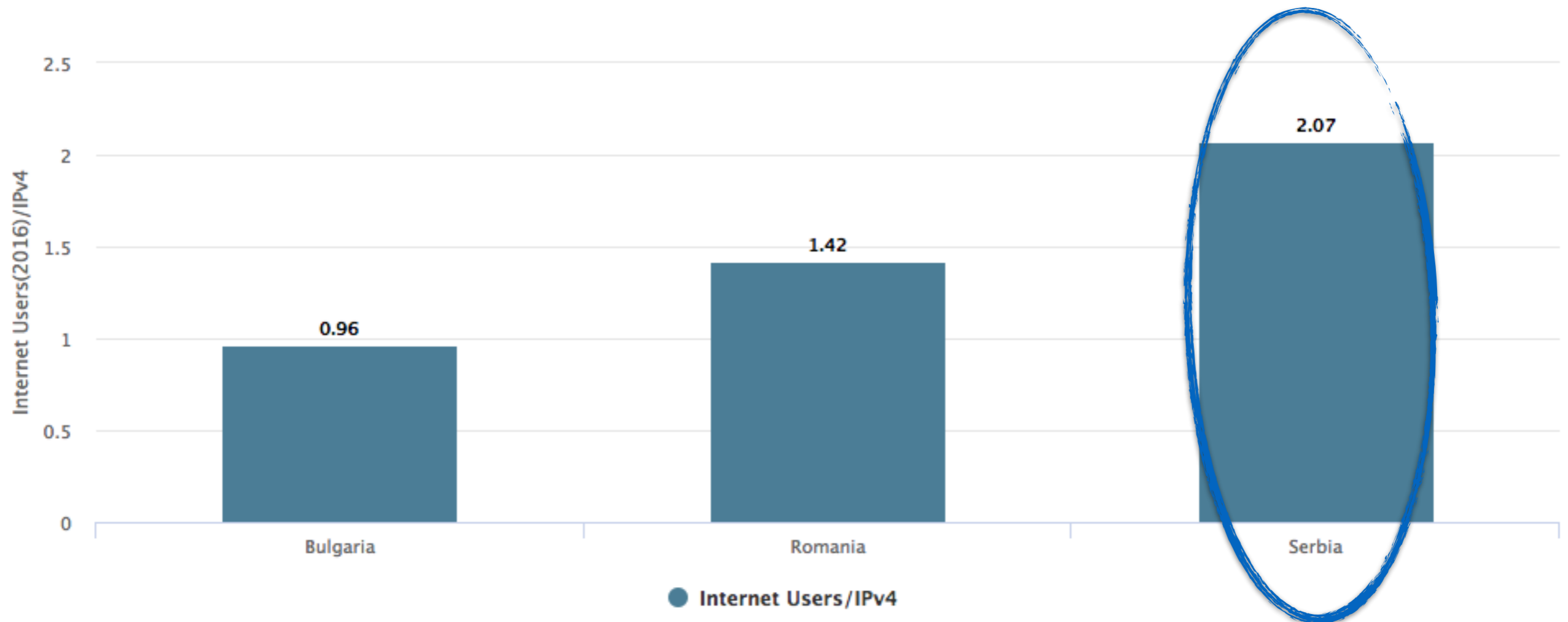
Source: <http://worldbank.org>
& <https://stat.ripe.net>

Internet Users/IPv4 Address



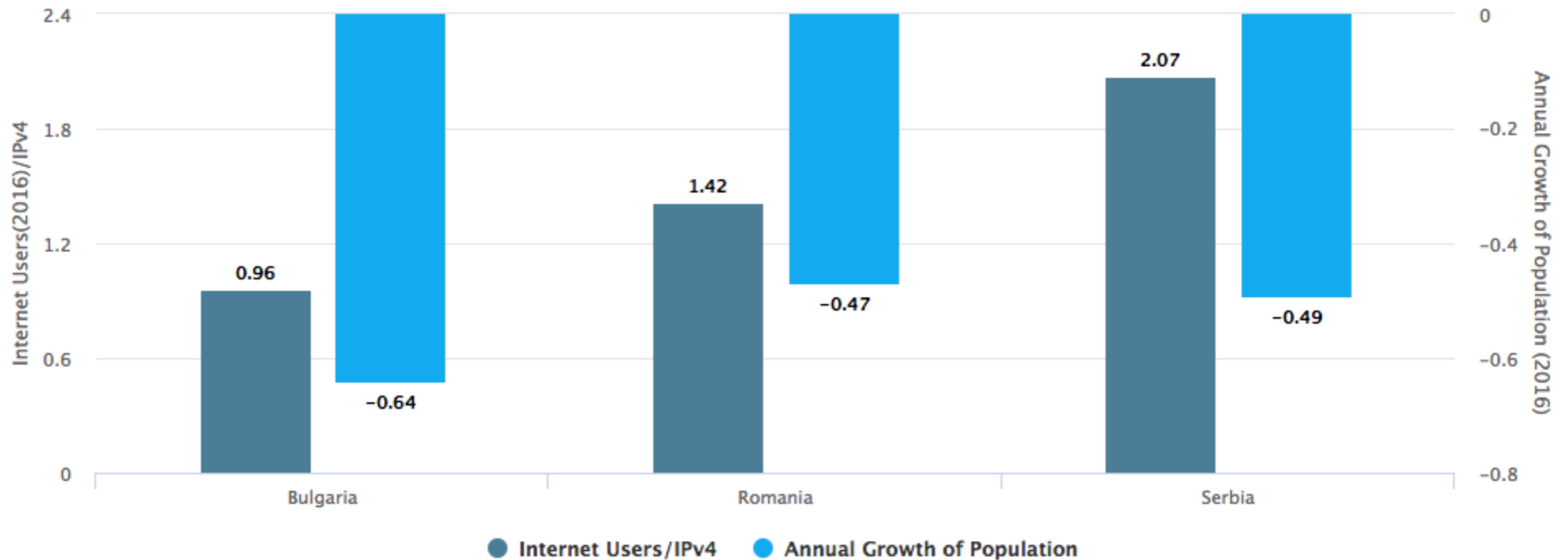
Source: <http://worldbank.org>
& <https://stat.ripe.net>

Internet Users/IPv4 Address



Source: <http://worldbank.org>
& <https://stat.ripe.net>

Internet Users/IPv4 Address



Source: <http://worldbank.org>
& <https://stat.ripe.net>



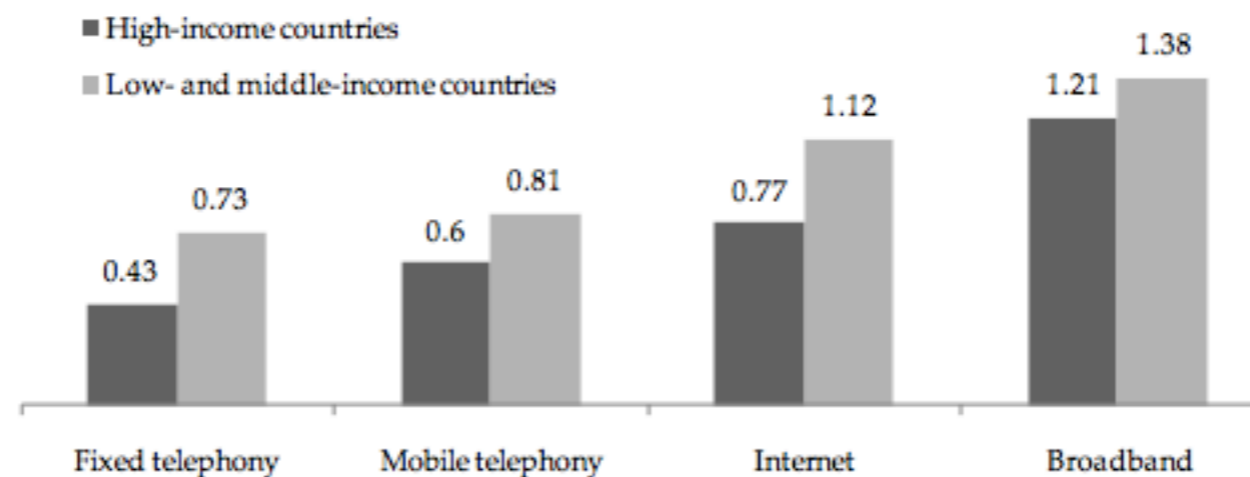
Internet & Economy

Serbia and Regional Context

Internet & Economy

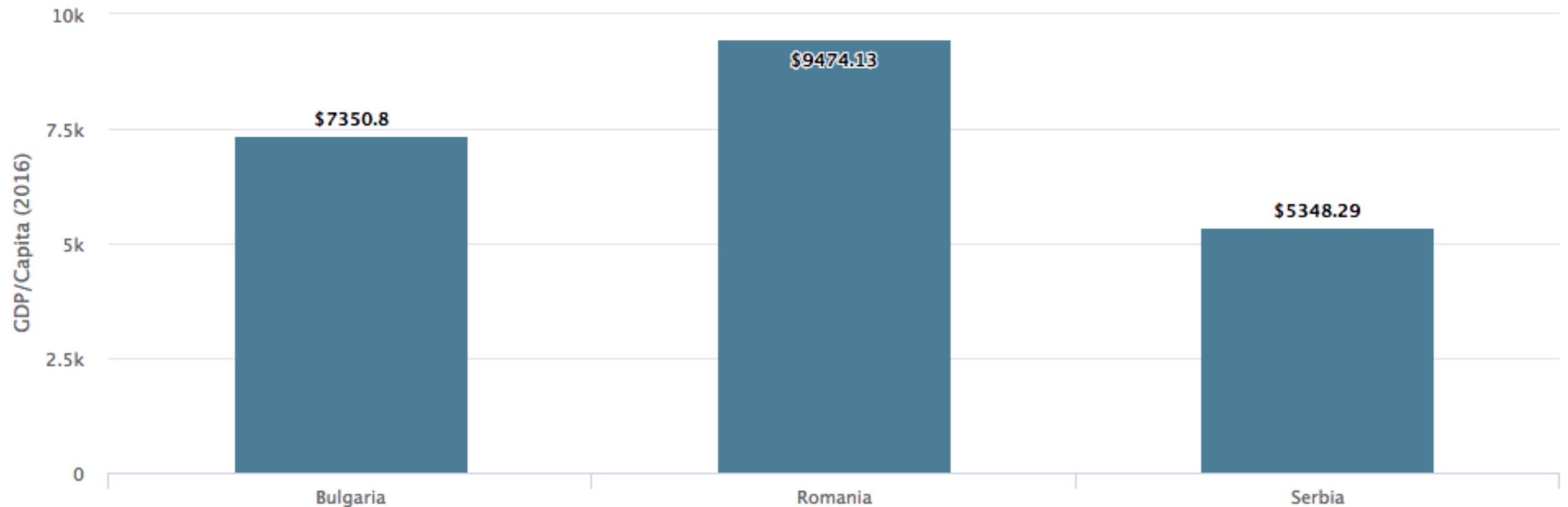


- Study in 2010 by World Bank “Building Broadband : Strategies and Policies for the Developing World”



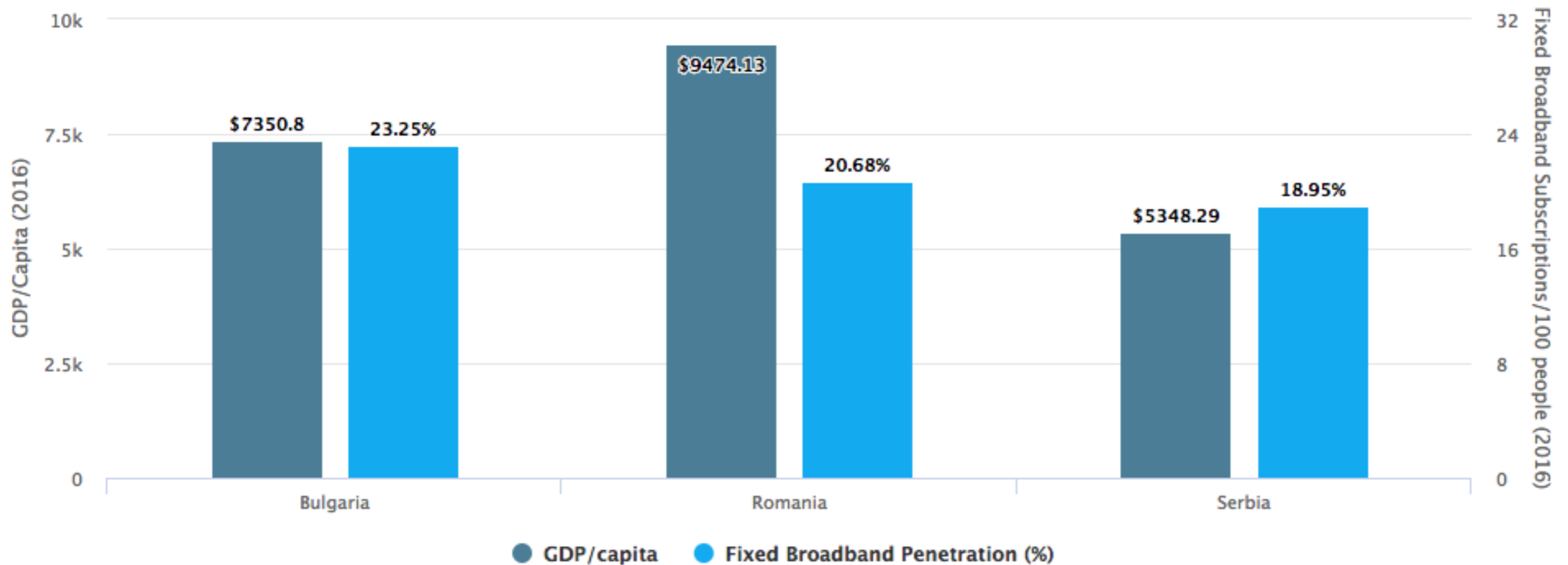
*Figure 1: Growth impact of telecommunications
(GDP percentage point increase due to 10 percentage-point increase in penetration)*

Gross Domestic Product



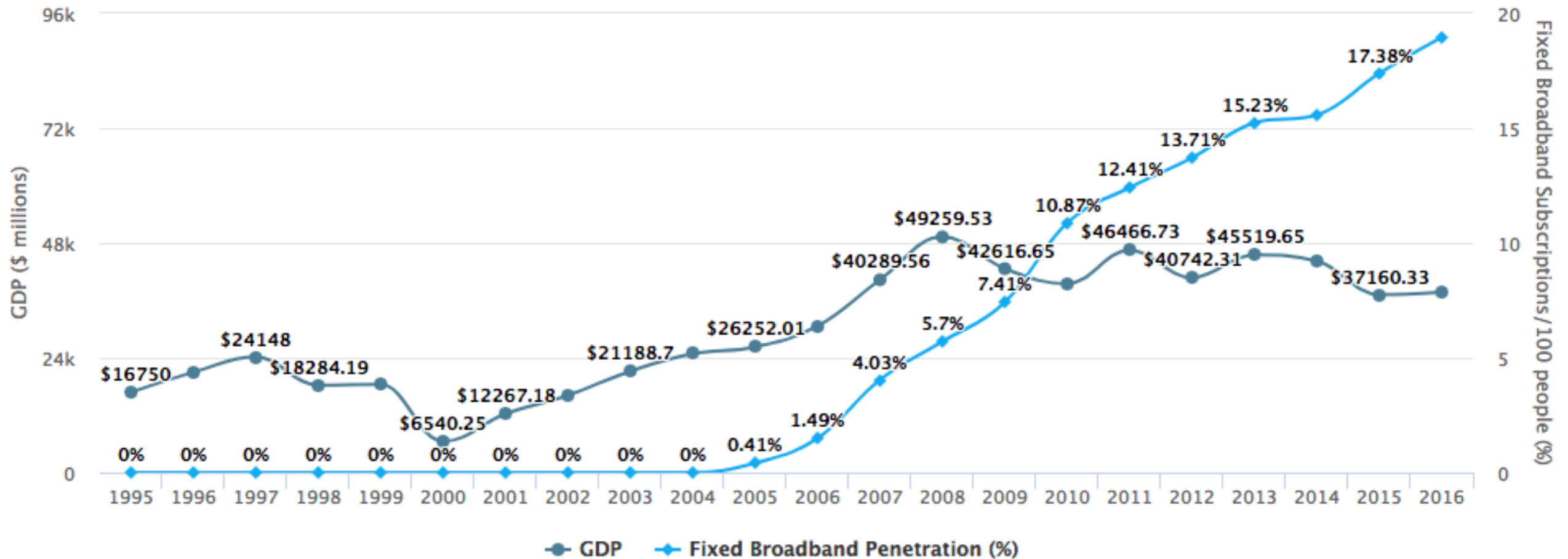
Source: <http://worldbank.org>

Broadband Subscriptions & GDP



Source: <http://worldbank.org>

Broadband Subscriptions & GDP



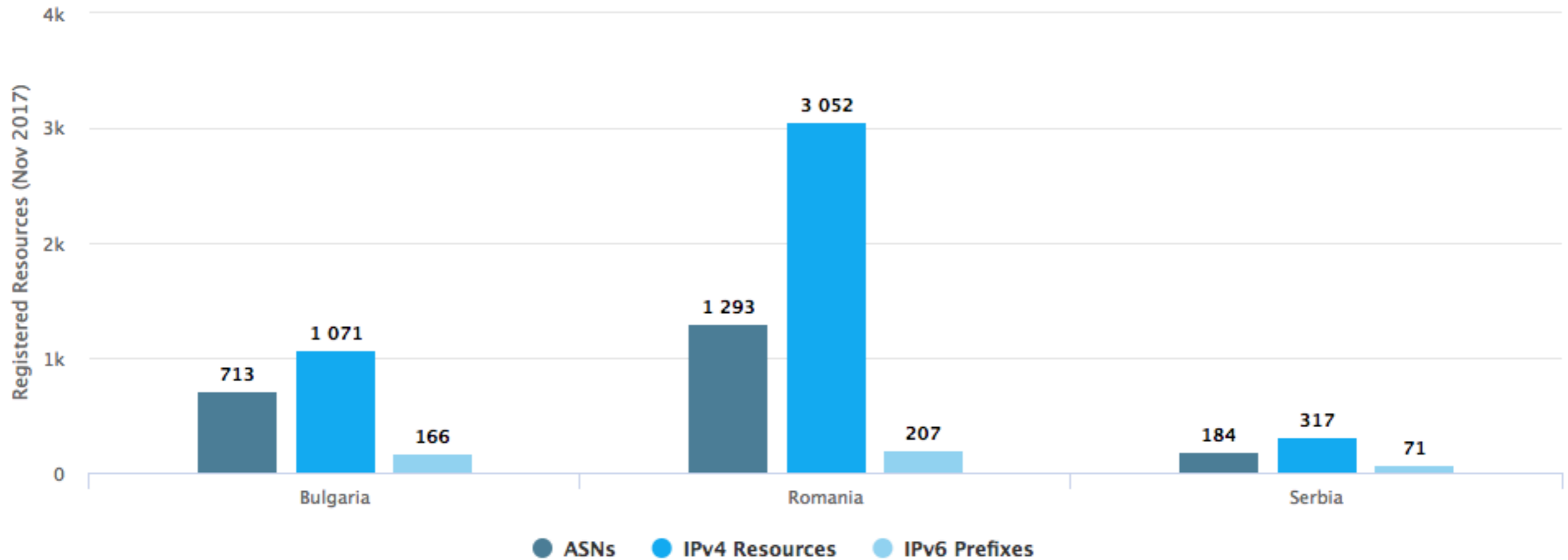
Source: <http://worldbank.org>



IPv6

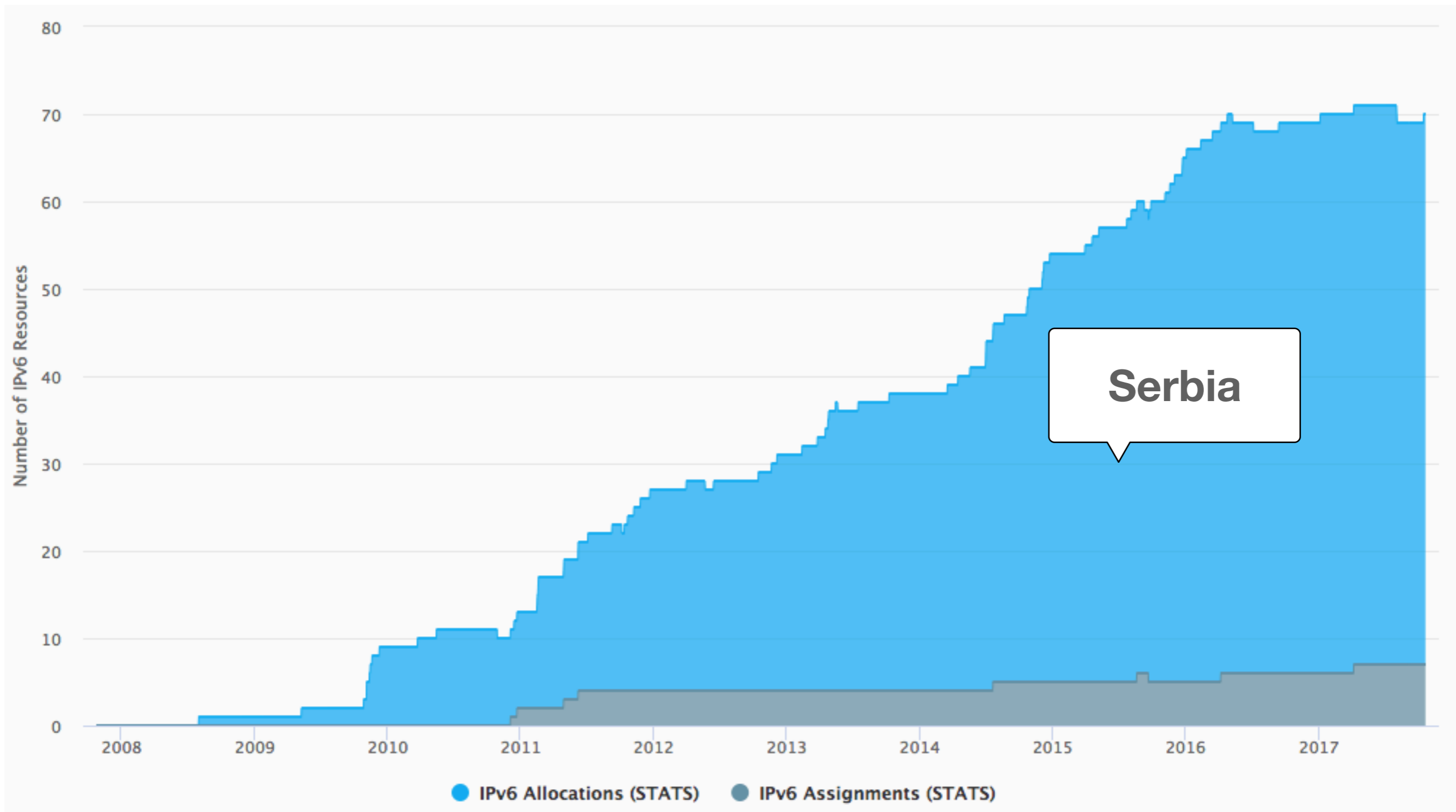
Serbia and Regional Context

Registered Resources



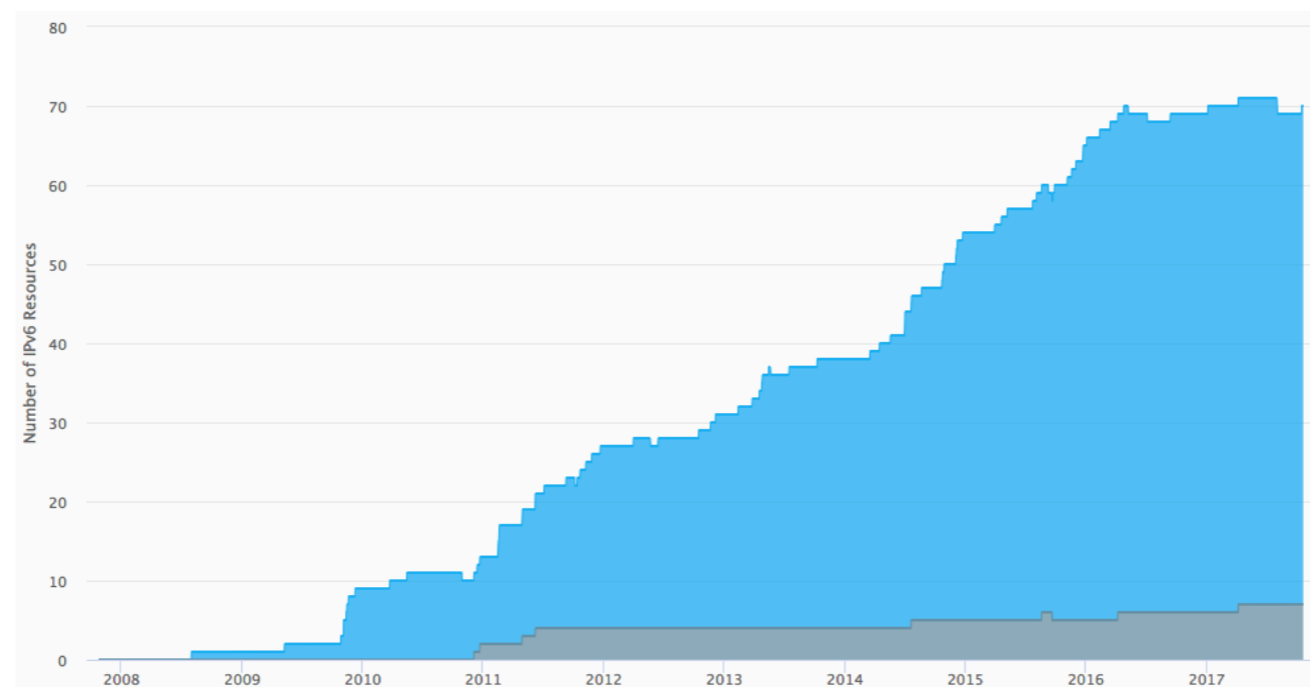
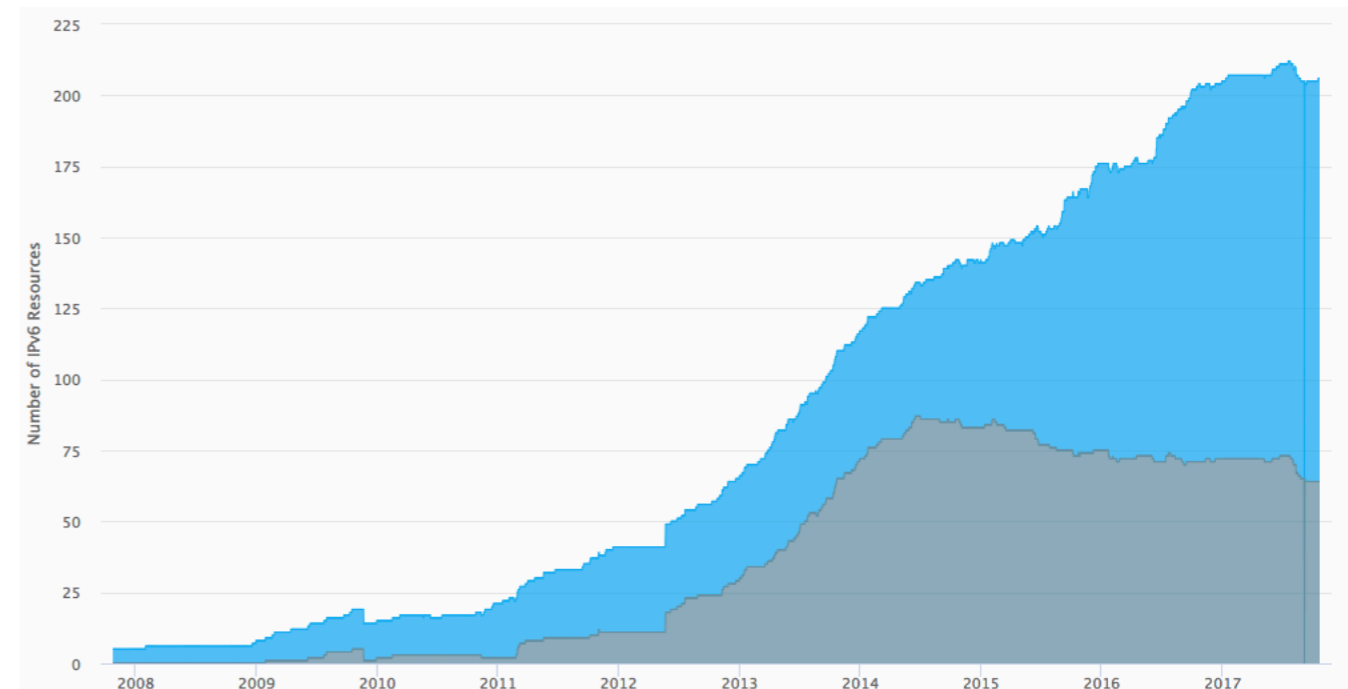
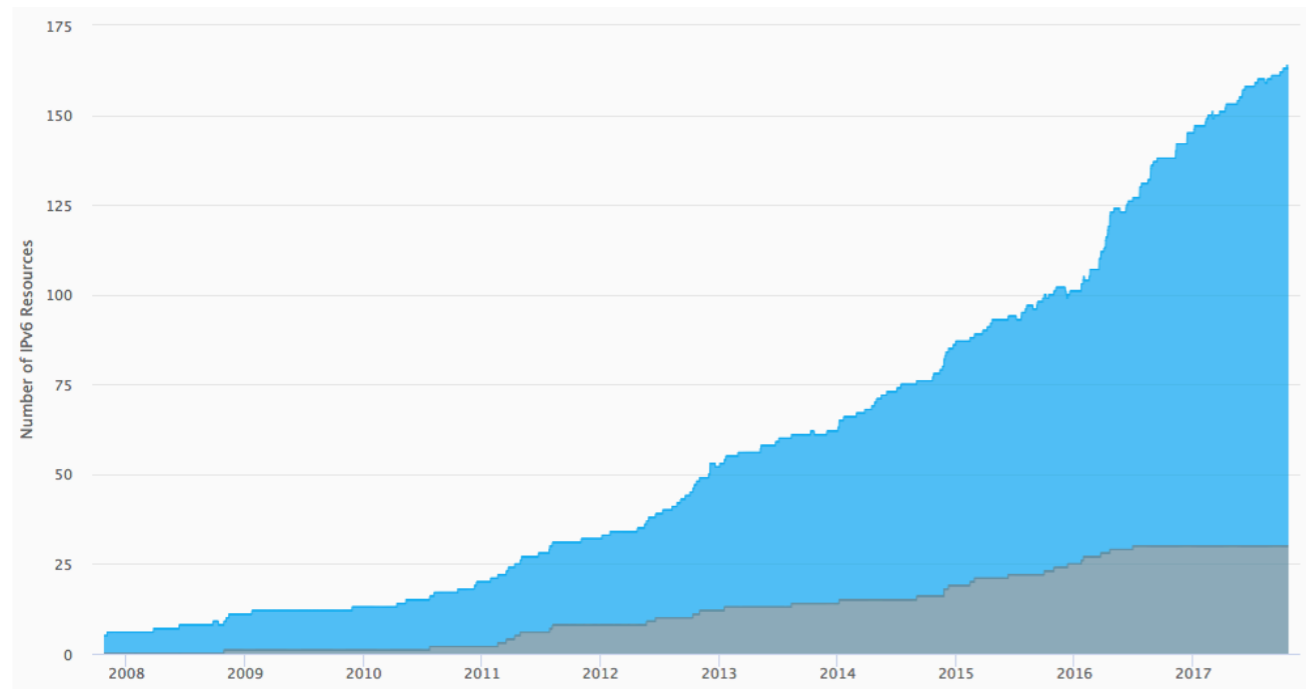
Source: <https://stat.ripe.net>

IPv6 Resources



Source: <https://stat.ripe.net>

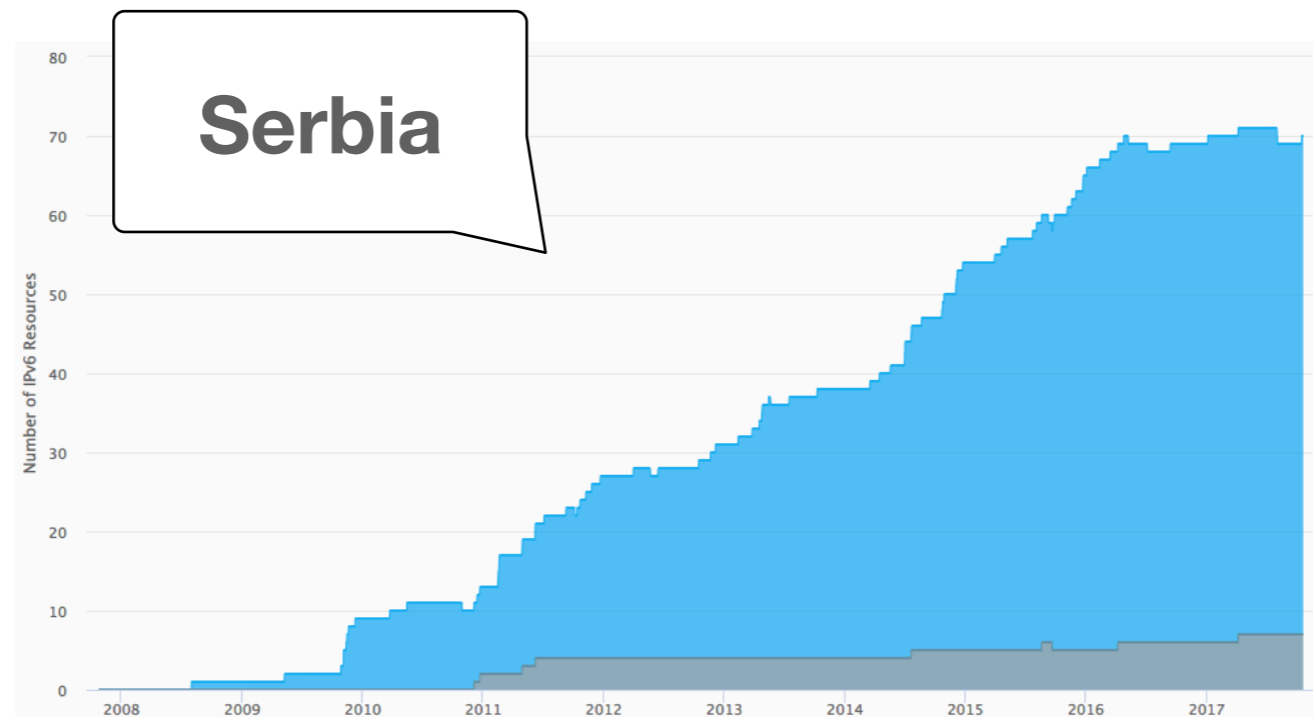
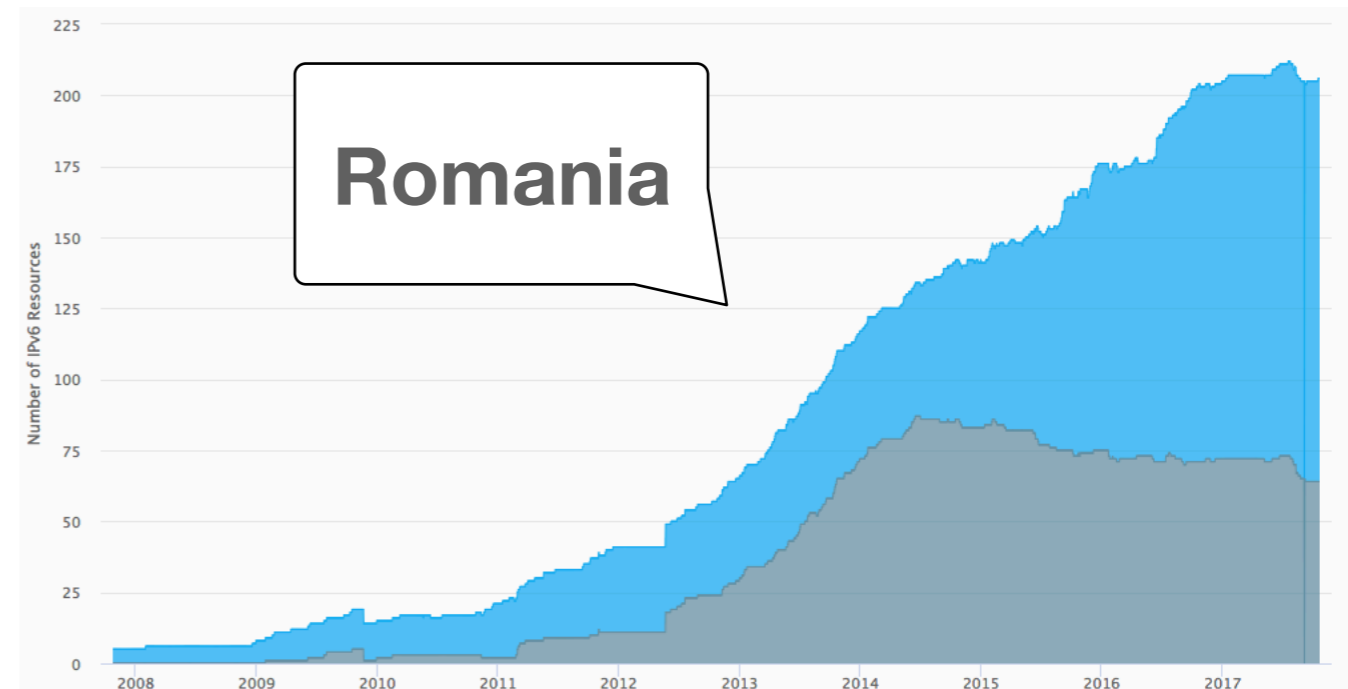
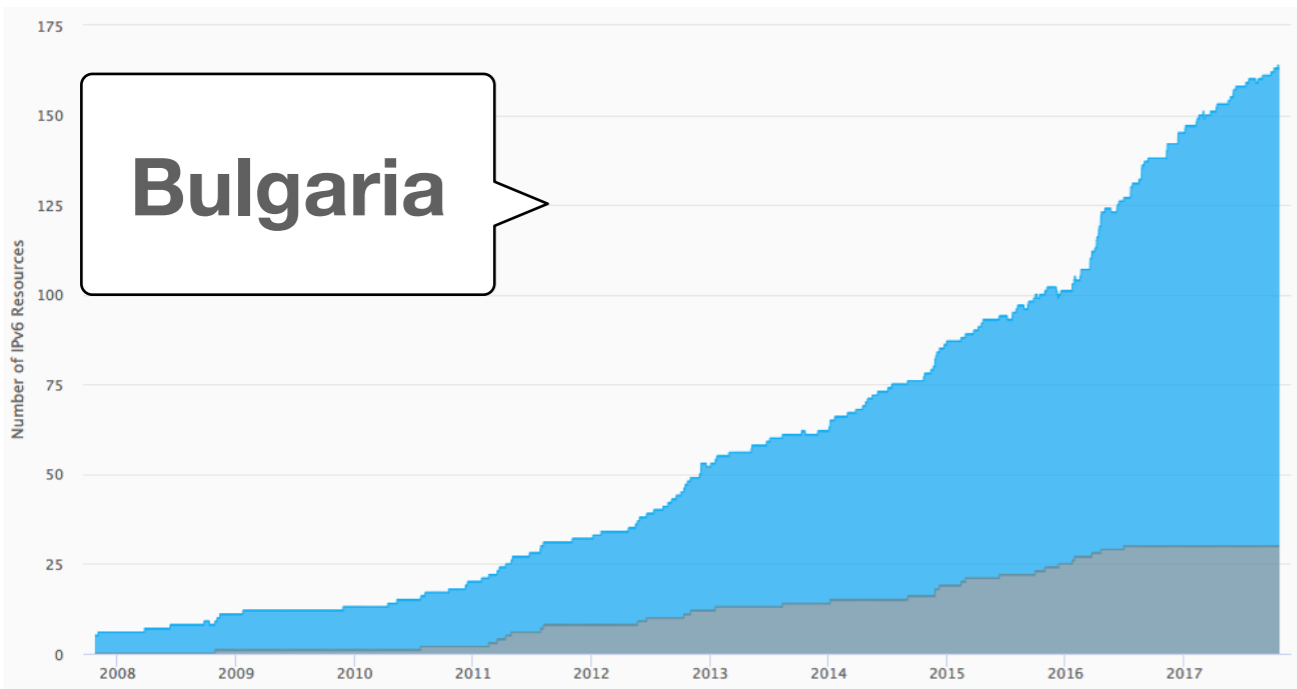
Registered IPv6 Resources



● IPv6 Allocations (STATS) ● IPv6 Assignments (STATS)

Source: <https://stat.ripe.net>

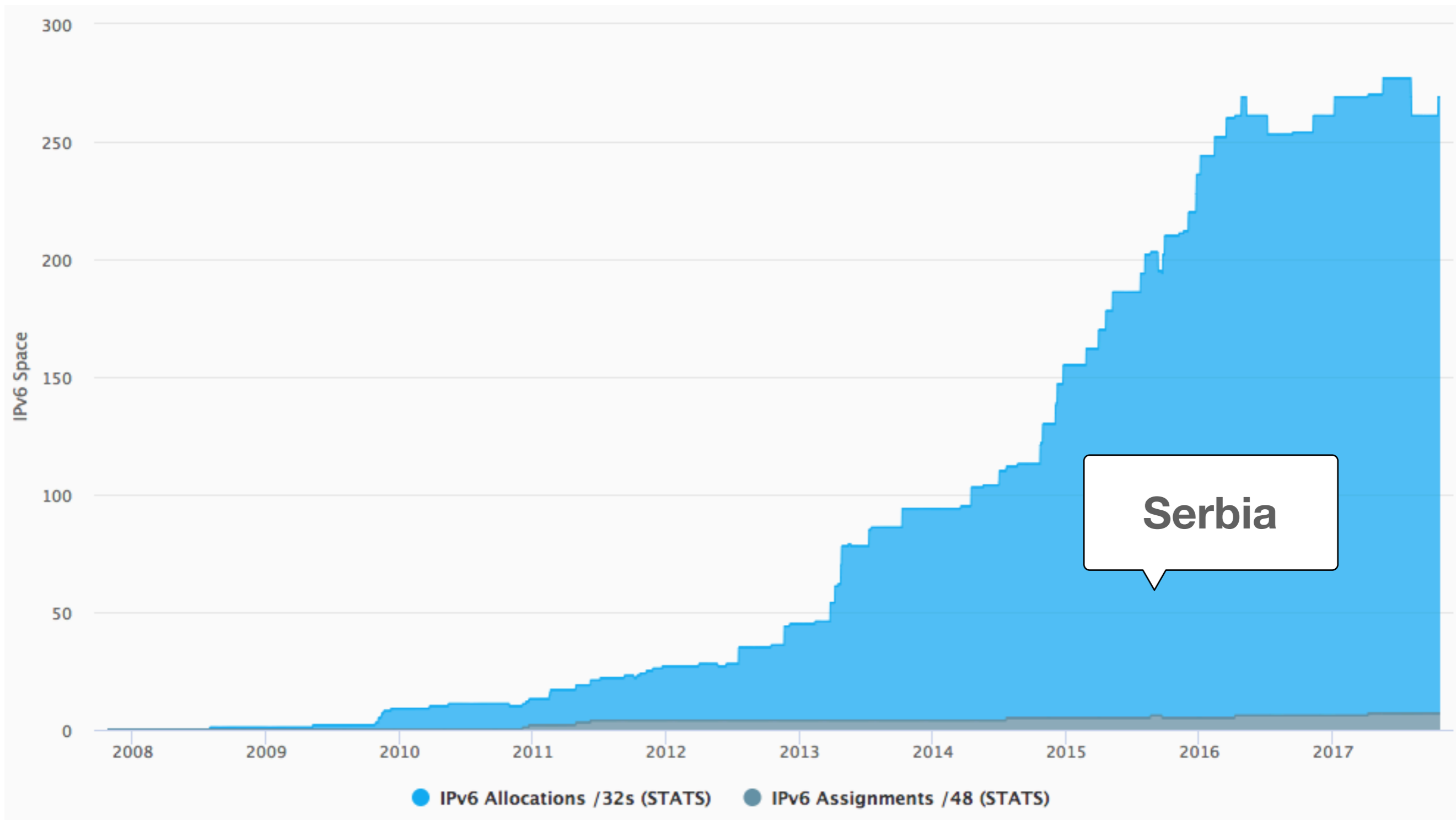
Registered IPv6 Resources



● IPv6 Allocations (STATS) ● IPv6 Assignments (STATS)

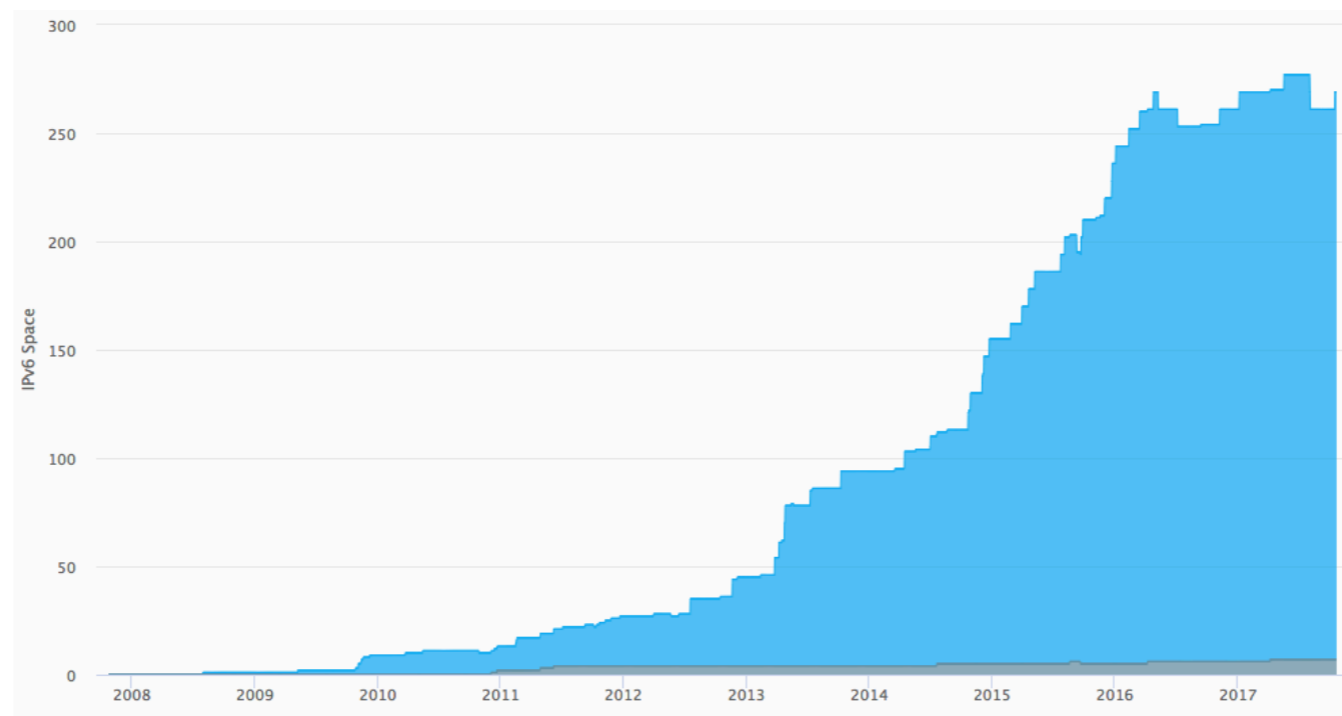
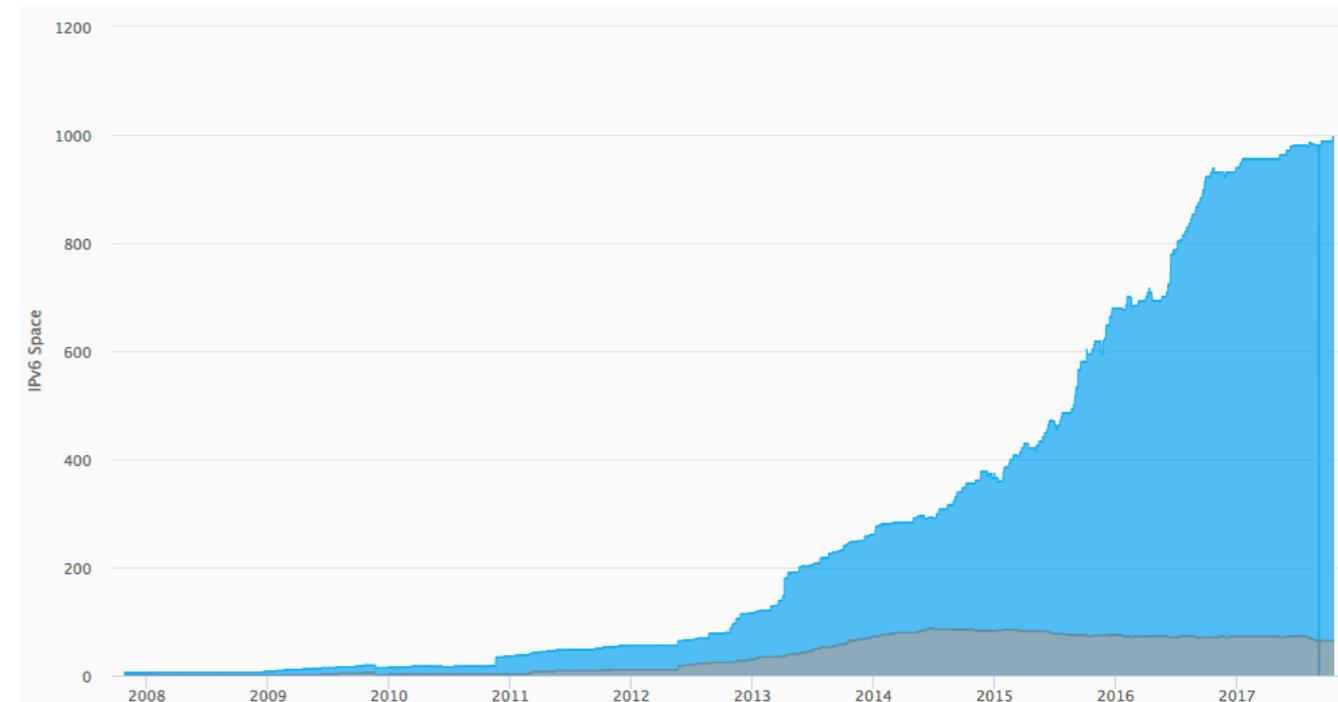
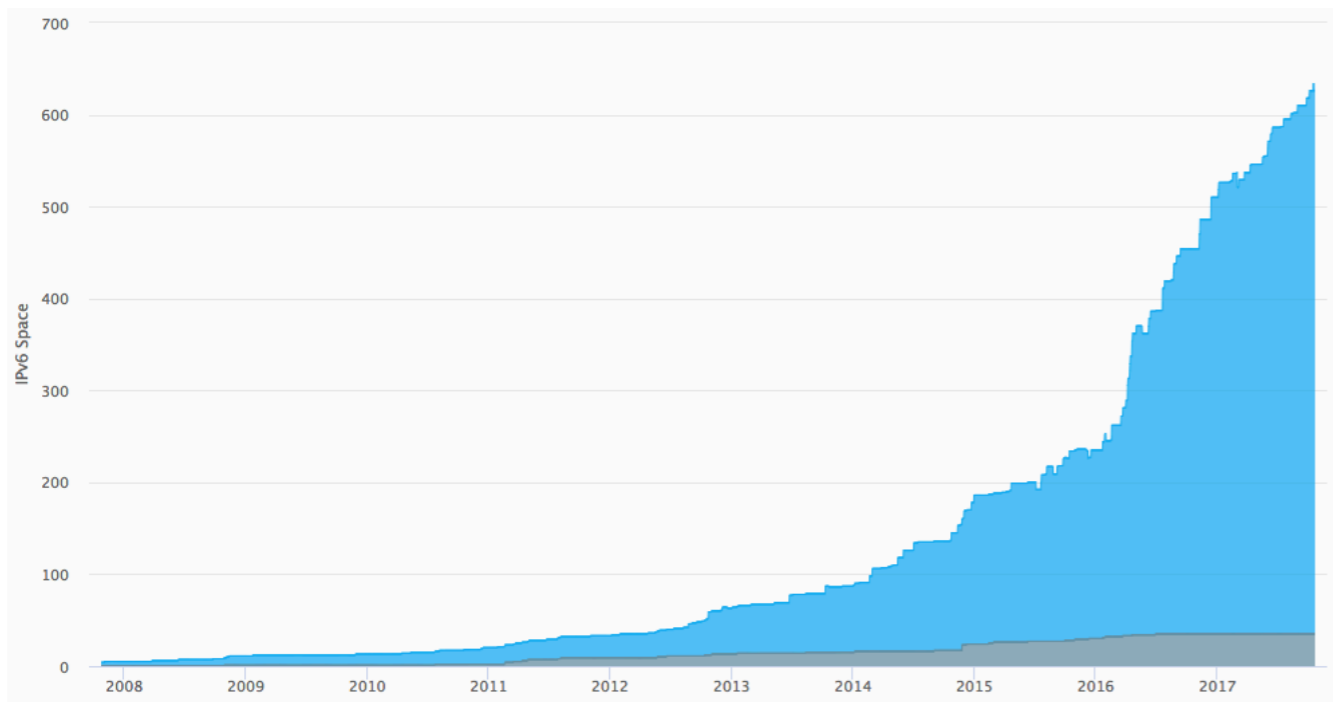
Source: <https://stat.ripe.net>

Registered IPv6 Space



Source: <https://stat.ripe.net>

Registered IPv6 Space



● IPv6 Allocations (STATS) ● IPv6 Assignments (STATS)

Source: <https://stat.ripe.net>

IPv6 Capabilities



Top players

CC	Country	IPv6 Capable	IPv6 Preferred	Samples
BE	Belgium, Western Europe, Europe	63.55%	62.86%	973,547
IN	India, Southern Asia, Asia	51.04%	49.86%	75,343,482
DE	Germany, Western Europe, Europe	44.08%	43.36%	3,964,629

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

IPv6 Capabilities



Top players

CC	Country	IPv6 Capable	IPv6 Preferred	Samples
BE	Belgium, Western Europe, Europe	63.55%	62.86%	973,547
IN	India, Southern Asia, Asia	51.04%	49.86%	75,343,482
DE	Germany, Western Europe, Europe	44.08%	43.36%	3,964,629

...and Serbia in the long tail!

AF	Afghanistan, Southern Asia, Asia	0.07%	0.06%	372,261
RS	Serbia, Southern Europe, Europe	0.07%	0.06%	6,970,149
PH	Philippines, South-Eastern Asia, Asia	0.06%	0.06%	16,170,084

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

IPv6 Capabilities



Top players

CC	Country	IPv6 Capable	IPv6 Preferred	Samples
BE	Belgium, Western Europe, Europe	63.55%	62.86%	973,547
IN	India, Southern Asia, Asia	51.04%	49.86%	75,343,482
DE	Germany, Western Europe, Europe	44.08%	43.36%	3,964,629

...and Serbia in the long tail!

AF	Afghanistan, Southern Asia, Asia	0.07%	0.06%	372,261
RS	Serbia, Southern Europe, Europe	0.07%	0.06%	6,970,149
PH	Philippines, South-Eastern Asia, Asia	0.06%	0.06%	16,170,084
EC	Ecuador, South America, Americas	13.83%	12.82%	1,776,777
RO	Romania, Eastern Europe, Europe	13.25%	11.79%	5,199,482
NL	Netherlands, Western Europe, Europe	13.21%	12.45%	2,664,550

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



Active Measurements

RIPE Atlas, M-Lab, etc.

RIPE Atlas



RIPE Atlas



RIPE Atlas Coverage in Serbia



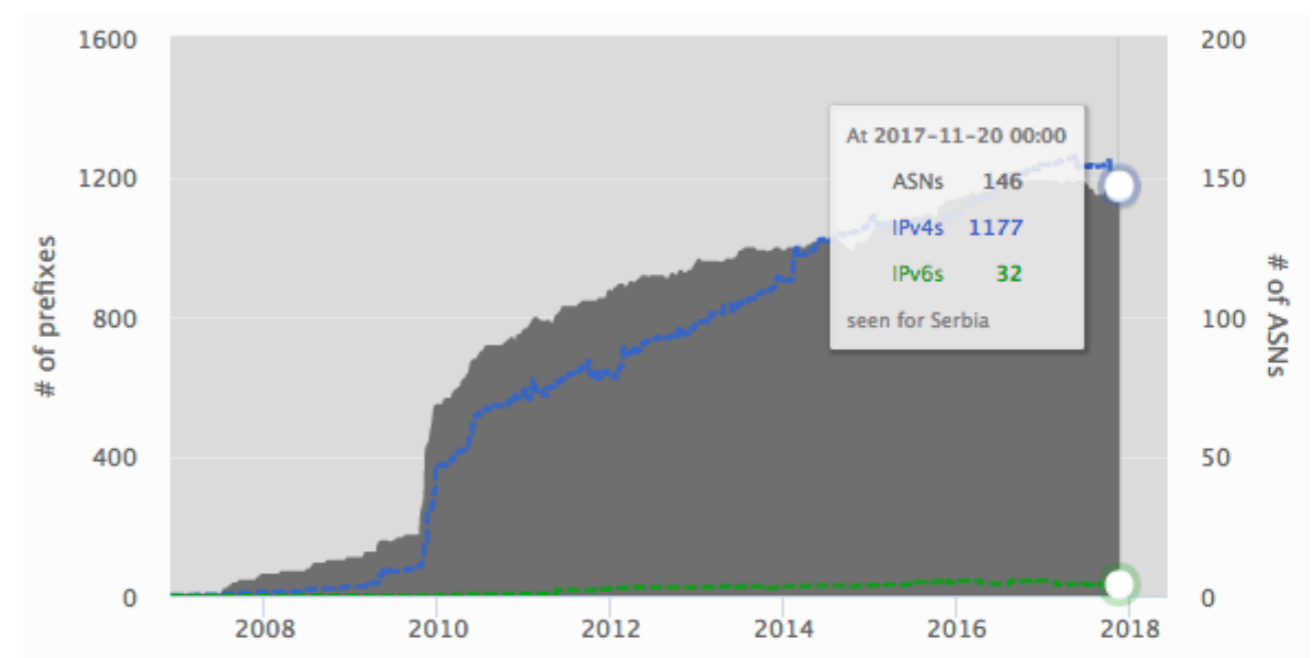
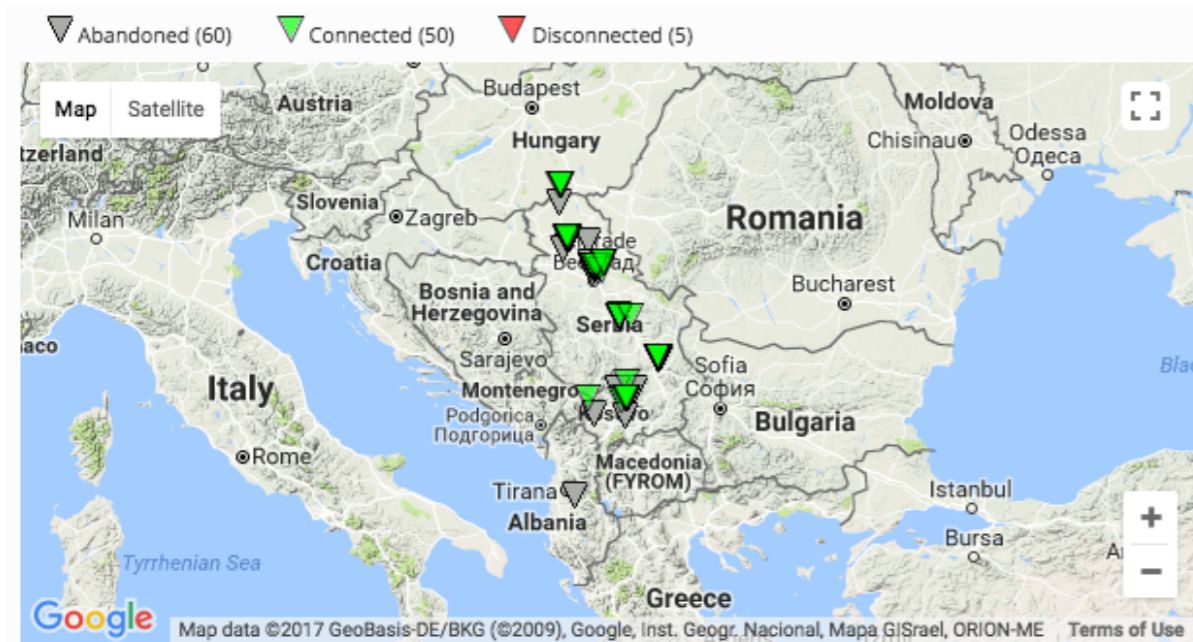
RIPE Atlas probes connected:

50

vs

Networks in Serbia (RIS):

146



source: <https://stat.ripe.net/RS#tabId=activity>

source: <https://stat.ripe.net/RS#tabId=routing>

IXP-Country-Jedi

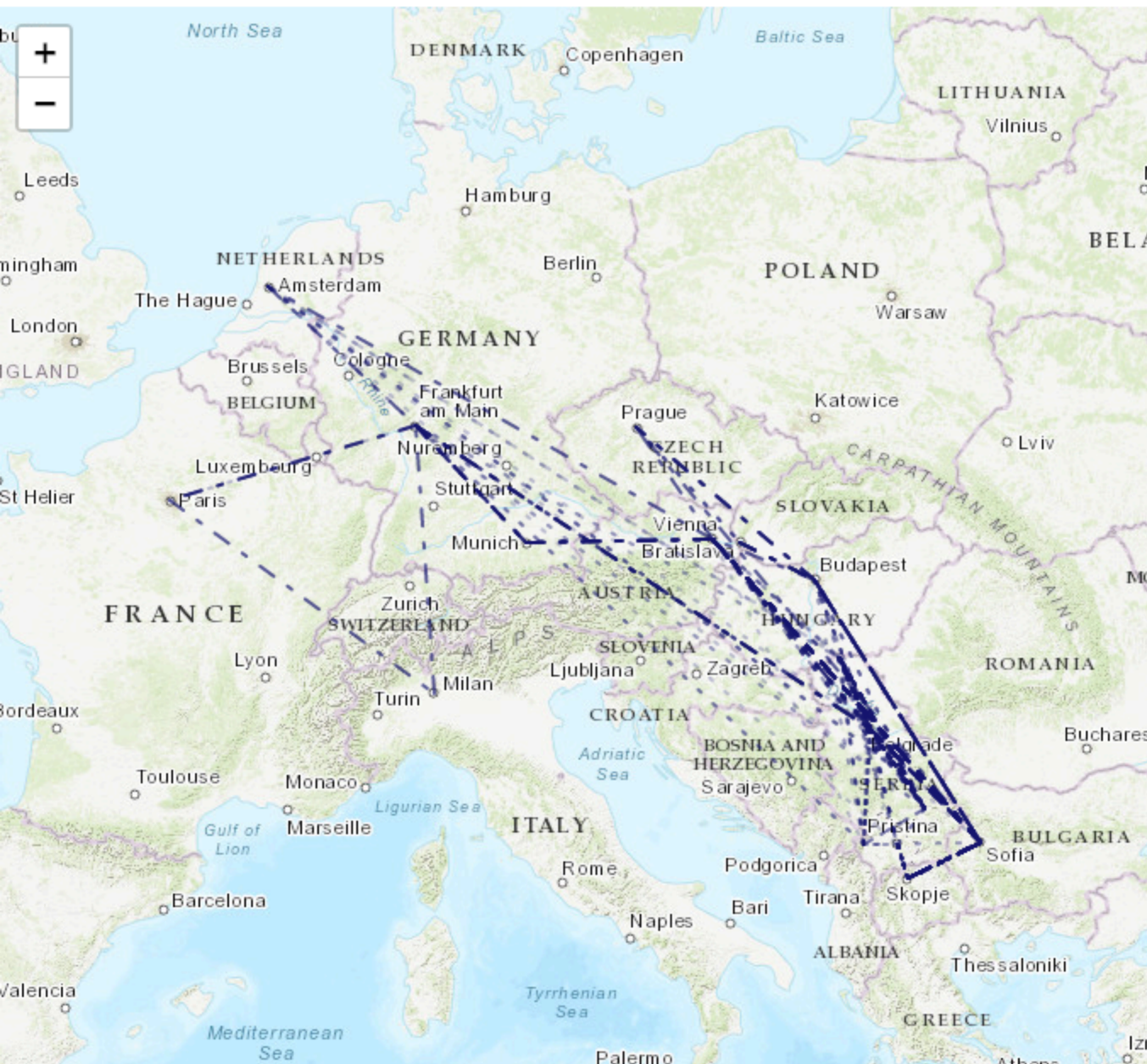


- What is IXP Country Jedi?
 - RIPE Atlas traceroute measurements
 - Geolocating observed hops
 - Indicator whether traceroute paths stay local
 - **CAUTION:** Not necessarily applicable to traffic!

IXP-Country-Jedi



- Serbia

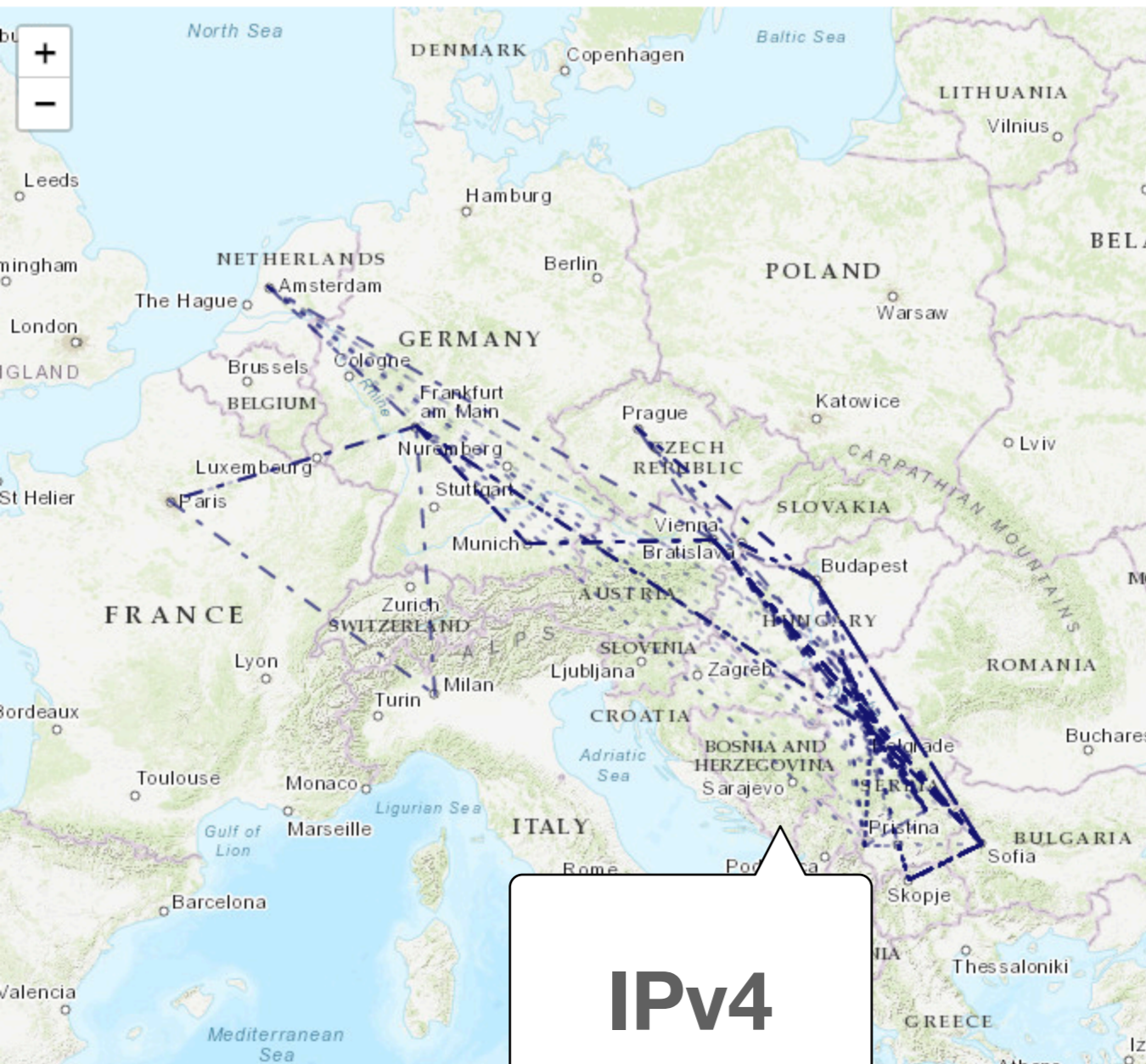


<http://sg-pub.ripe.net/emile/ixp-country-jedi/latest/RS/geopath/>

IXP-Country-Jedi



- Serbia

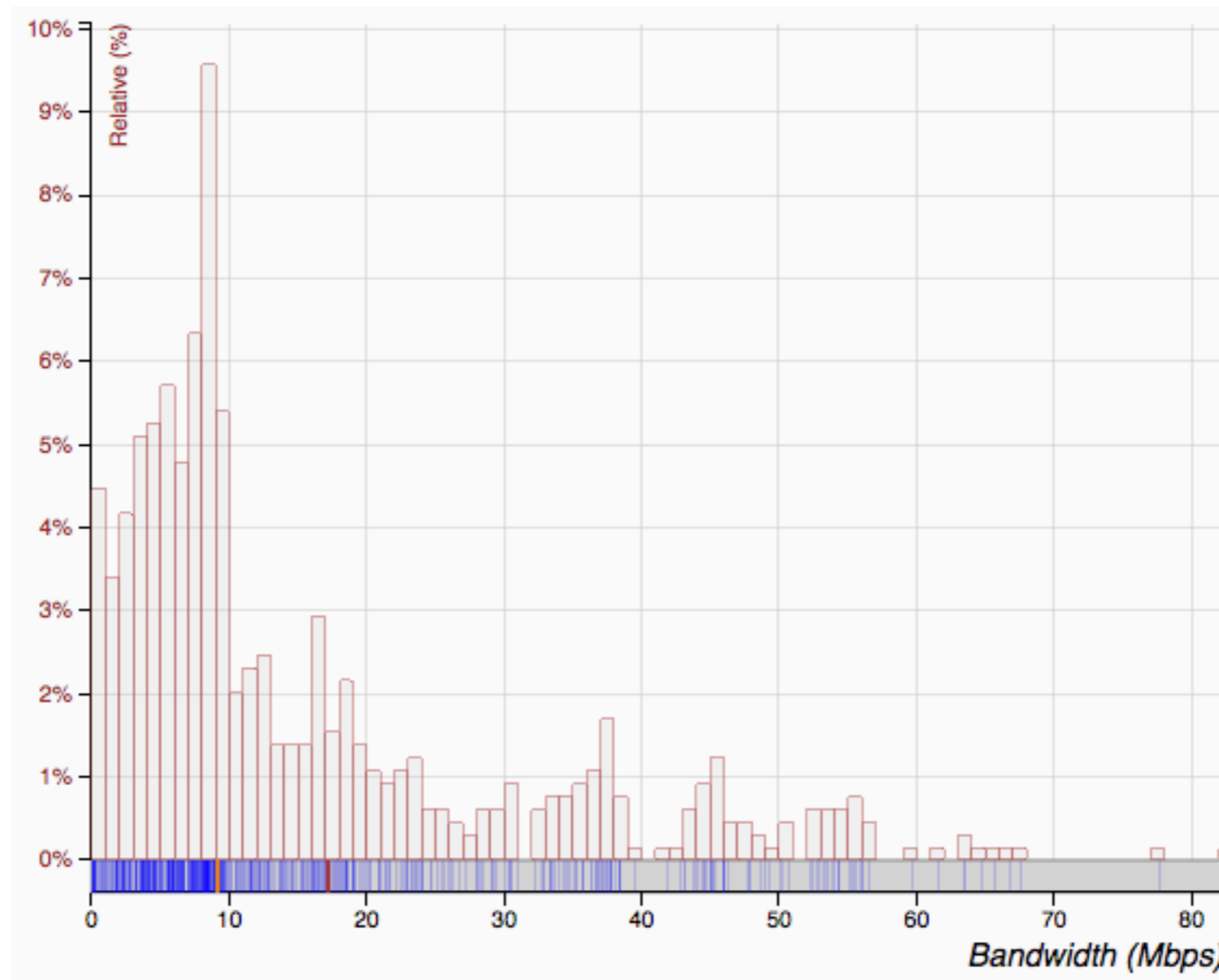


<http://sg-pub.ripe.net/emile/ixp-country-jedi/latest/RS/geopath/>

Bandwidth Capacity in Serbia



- Observed from M-Lab (Google)

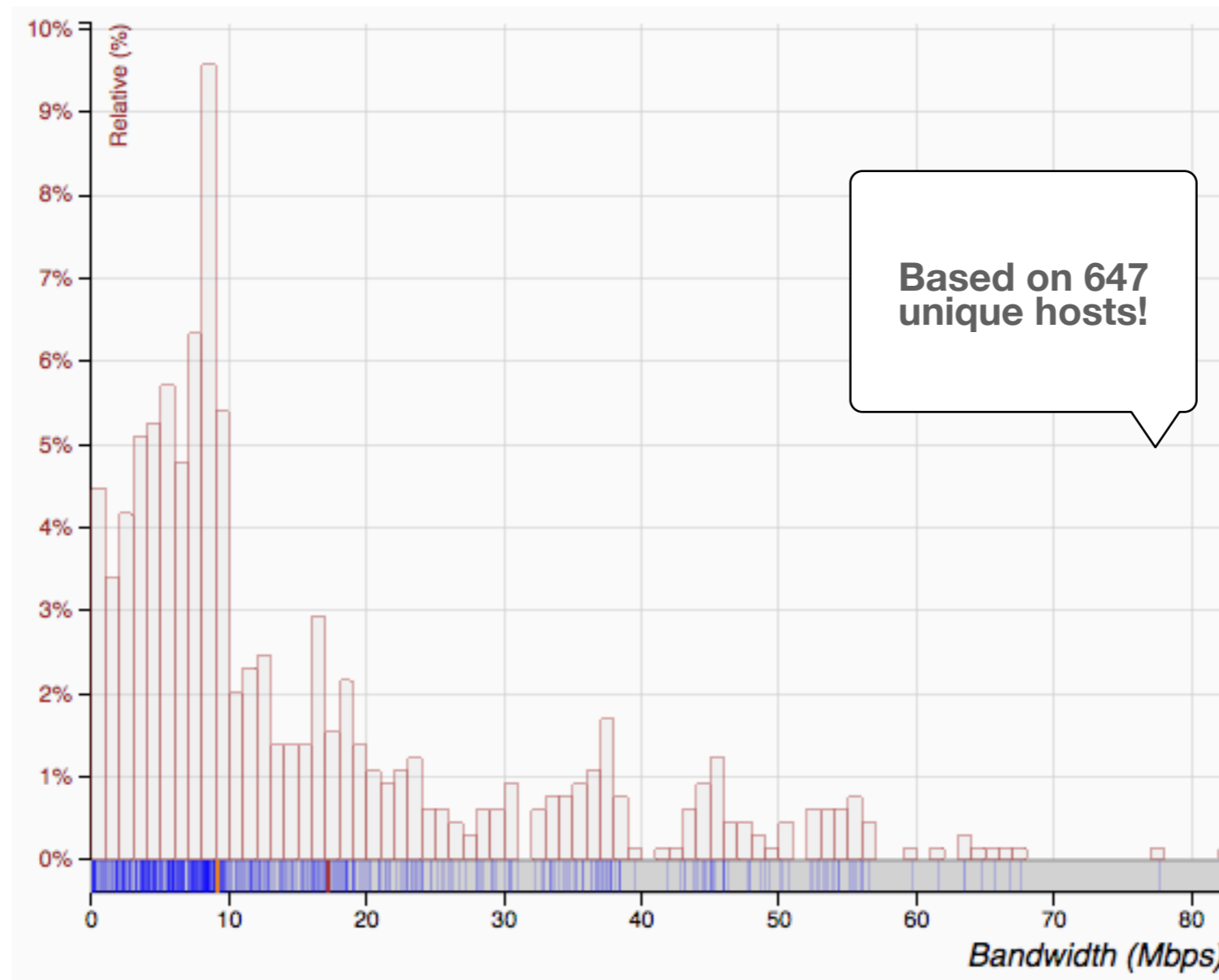


source: <https://stat.ripe.net/RS#tabId=activity>

Bandwidth Capacity in Serbia



- Observed from M-Lab (Google)



source: <https://stat.ripe.net/RS#tabId=activity>



Questions



christian.teuschel@ripe.net
@cteuschel

RIPE NCC Country Reports



- stat.ripe.net/country-report

The screenshot shows the RIPE NCC website interface. At the top left is the RIPE NCC logo and name. To the right are navigation tabs for 'RIPE Database (Whois)' and 'Website', and a search bar with the placeholder text 'Search the content of this website'. Below this is a main navigation menu with items: 'Manage IPs and ASNs', 'Analyse', 'Participate', 'Get Support', 'Publications', and 'About Us'. A breadcrumb trail indicates the current location: 'You are here: Home > Analyse > Statistics > RIPEstat'. The main heading is 'Country Reports^{beta}'. Below the heading are two input fields: 'Choose a Country or a Region' and 'Choose a Topic', followed by a 'Go' button. The page is divided into three columns: 'Twitter Feed', 'RIPE Labs Feed', and 'RIPEstat Links'. The Twitter feed shows a tweet from Christian Teuschel about a new #RIPEstat record. The RIPE Labs feed lists articles like 'BGP Meets Cat' and 'Sand in the Gears'. The RIPEstat Links section provides links to 'About RIPEstat', 'Documentation', 'Use Cases', and 'RIPEstat Training Course'.

RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE Database (Whois) Website

Search the content of this website

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

You are here: Home > Analyse > Statistics > RIPEstat

Country Reports^{beta}

Choose a Country or a Region

Choose a Topic

Go

Twitter Feed

#RIPEstat

OpenDataMonkey Retweeted

Christian Teuschel @cteuschel
A new #RIPEstat record! Yesterday we hit 54 million requests in one day on our #OpenData API. stat.ripe.net/docs/data_api

RIPE Labs Feed

BGP Meets Cat
Jun 26, 2017

Sand in the Gears
Jun 08, 2017

Focus on Switzerland - RIPE NCC Statistics and Data
May 30, 2017

Focus on Greece - RIPE NCC Statistics and Data

RIPEstat Links

About RIPEstat
Get general information about RIPEstat

Documentation
Access the documentation for all RIPEstat APIs

Use Cases
Read about use cases for RIPEstat

RIPEstat Training Course