



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

Country View On Russia

Christian Teuschel | June 2018 | ENOG 15 Moscow

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>



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Open Data API for Internet related data
+55 million daily requests
Hardly any usage limitations





Country View

Russia and Comparative Context

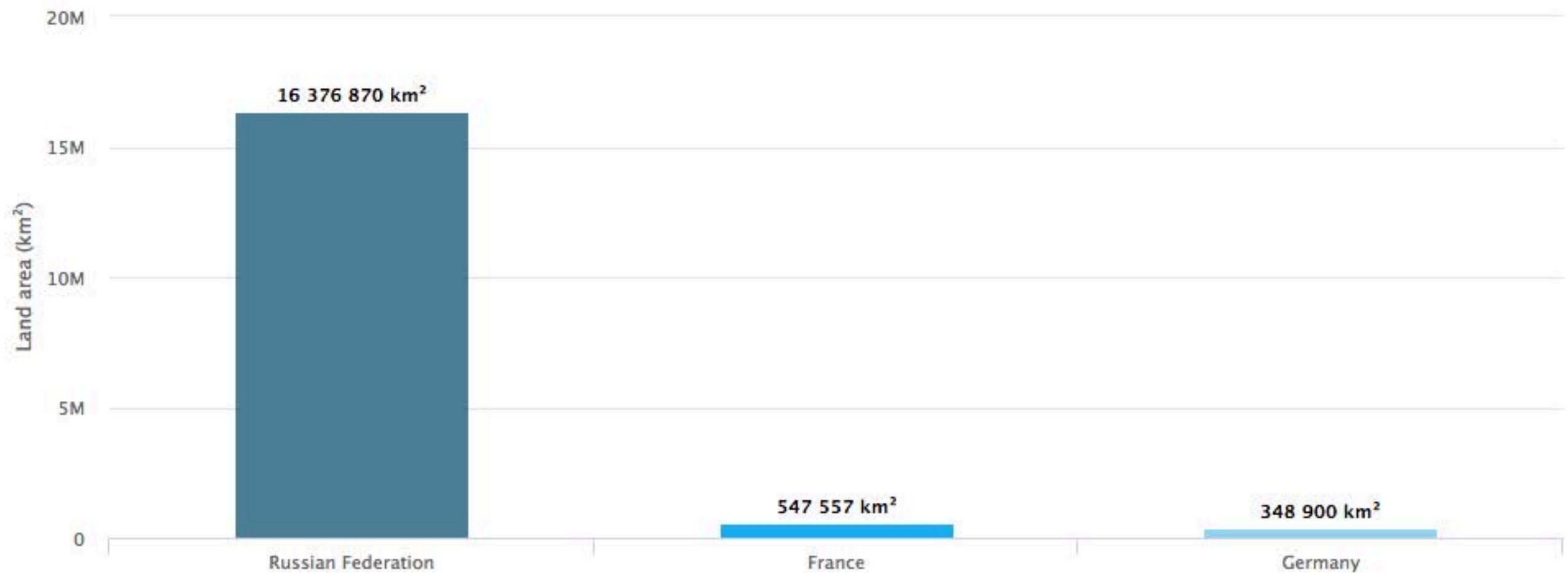
Russia and Comparative Context



Russia and Comparative Context

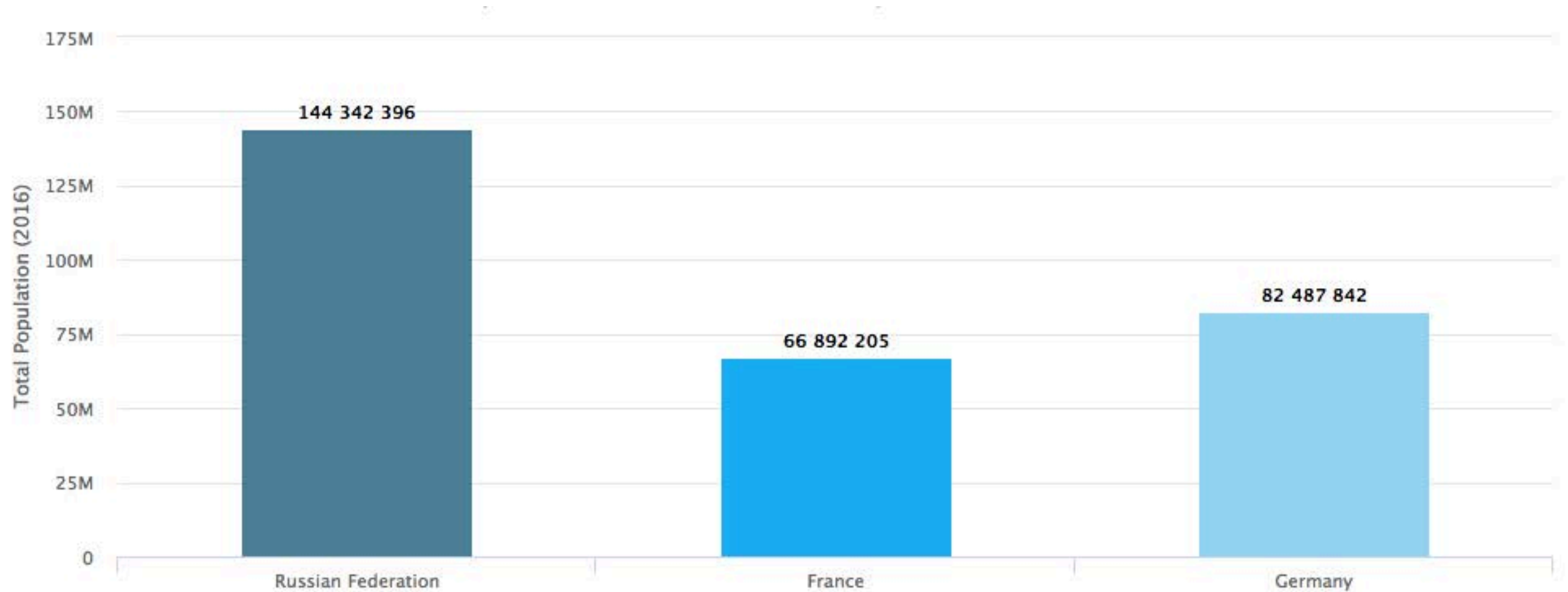


Land Area



Source: <http://worldbank.org>

Population



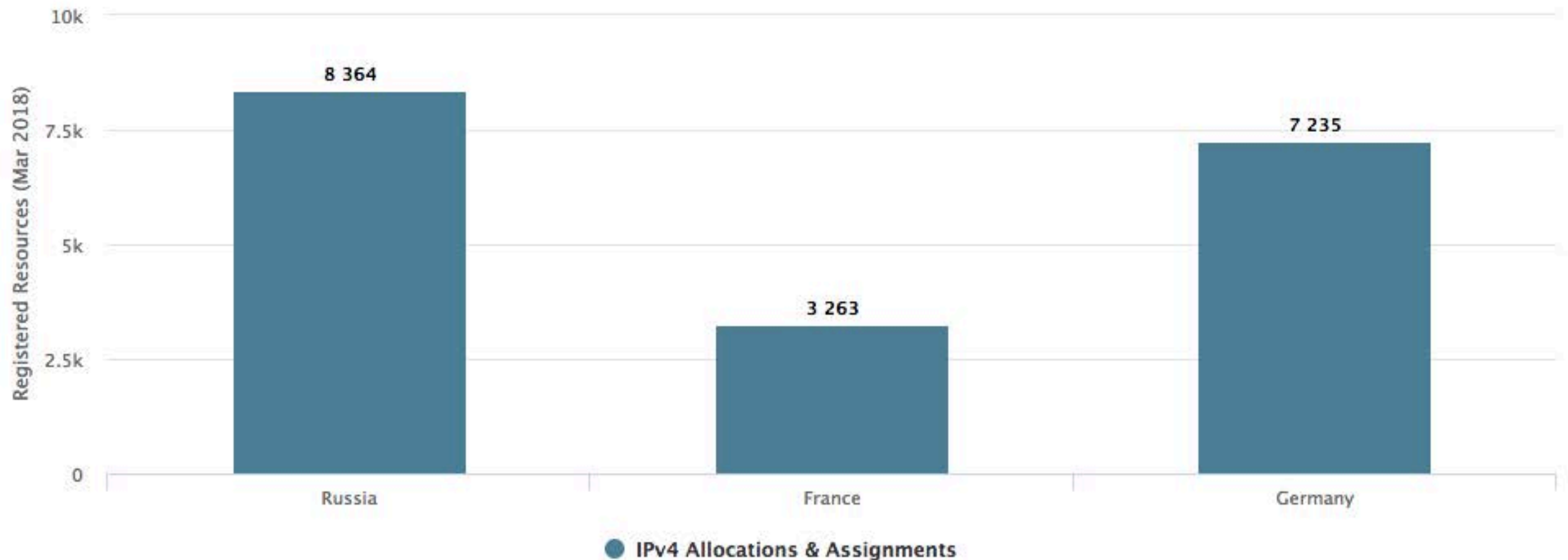
Source: <http://worldbank.org>



IPv4 Depletion

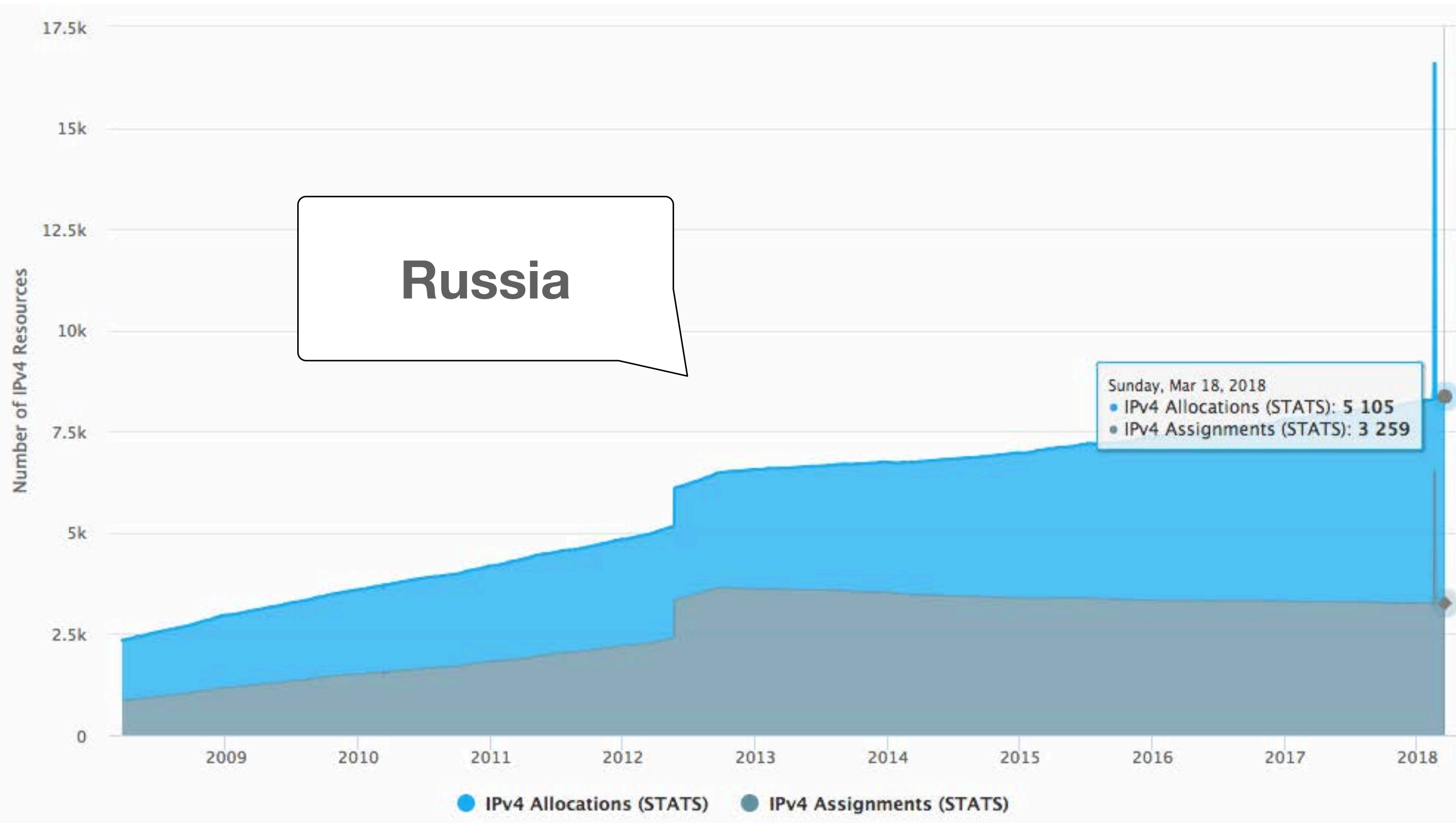
Russia and Comparative Context

Registered IPv4 Resources



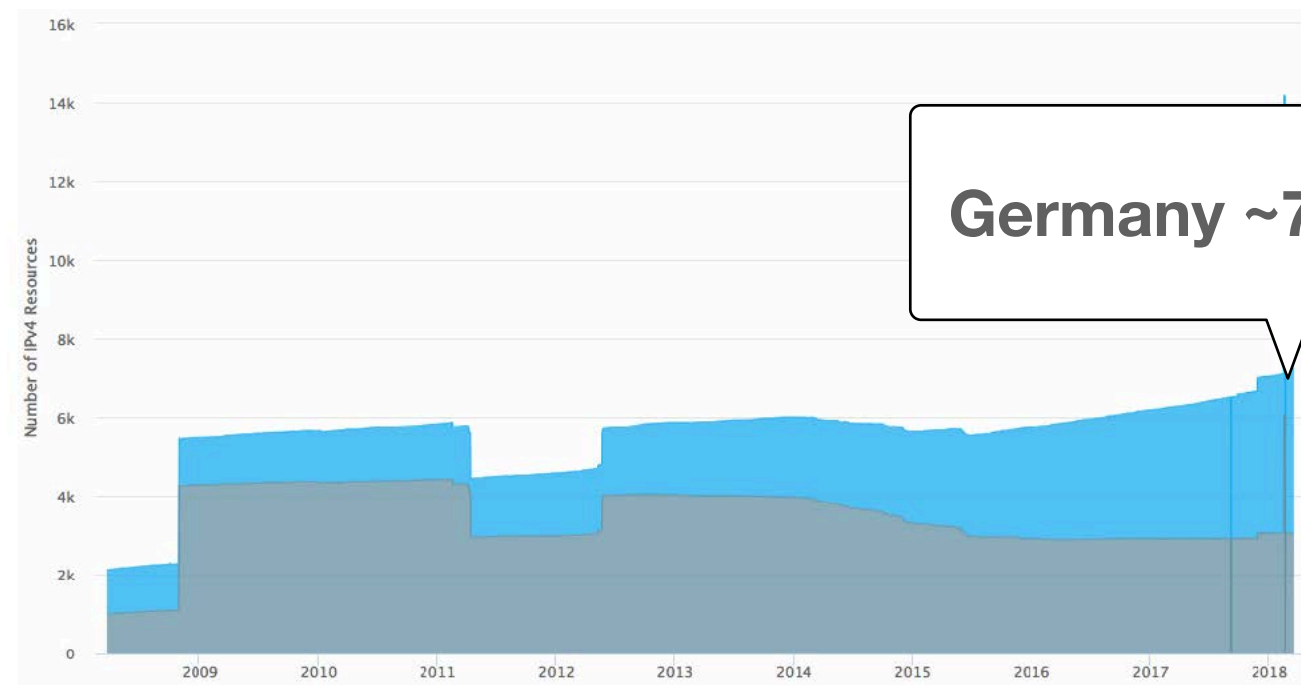
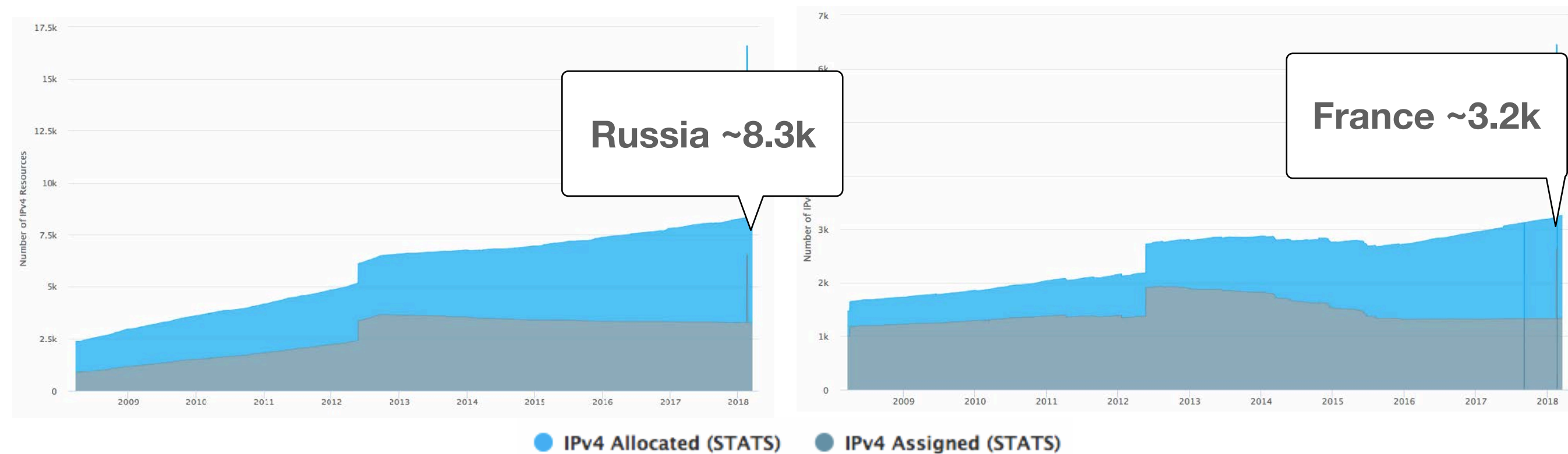
Source: <https://stat.ripe.net>

Registered IPv4 Resources



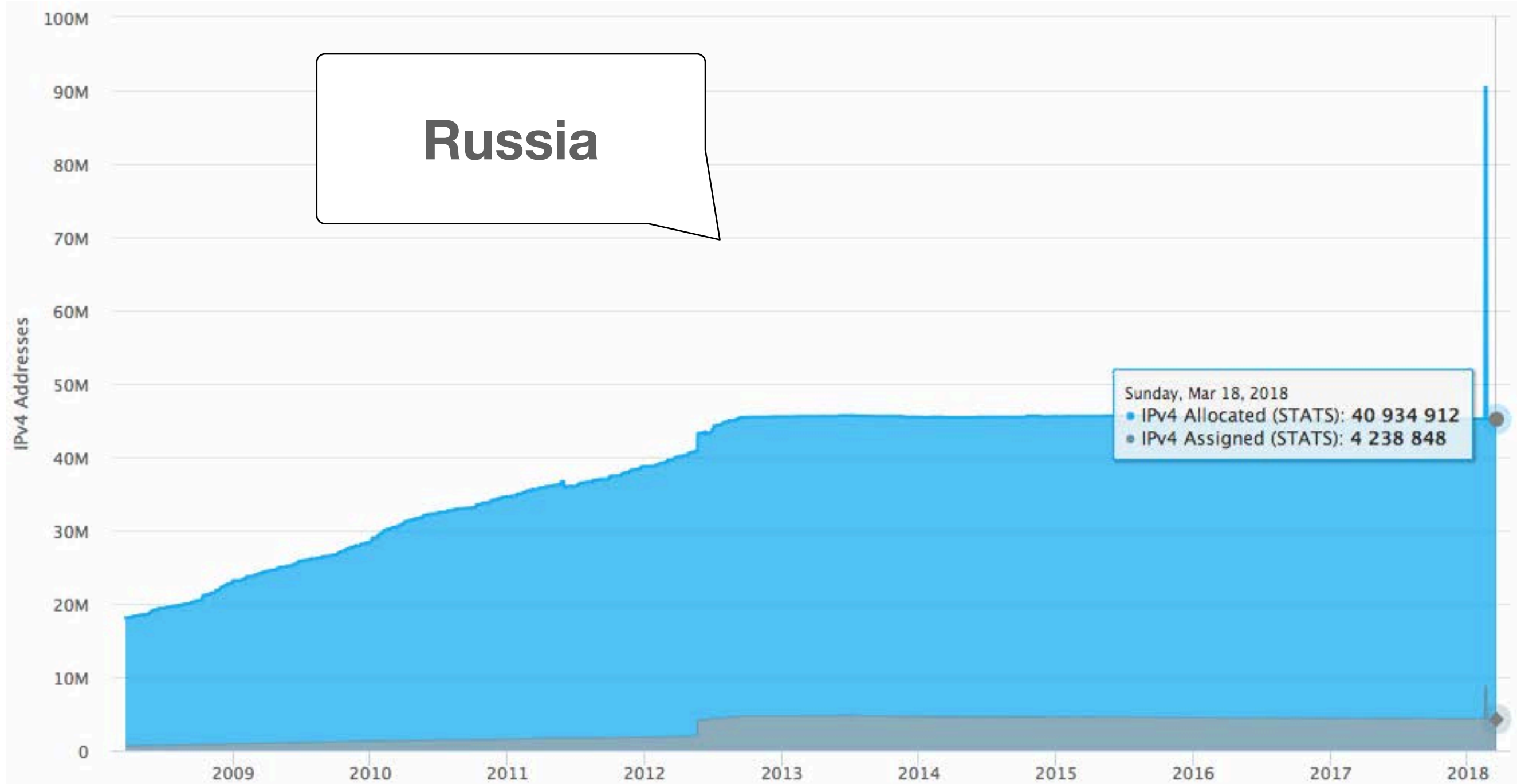
Source: <https://stat.ripe.net>

Registered IPv4 Resources



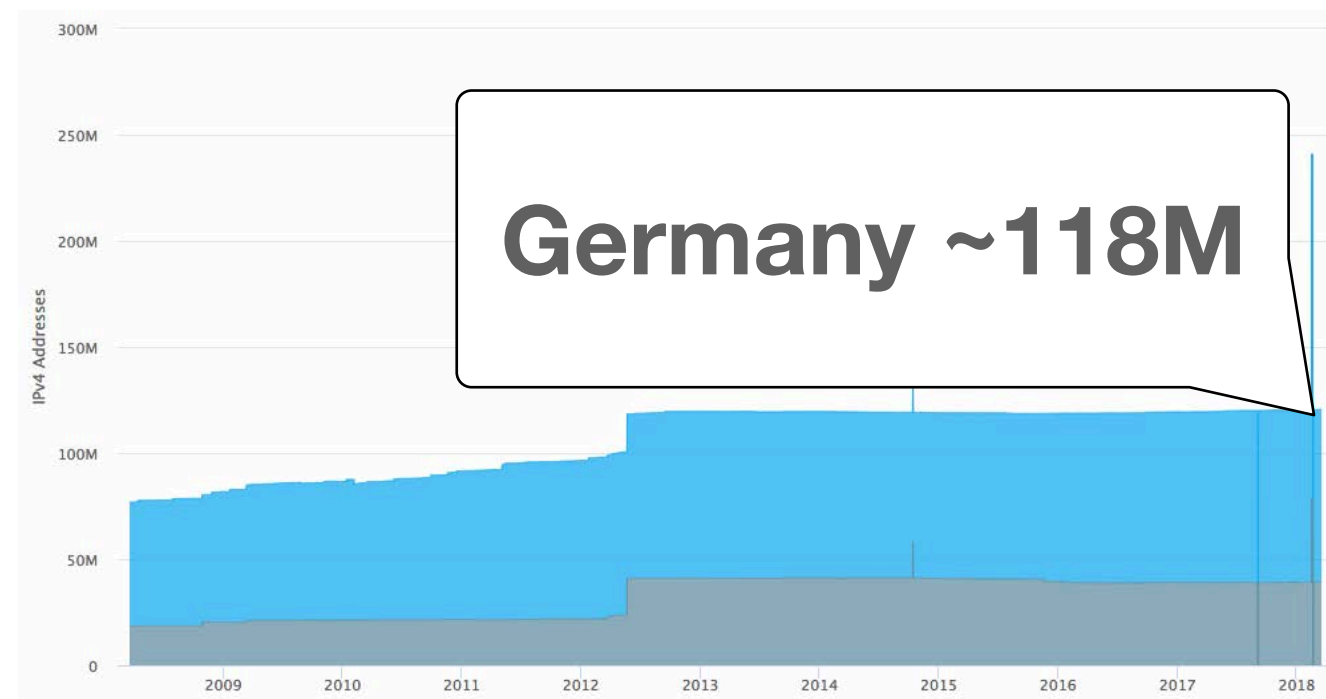
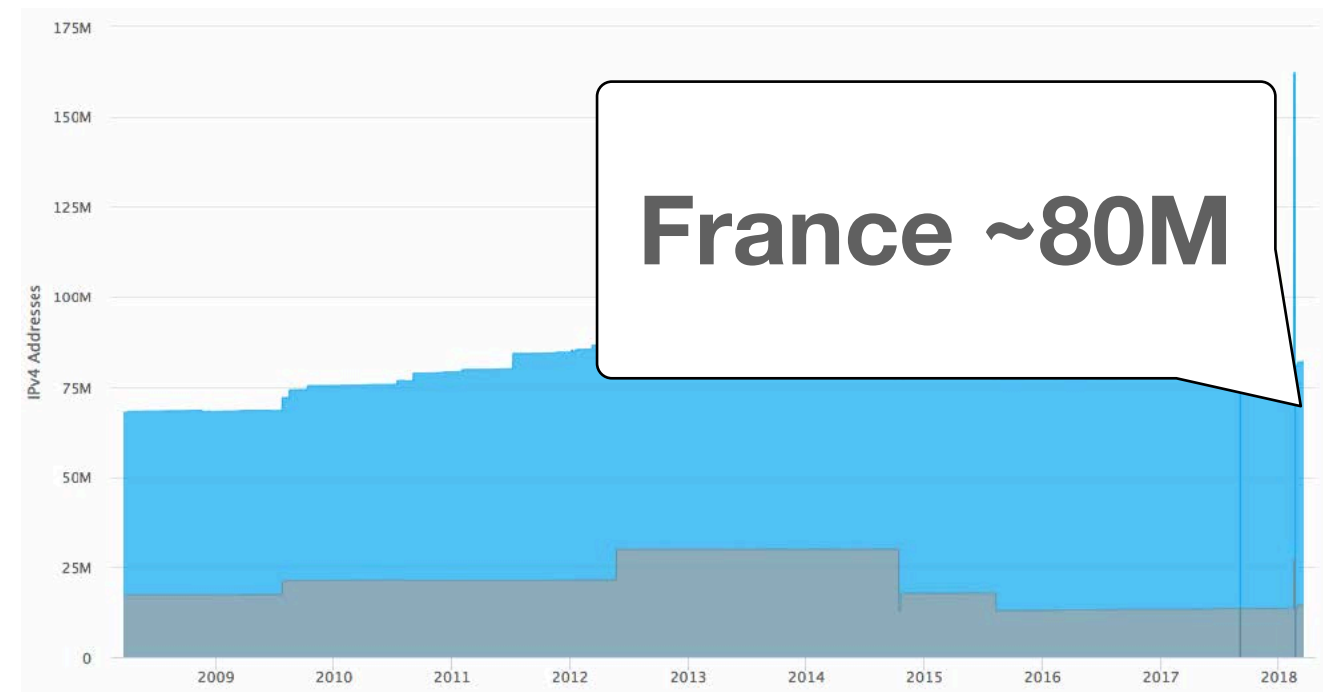
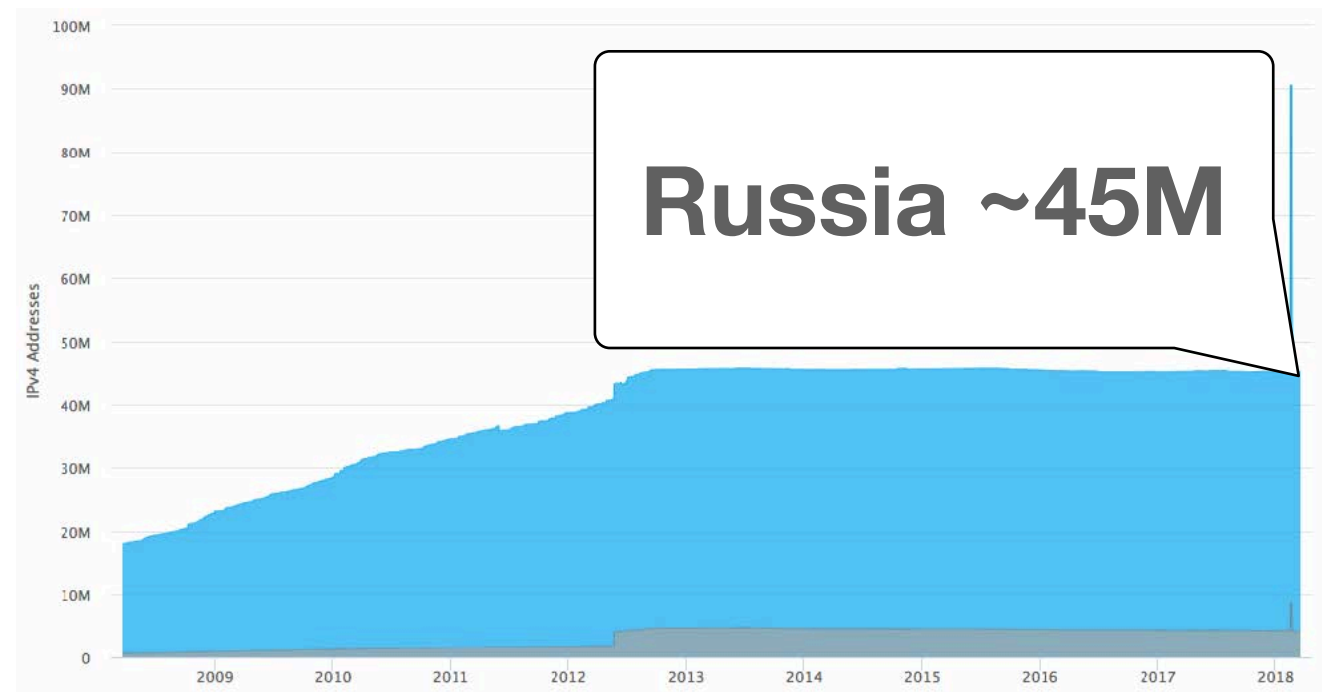
Source: <https://stat.ripe.net>

Registered IPv4 Space



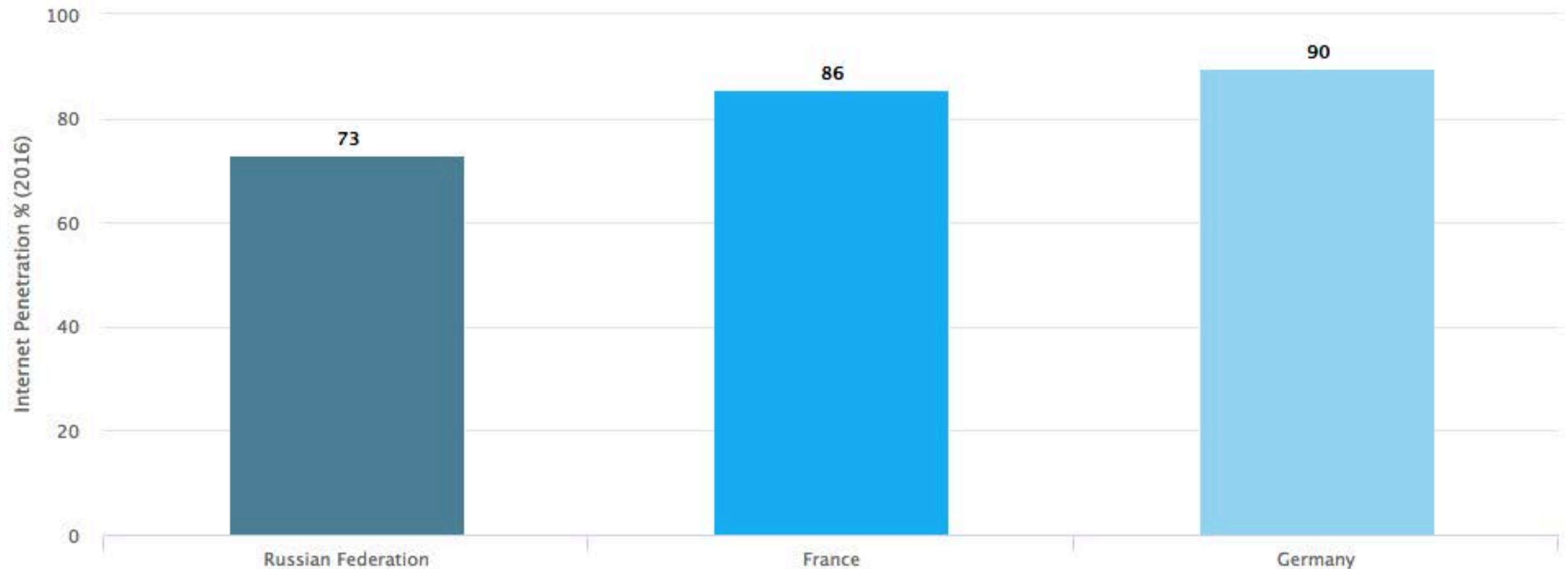
Source: <https://stat.ripe.net>

Registered IPv4 Space



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

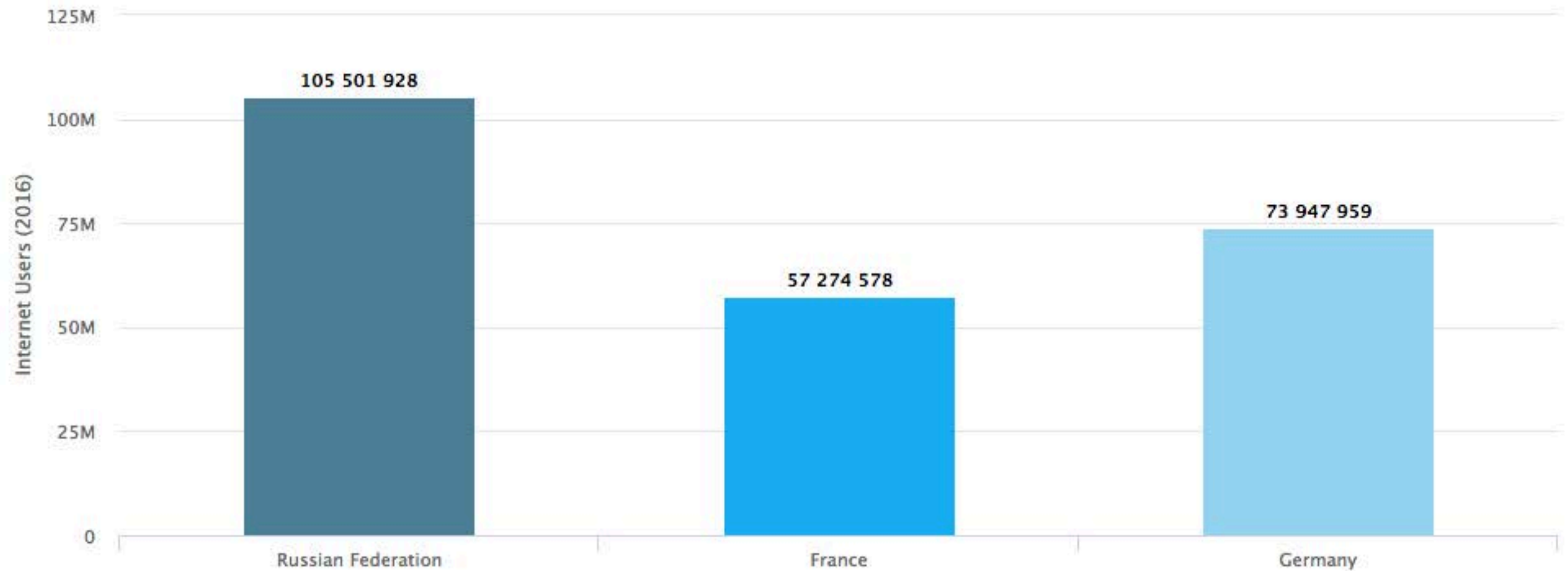
Internet Penetration



combine with population →

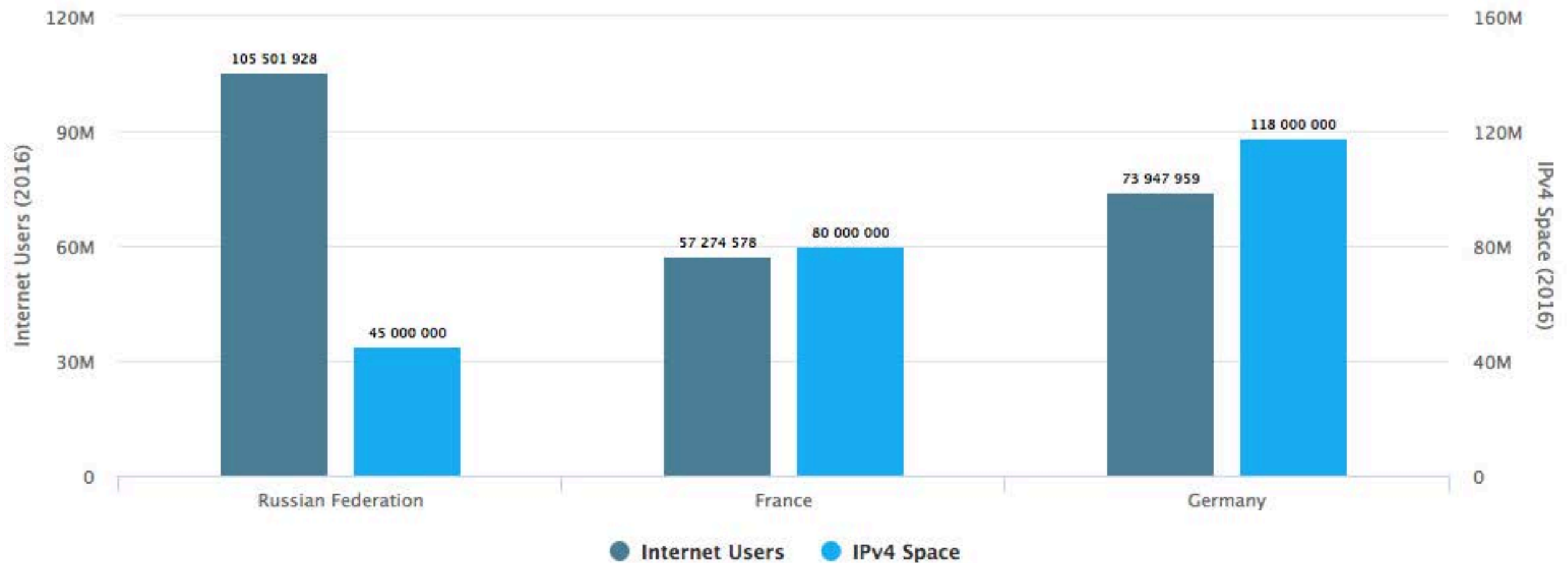
Source: <http://worldbank.org>

Internet Users



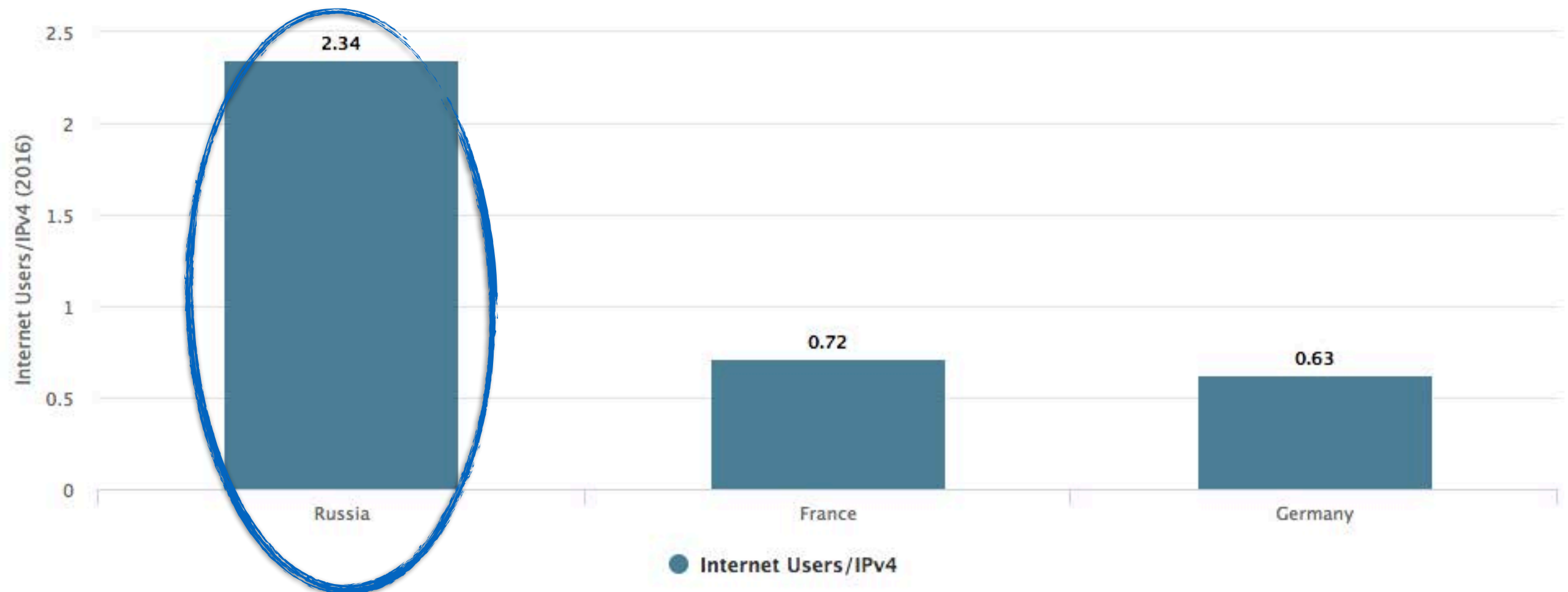
Source: <http://worldbank.org>

Internet Users & IPv4 Space



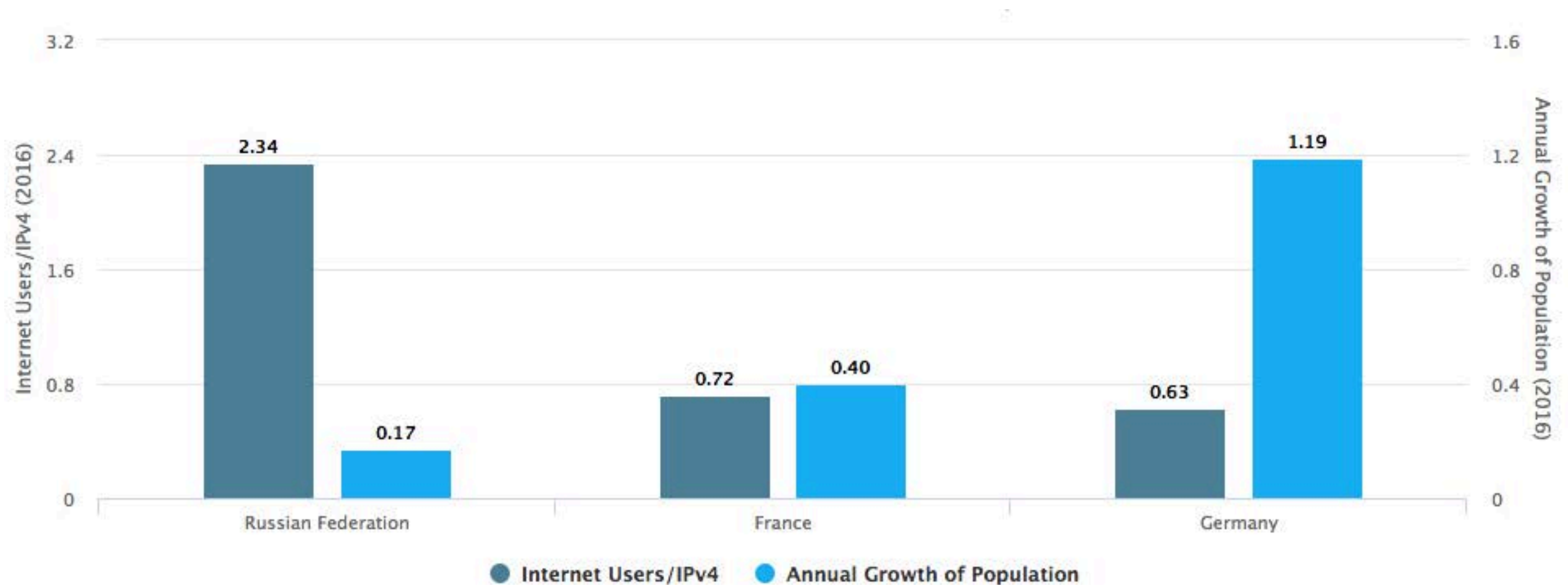
Source: <http://worldbank.org>
& <https://stat.ripe.net>

Internet Users/IPv4 Address



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

Internet Users/IPv4 Address



Source: <http://worldbank.org>
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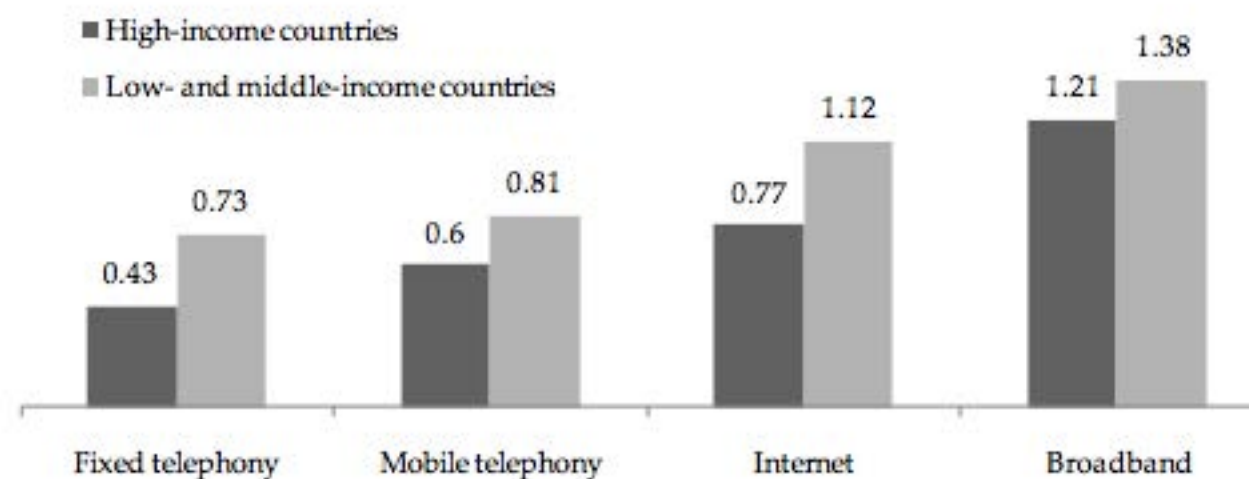
Internet & Economy

Russia and Comparative Context

Internet & Economy

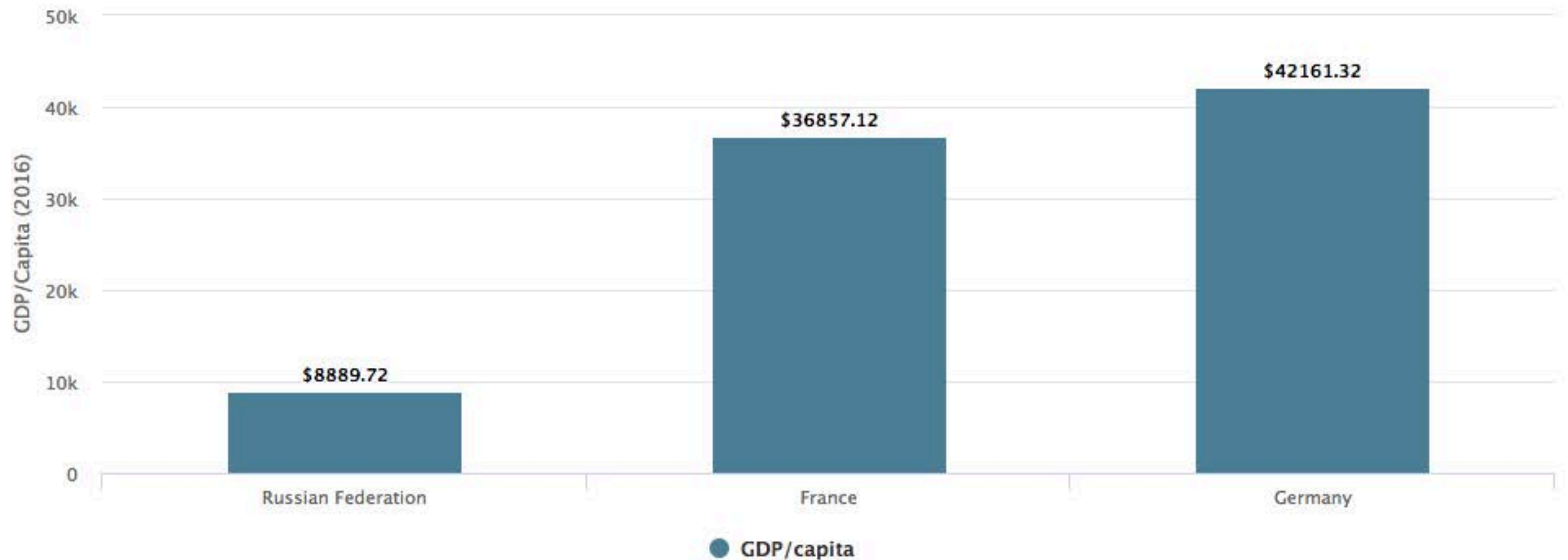


- Study in 2010 by World Bank “Building Broadband : Strategies and Policies for the Developing World”



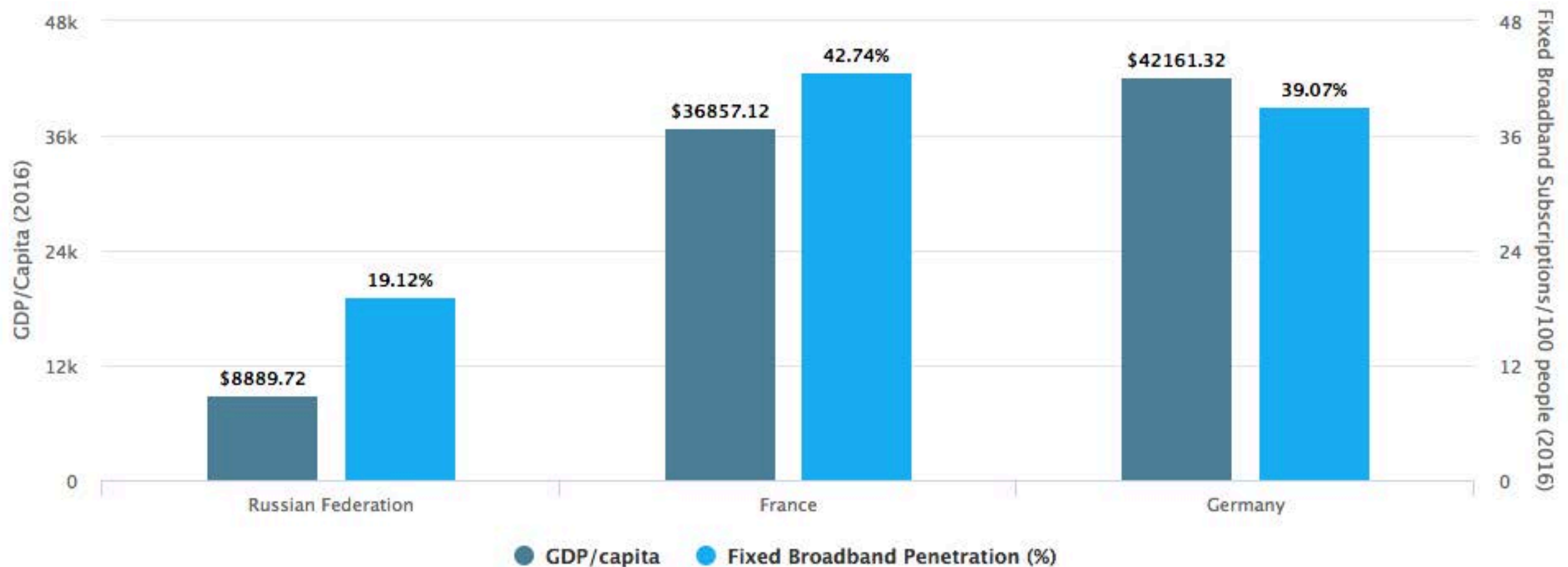
*Figure 1: Growth impact of telecommunications
(GDP percentage point increase due to 10 percentage-point increase in penetration)*

Gross Domestic Product



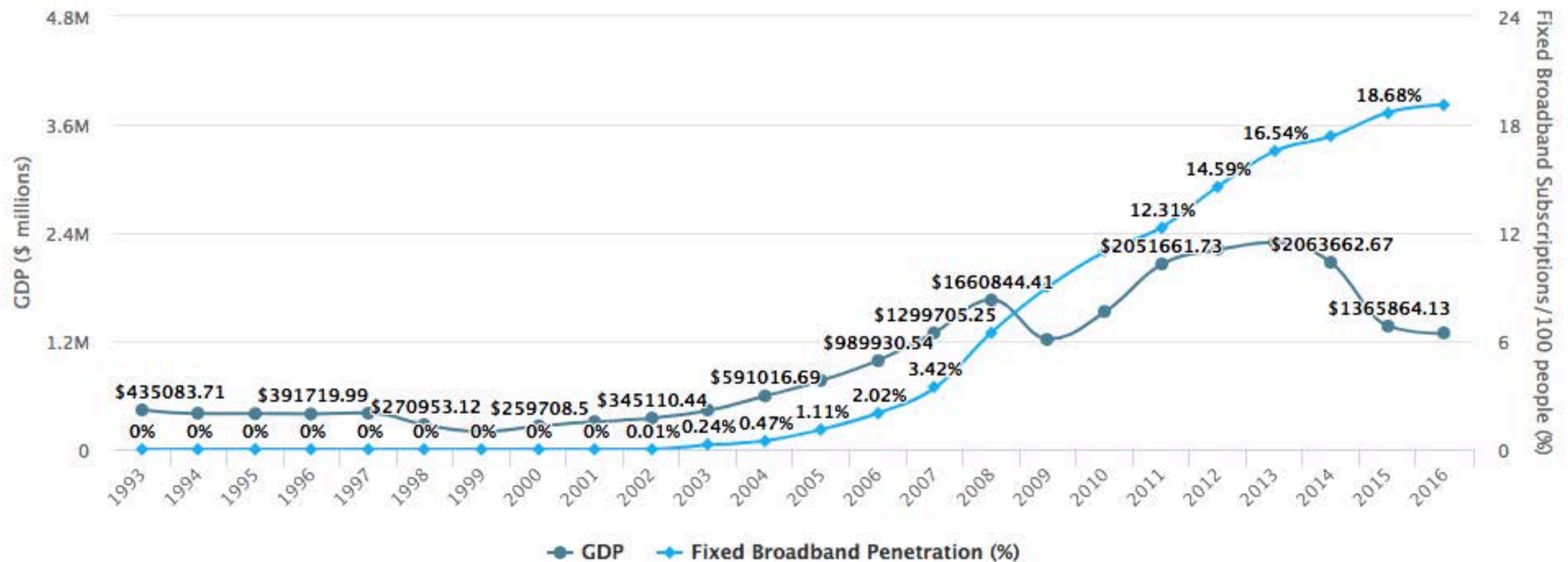
Source: <http://worldbank.org>

Broadband Subscriptions & GDP



Source: <http://worldbank.org>

Broadband Subscriptions & GDP



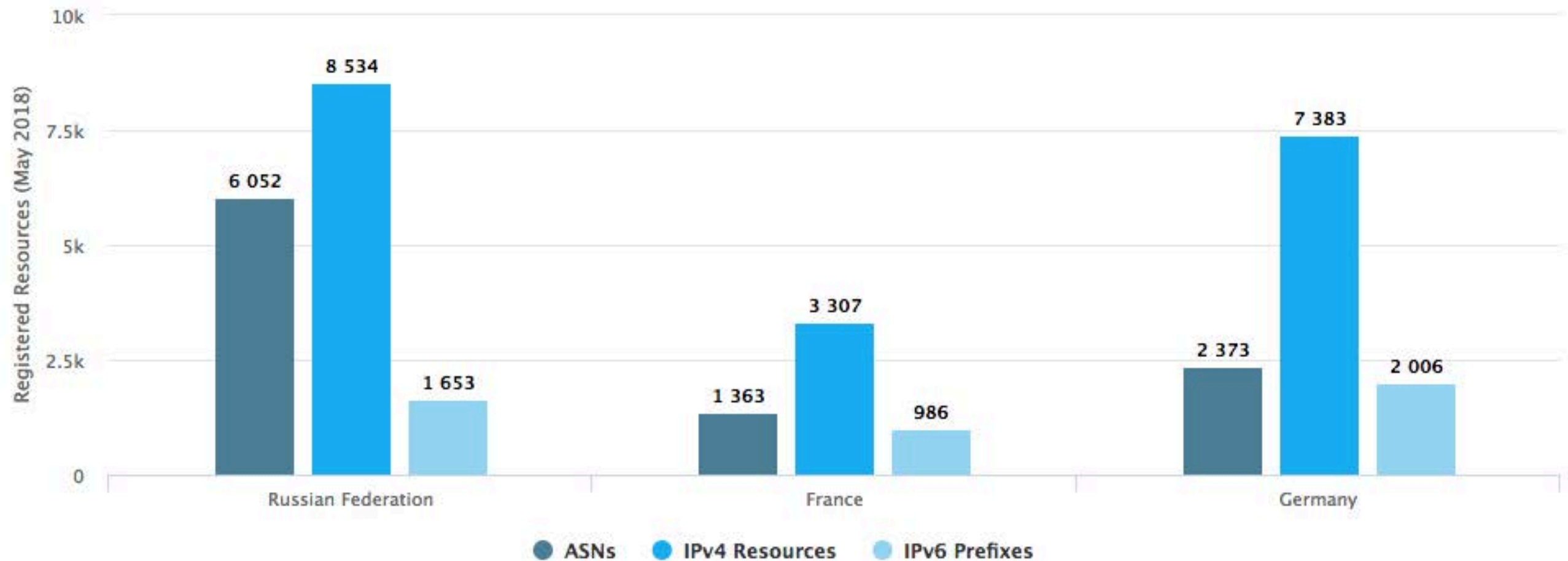
Source: <http://worldbank.org>



IPv6

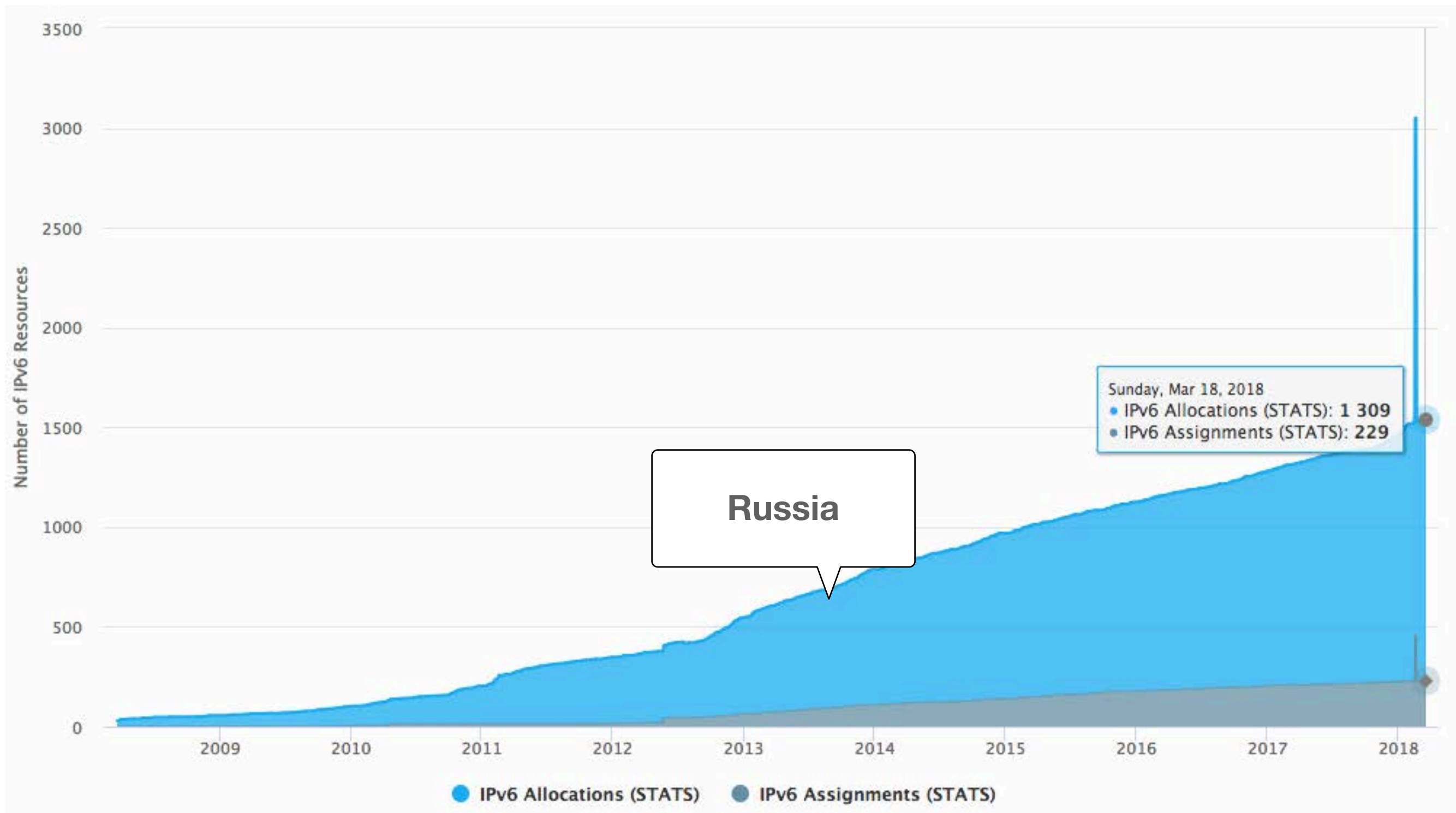
Russia and Comparative Context

Registered Resources



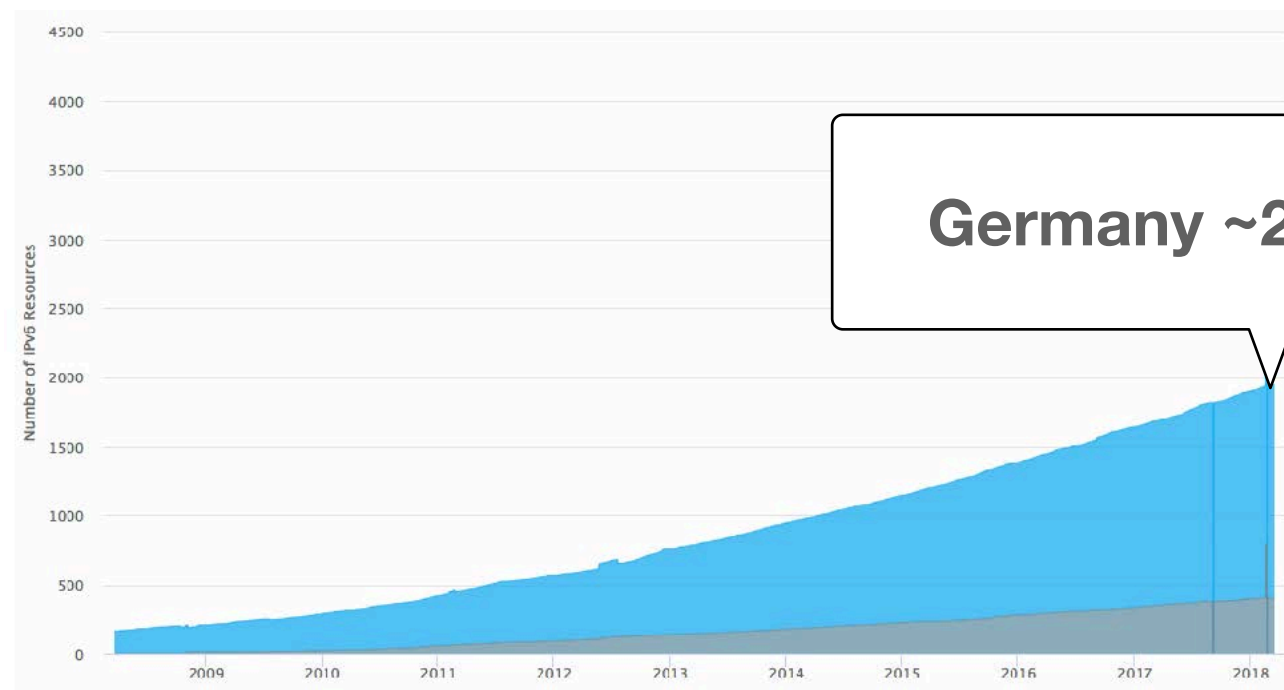
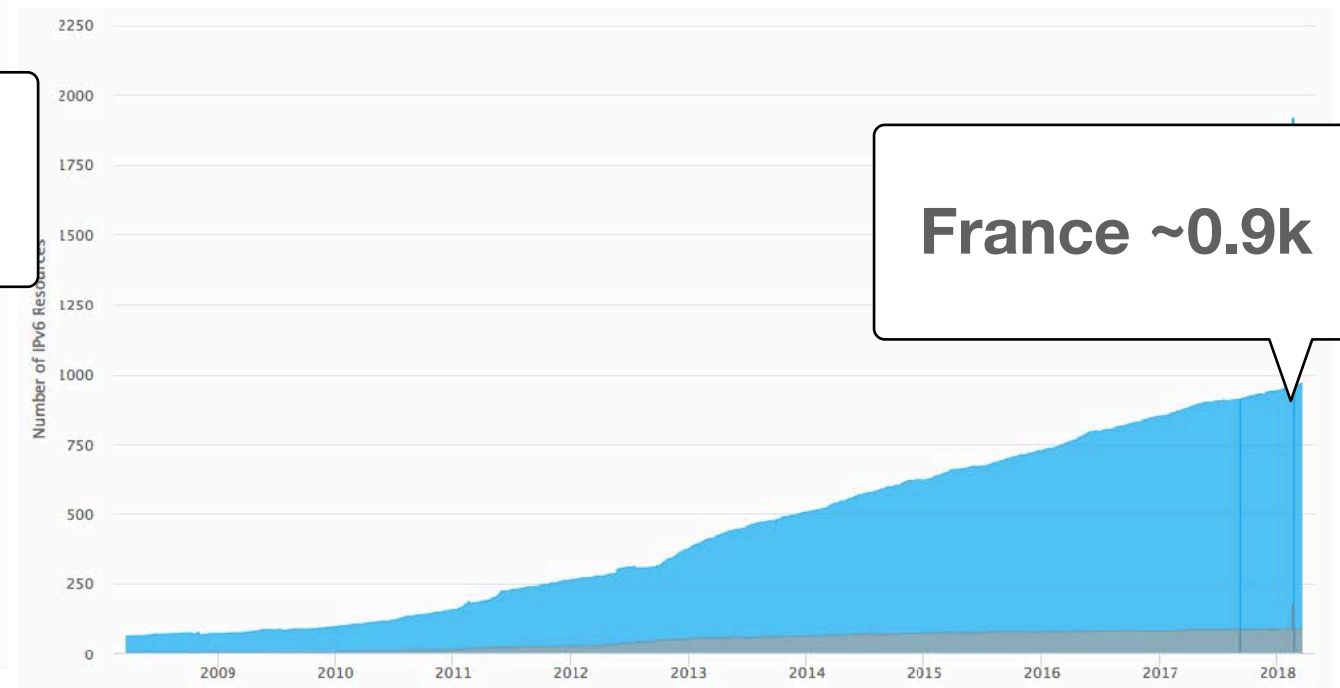
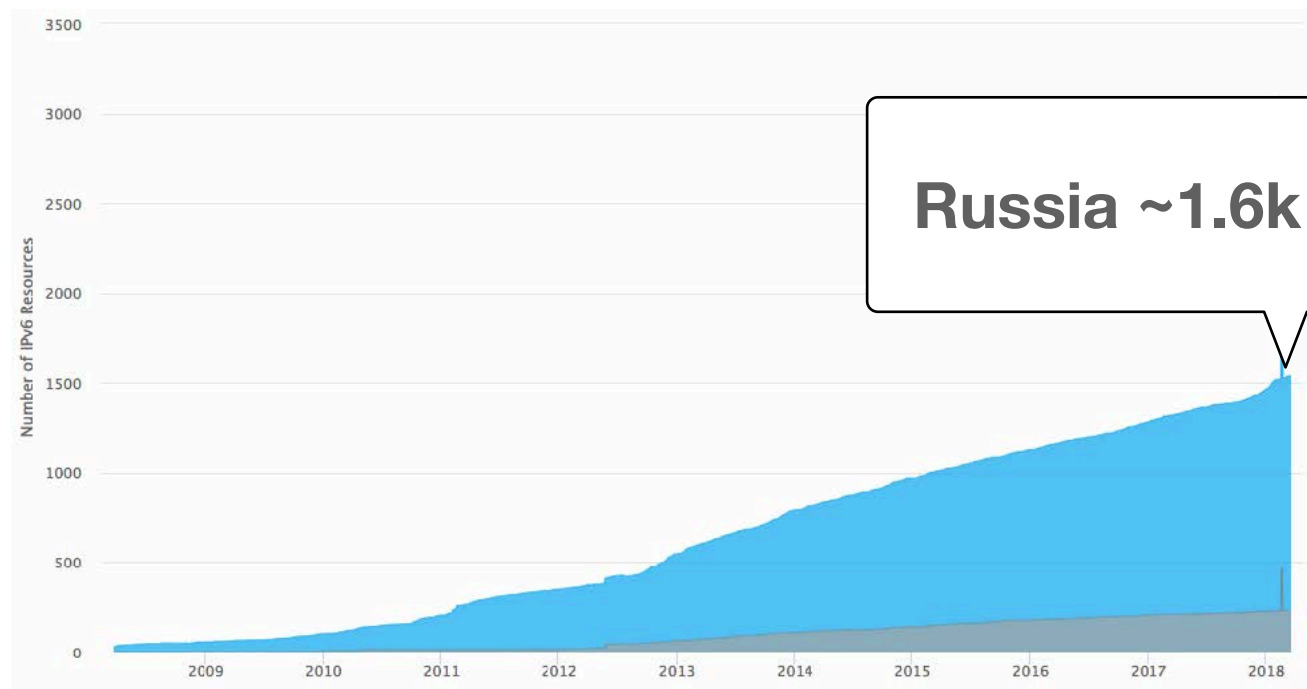
Source: <https://stat.ripe.net>

IPv6 Resources



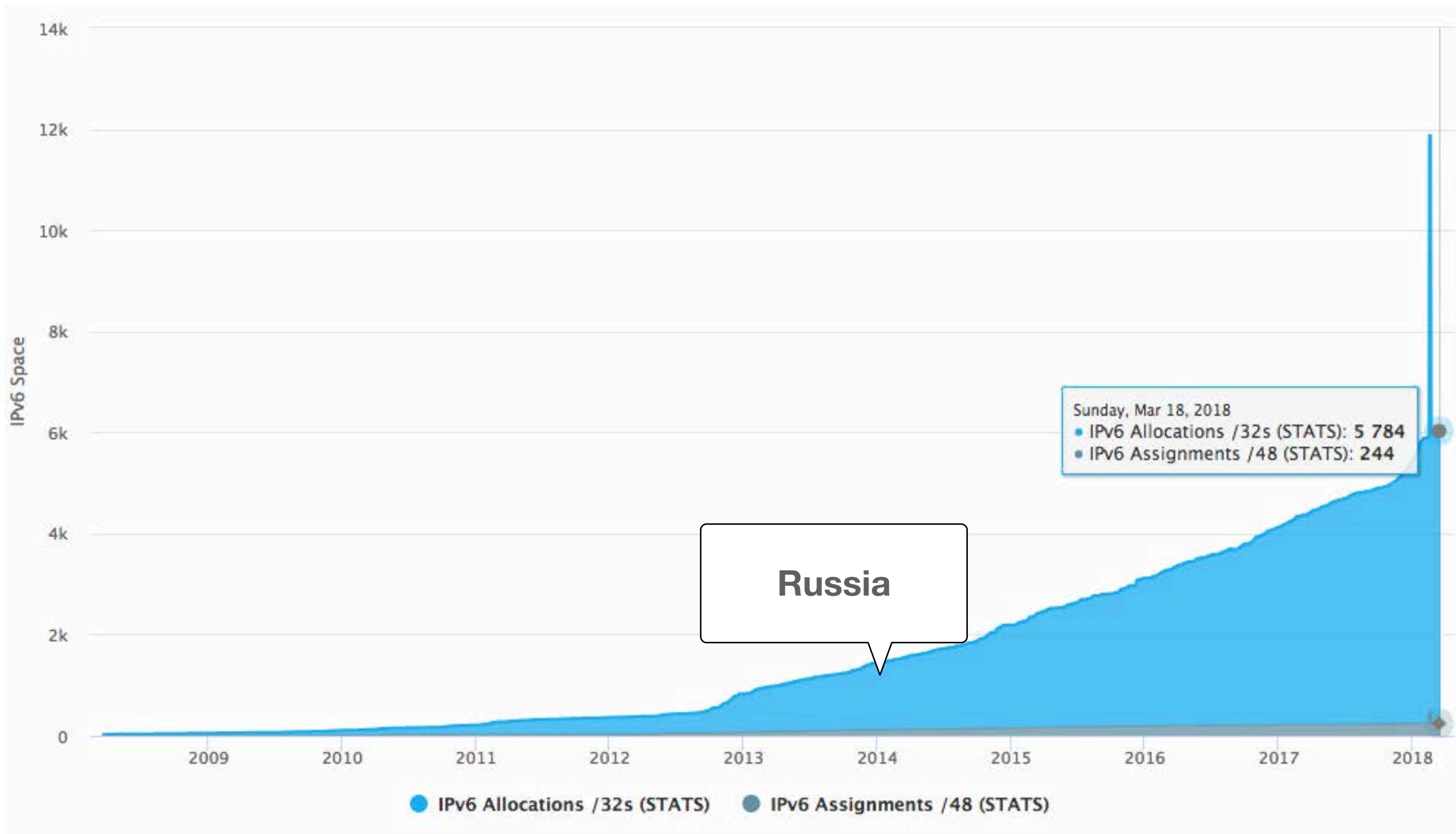
Source: <https://stat.ripe.net>

Registered IPv6 Resources



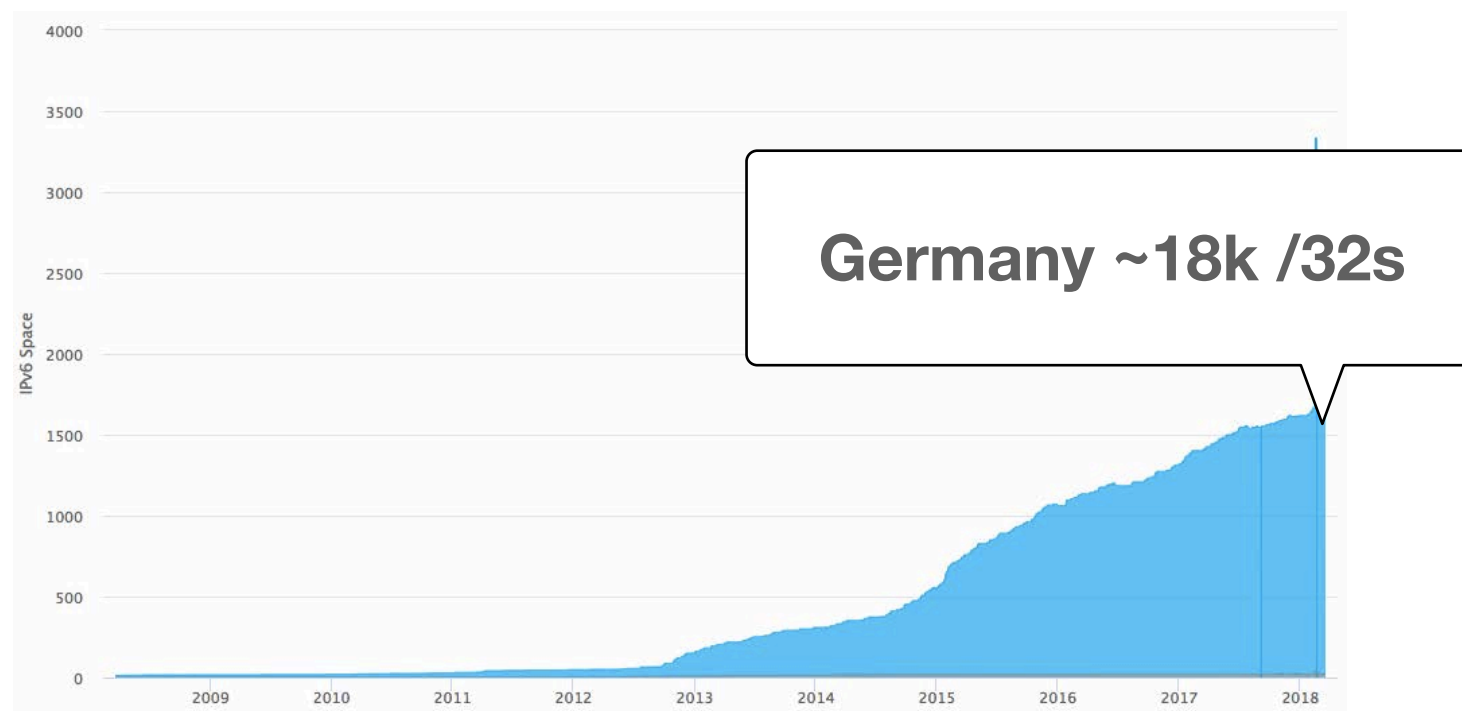
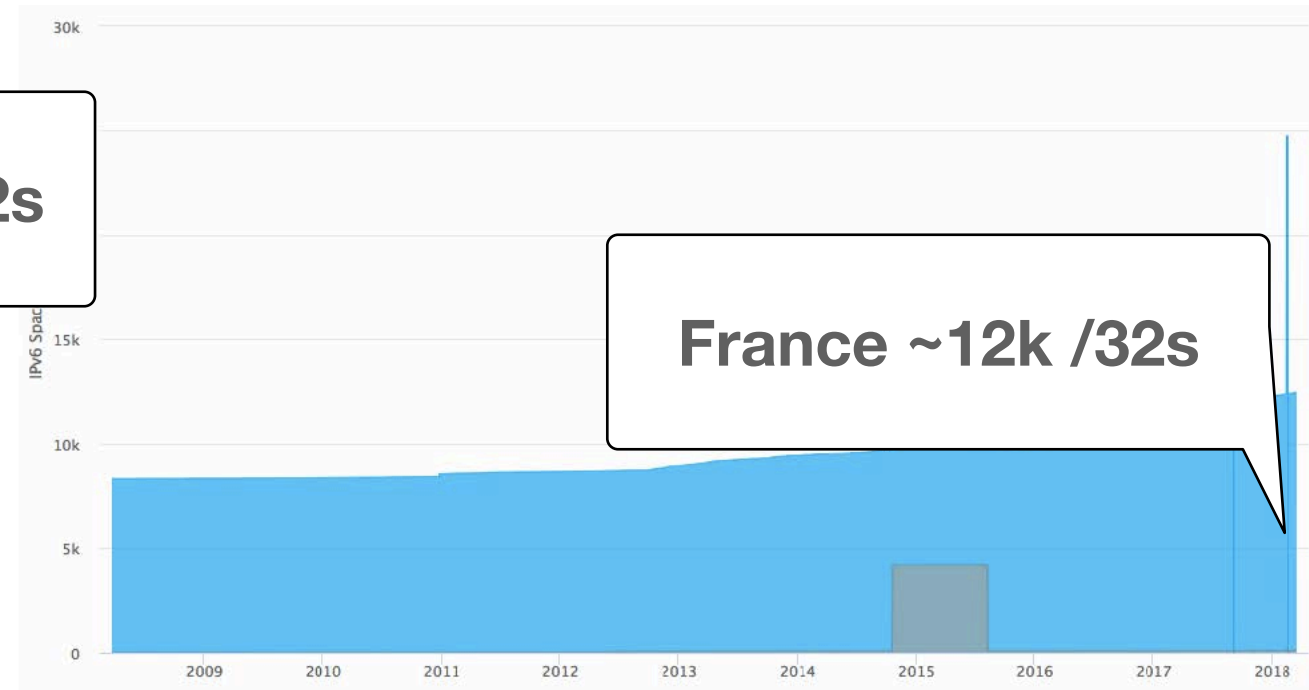
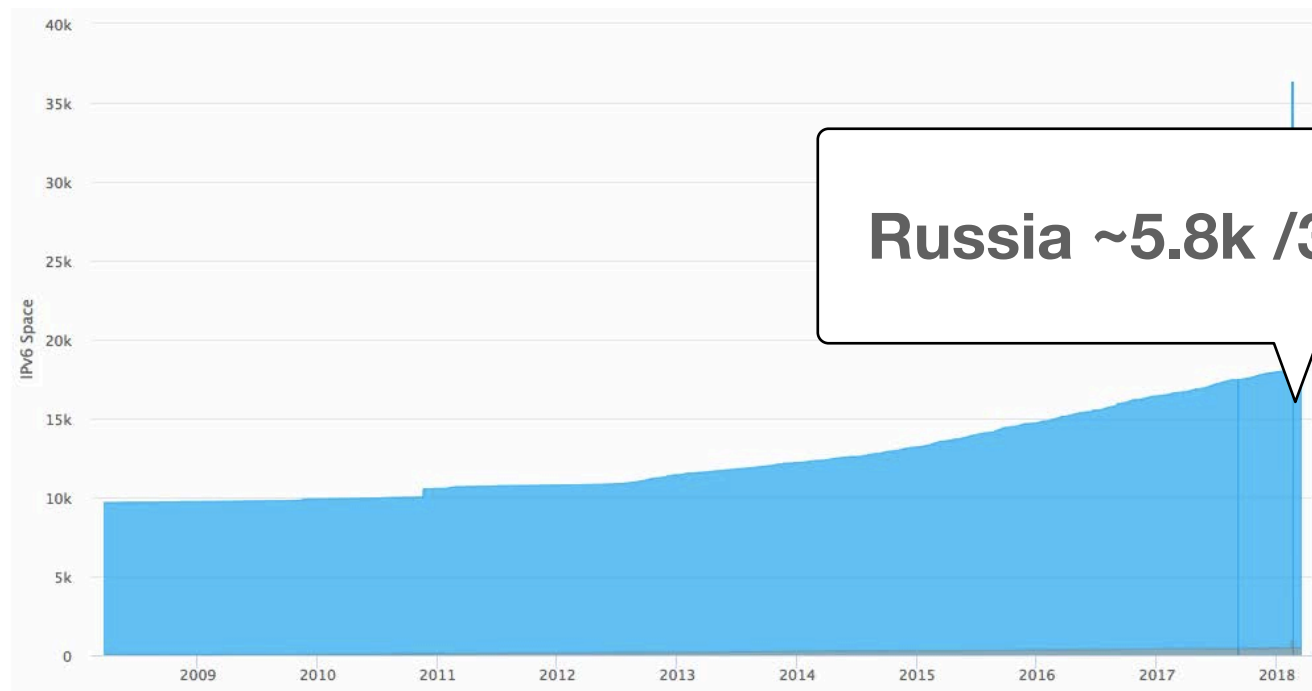
Source: <https://stat.ripe.net>

Registered IPv6 Space



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Registered IPv6 Space



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IPv6 Capabilities



Top players

CC	Country	IPv6 Capable	IPv6 Preferred	Samples
BE	Belgium, Western Europe, Europe	58.15%	55.72%	1,252,575
IN	India, Southern Asia, Asia	56.19%	53.65%	139,705,714
US	United States of America, Northern America, Americas	45.42%	43.68%	117,623,187
DE	Germany, Western Europe, Europe	39.61%	38.31%	5,344,398
GR	Greece, Southern Europe, Europe	38.80%	37.63%	5,810,066

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

IPv6 Capabilities



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DE	Germany, Western Europe, Europe	39.61%	38.31%	5,344,398
GR	Greece, Southern Europe, Europe	38.80%	37.63%	5,810,066

...and Russia

} 53 ...

RU	Russian Federation, Eastern Europe, Europe	1.79%	1.60%	5,083,061
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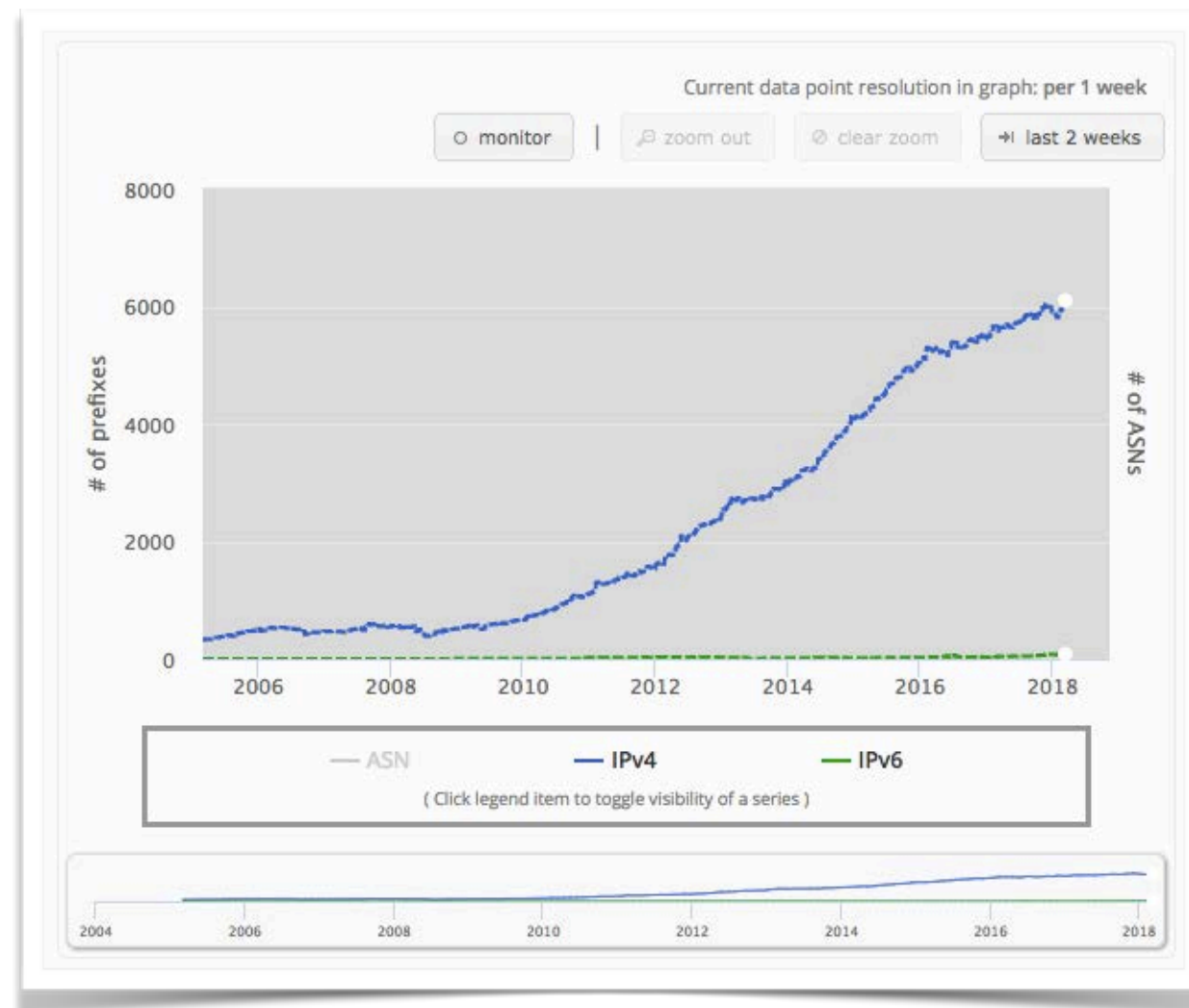
} 181 countries
or regions

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

Internet Resources in Russia



- Look it up on stat.ripe.net
- Find all graphs live on stat.ripe.net/special/statistics/enog15



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



Active Measurements

RIPE Atlas, M-Lab, etc.

RIPE Atlas



RIPE Atlas Coverage in Russia



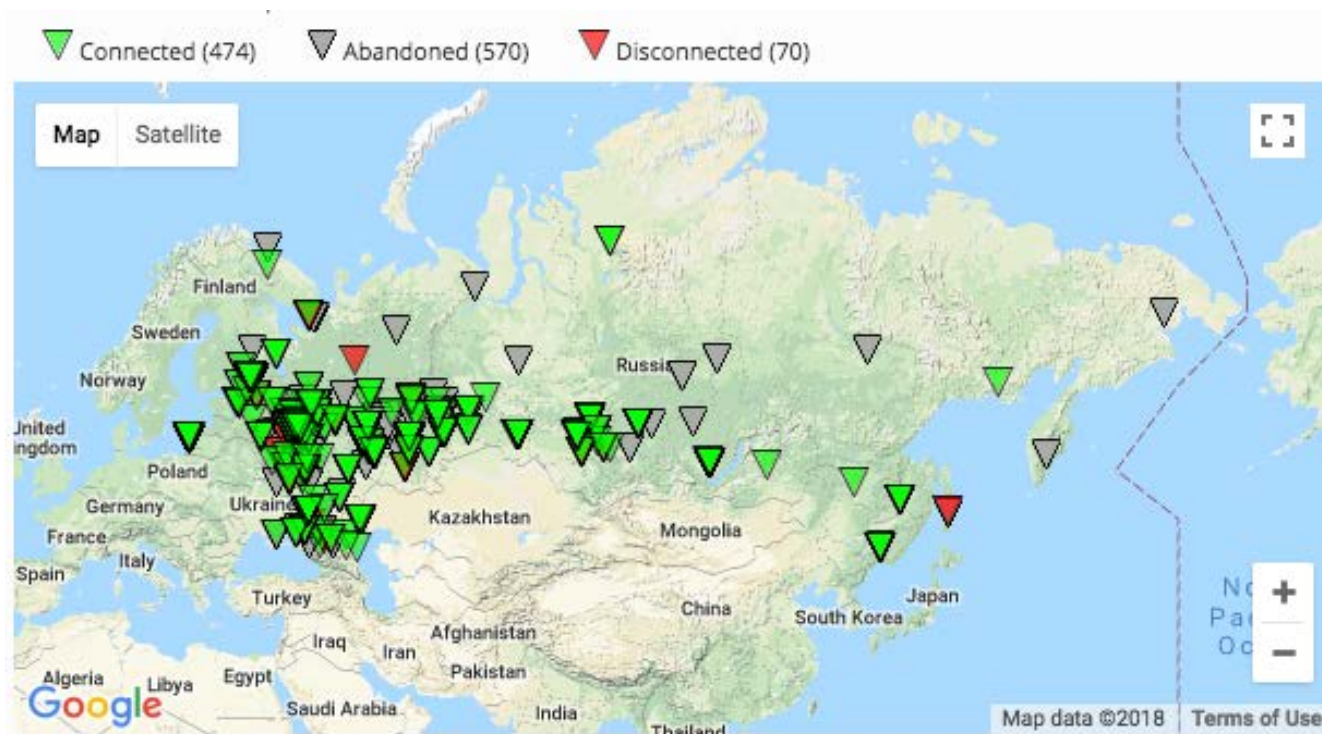
RIPE Atlas probes connected:

474

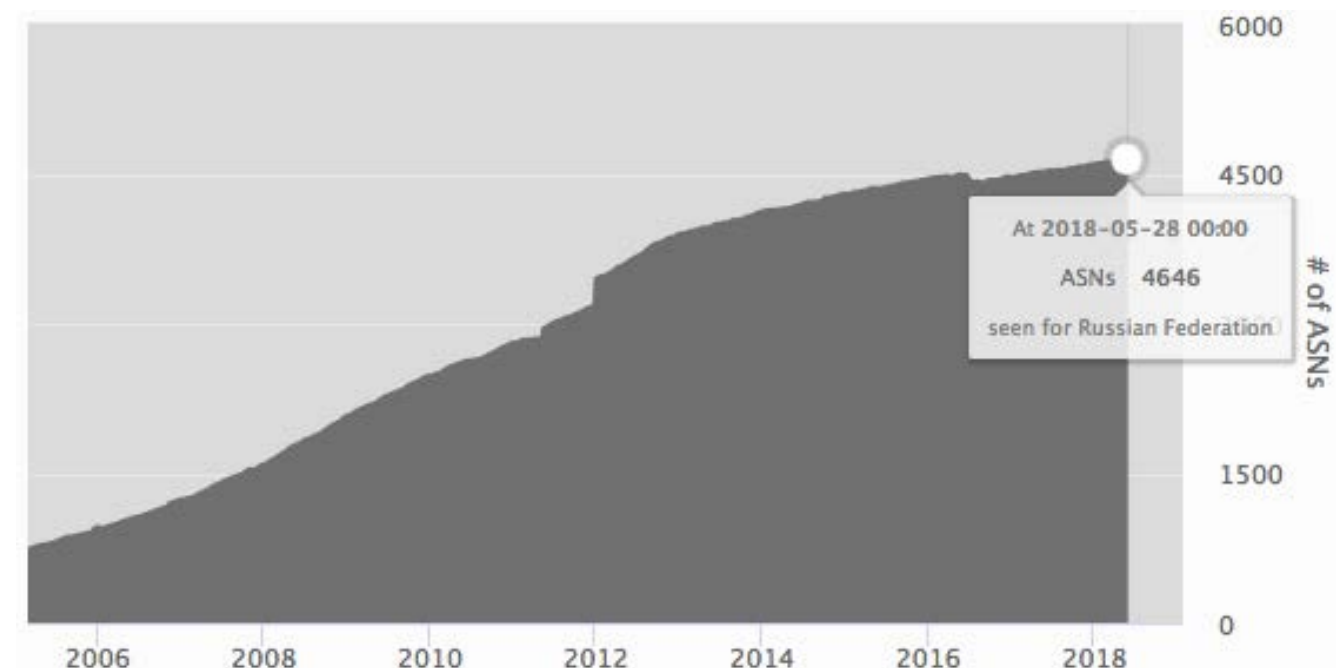
vs

Networks in Russia (RIS):

~4600



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



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

IXP-Country-Jedi



- What is IXP Country Jedi?
 - RIPE Atlas traceroute measurements
 - Geolocating observed hops
 - **Indicator** whether local data stays local

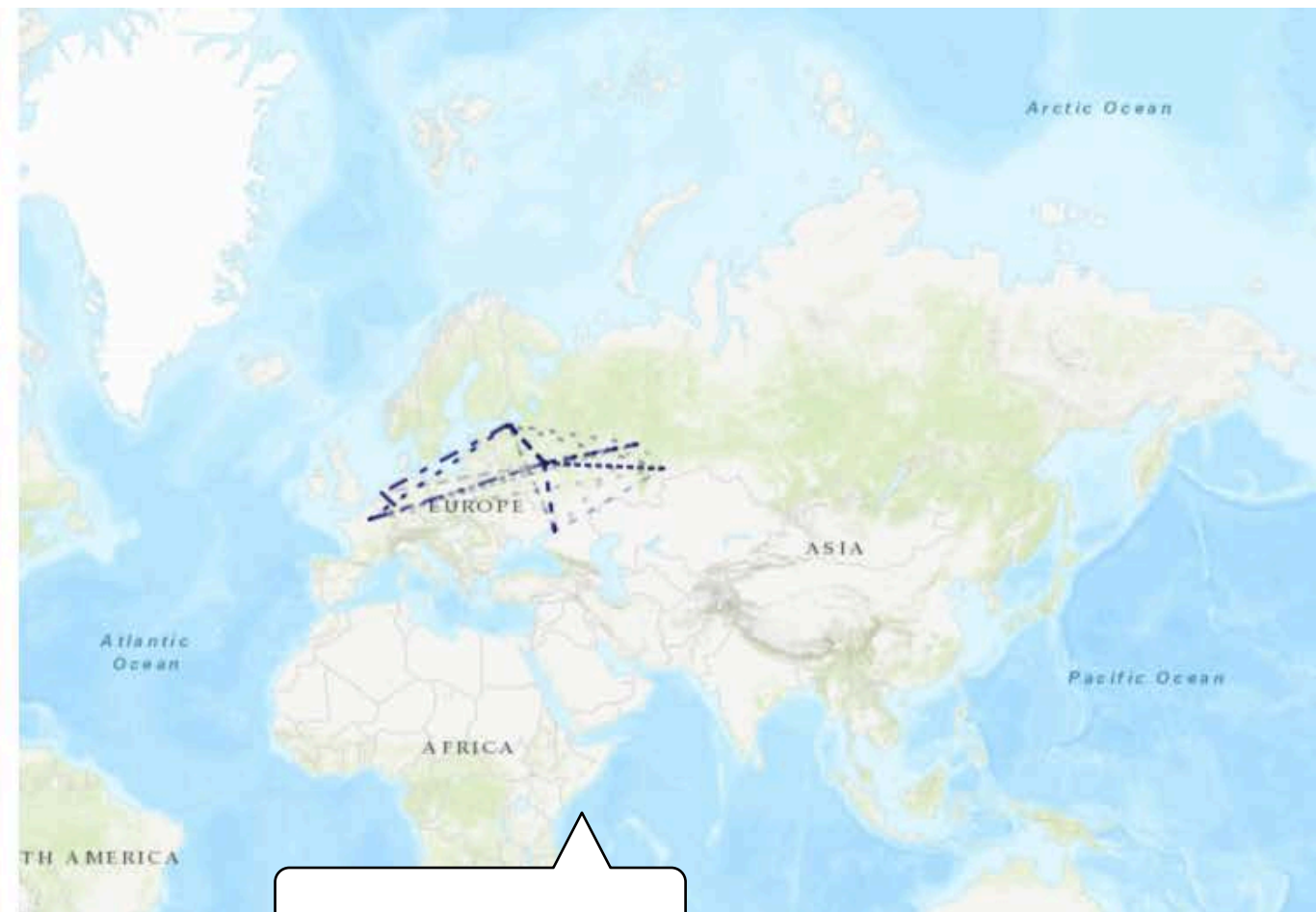
IXP-Country-Jedi



- Russia



IPv4



IPv6

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

Bandwidth Capacity in Russia



- Observed from M-Lab (Google)

Russia
7Mbps
Median

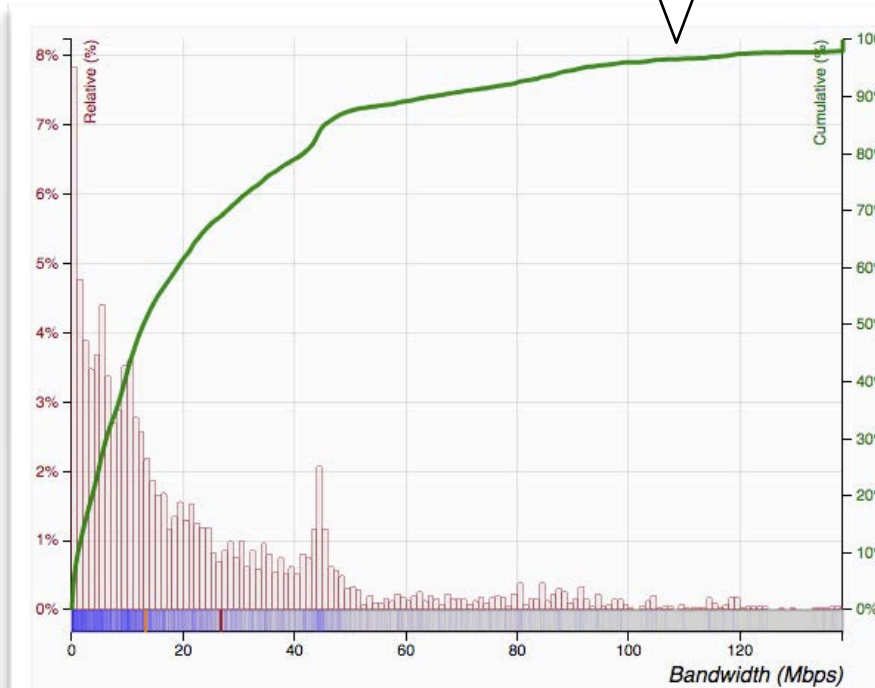
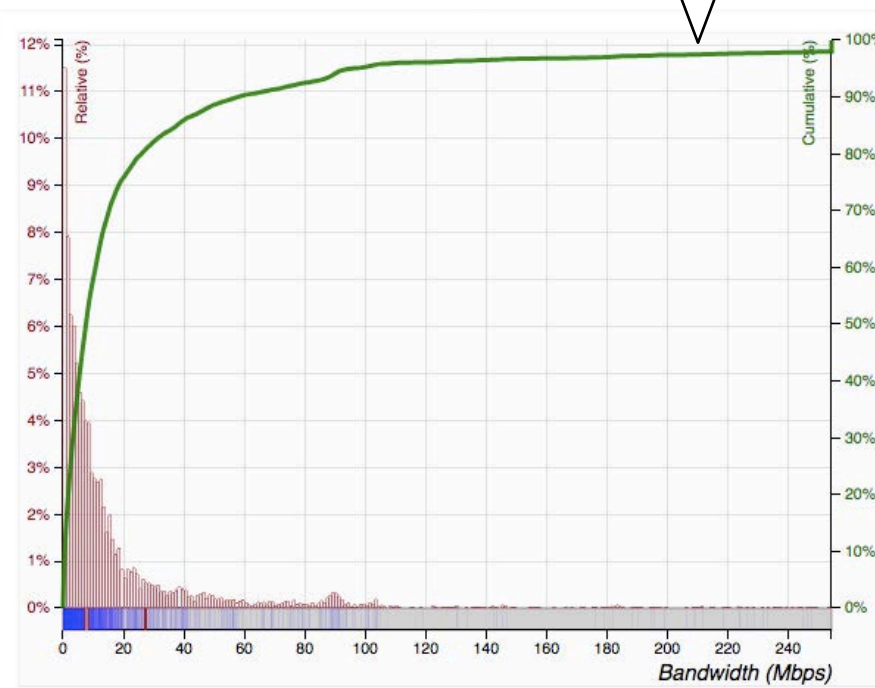
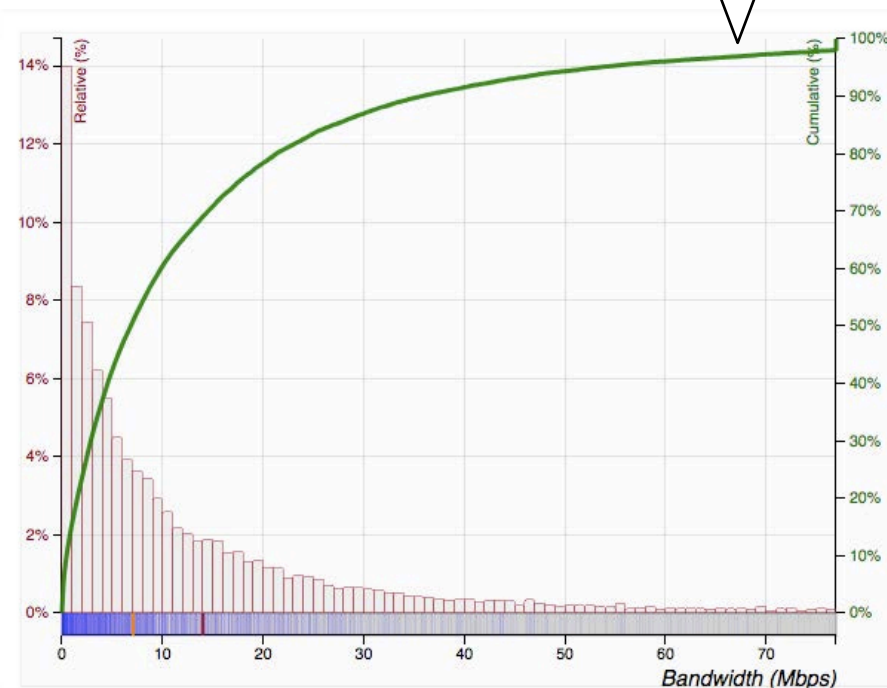
(Based on ~20k unique hosts)

Germany
13Mbps
Median

(Based on ~3.8k unique hosts)

France
7.8Mbps
Median

(Based on ~6.3k unique hosts)



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



Questions



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@NCC_RIPEstat