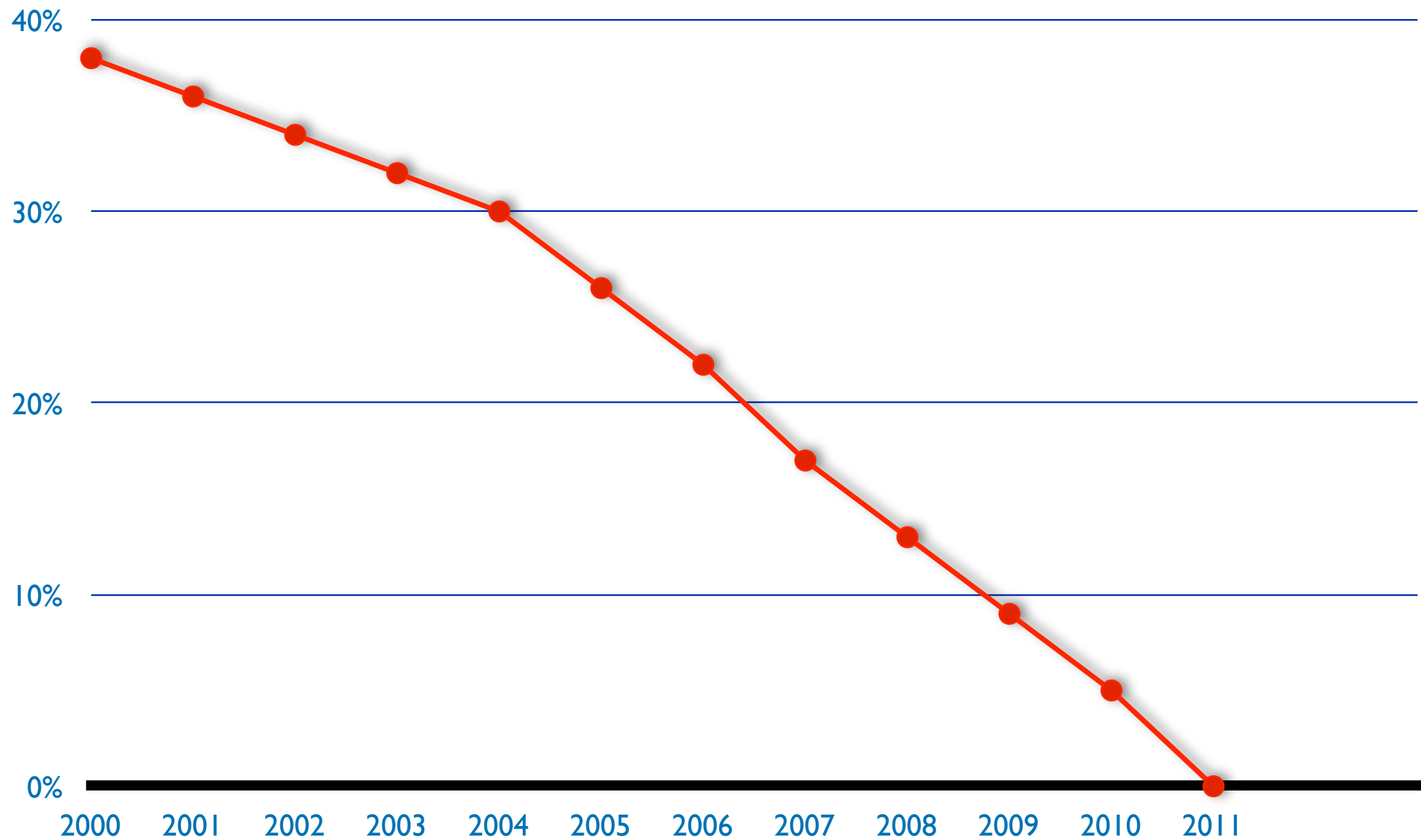


IPv6 Adoption in the RIPE NCC Service Region

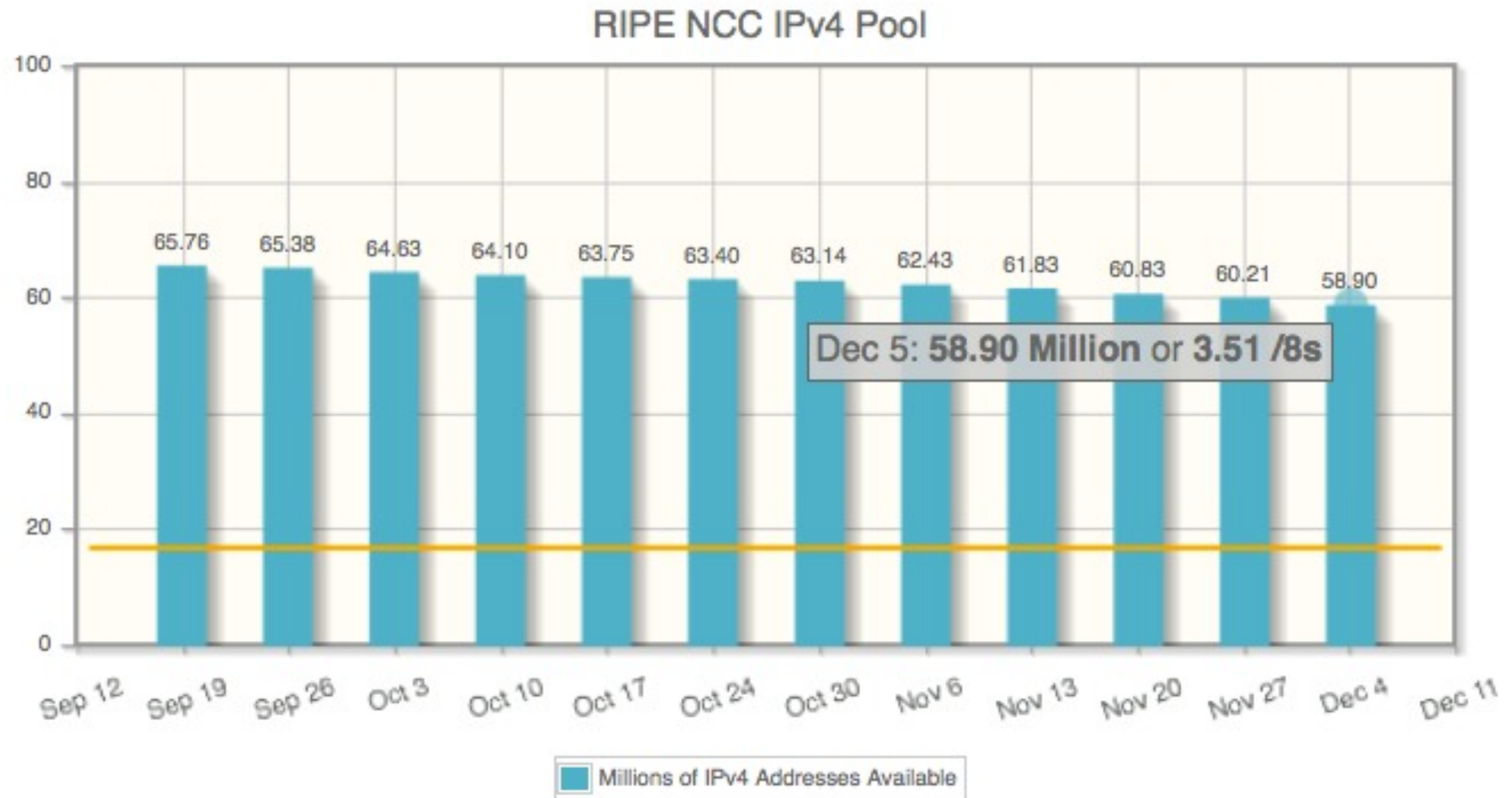
Ann Barcomb
abarcomb@ripe.net



IANA IPv4 Pool

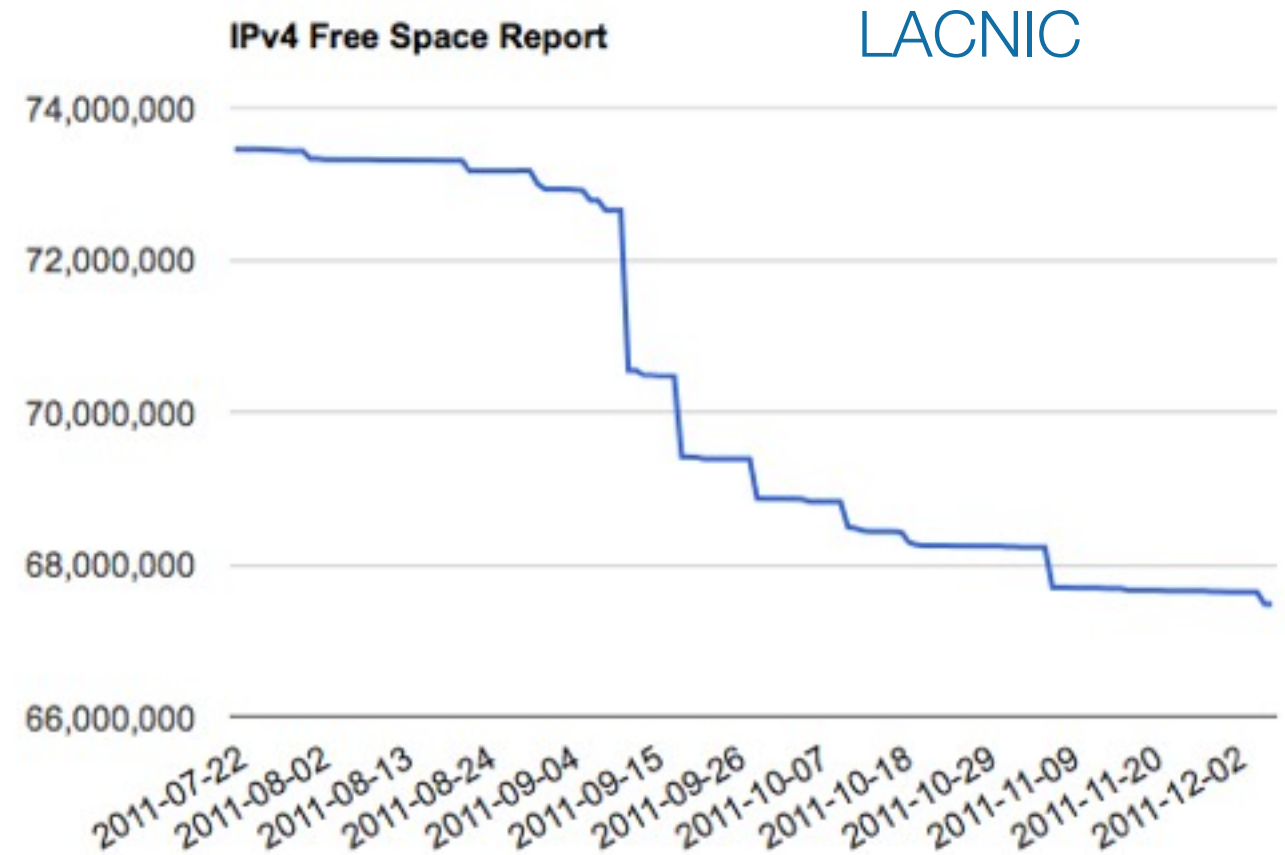
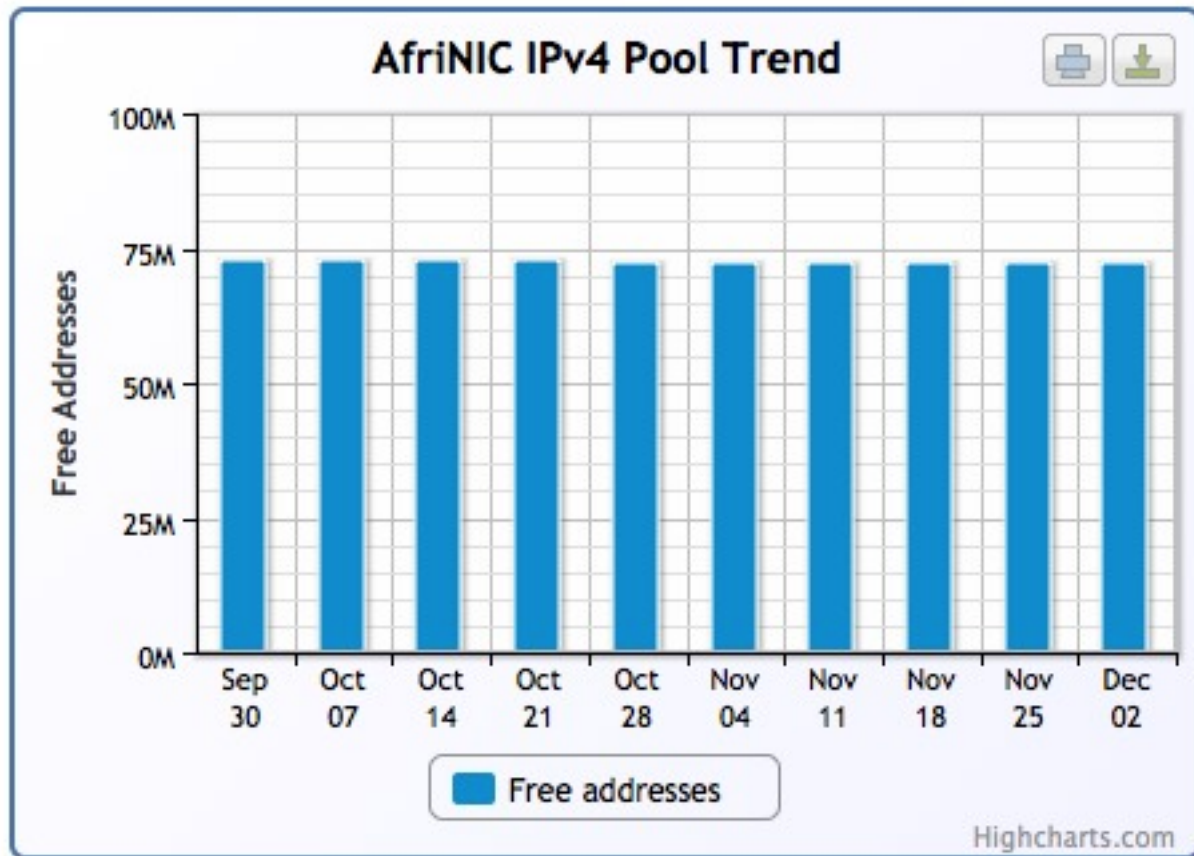


RIPE NCC IPv4 Available Pool

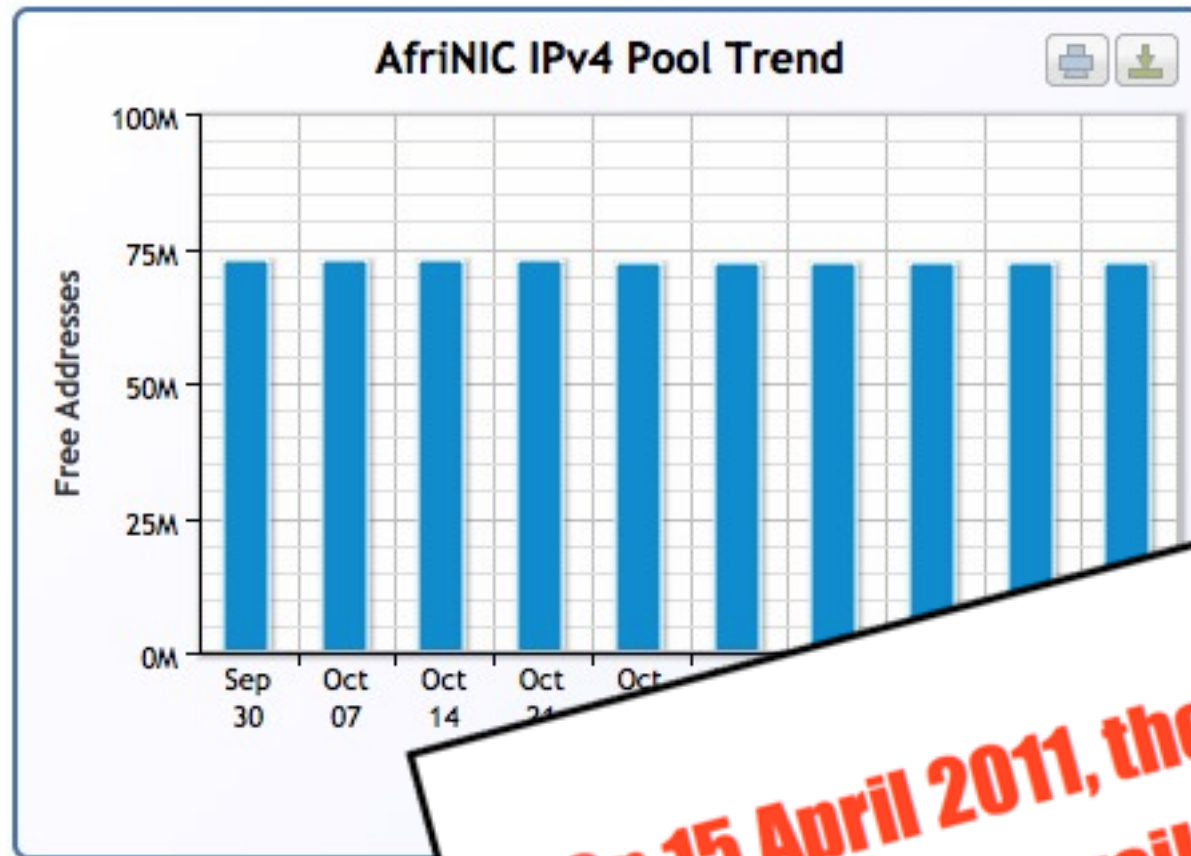


<https://www.ripe.net/internet-coordination/ipv4-exhaustion/ipv4-available-pool-graph>

IPv4 Depletion Worldwide



IPv4 Depletion Worldwide



IPv4 Free Space Report

LACNIC

74,000,000

72,000,000

**On 15 April 2011, the APNIC pool reached
the last /8 of available IPv4 addresses**

2011-07-22
2011-08-02
2011-08-13
2011-08-24
2011-09-04
2011-09-15
2011-09-26
2011-10-07
2011-10-18
2011-10-29
2011-11-09
2011-11-20
2011-12-02



Transfer of IPv4 Allocations

- Policy 2007-08: Allocation Transfer Policy
 - Don't buy your IPv4 on eBay!
 - Transfer unused allocations to another LIR
 - Minimum allocation size /21
 - Evaluated by RIPE NCC
 - Update in RIPE Database

<http://www.ripe.net/lir-services/resource-management/listing>

Make Plans Now

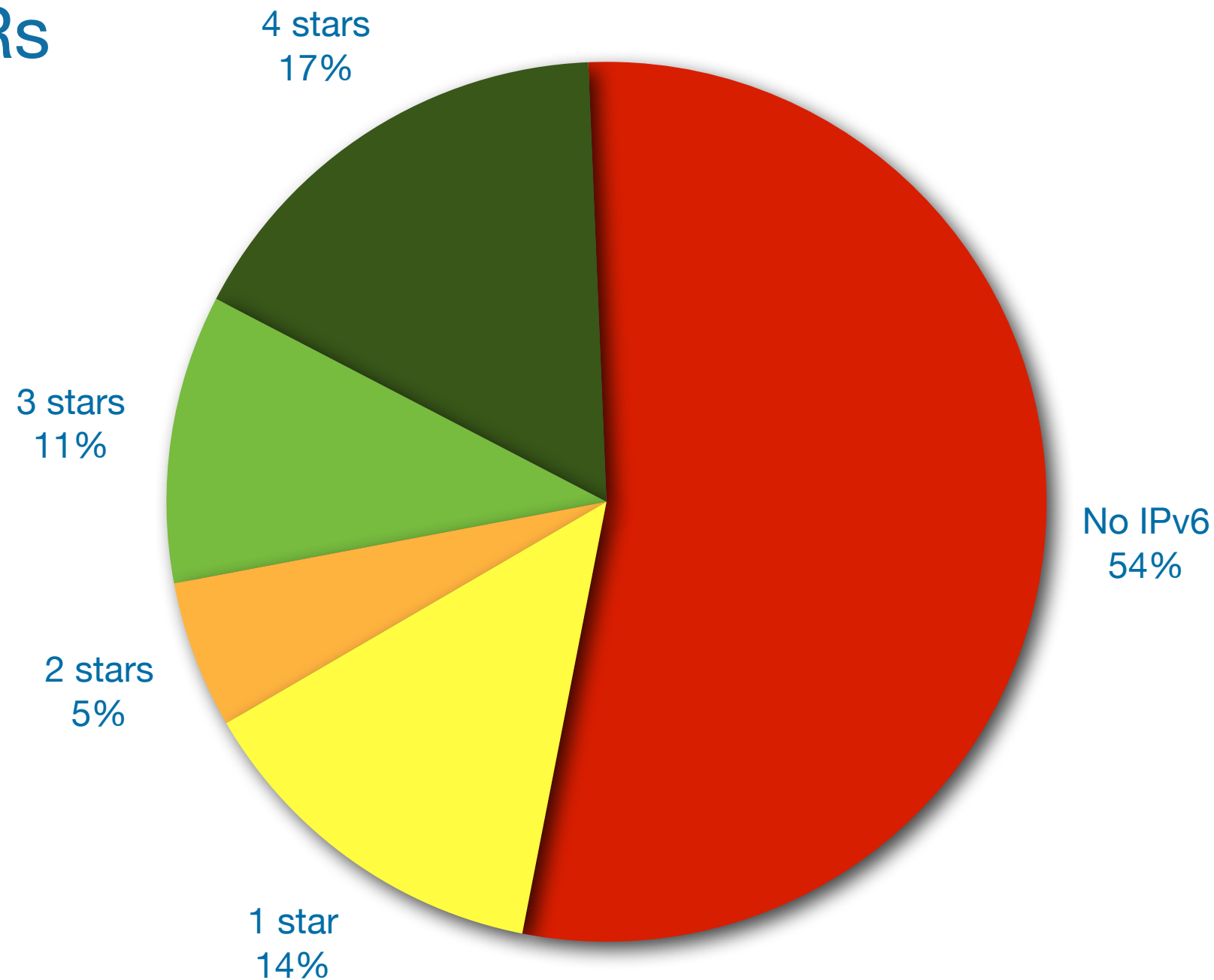
- IPv4 space only given out on 3 month plan
- IPv6 is easily available
 - ...and free for LIRs
- IPv6 offers the only way of supporting future growth
- Network Address Translation (NAT) is not ideal
 - Breaks end-to-end communication principle

Measuring Readiness: IPv6 RIPEness

- ★ Has IPv6 allocation
 - ★ IPv6 prefix announced
 - ★ A route6 object in the RIPE Database
 - ★ Reverse DNS is set up
-
- Rewards for 4-star LIRs
 - Publicity: listing on <http://ipv6ripeness.ripe.net>
 - T-shirt

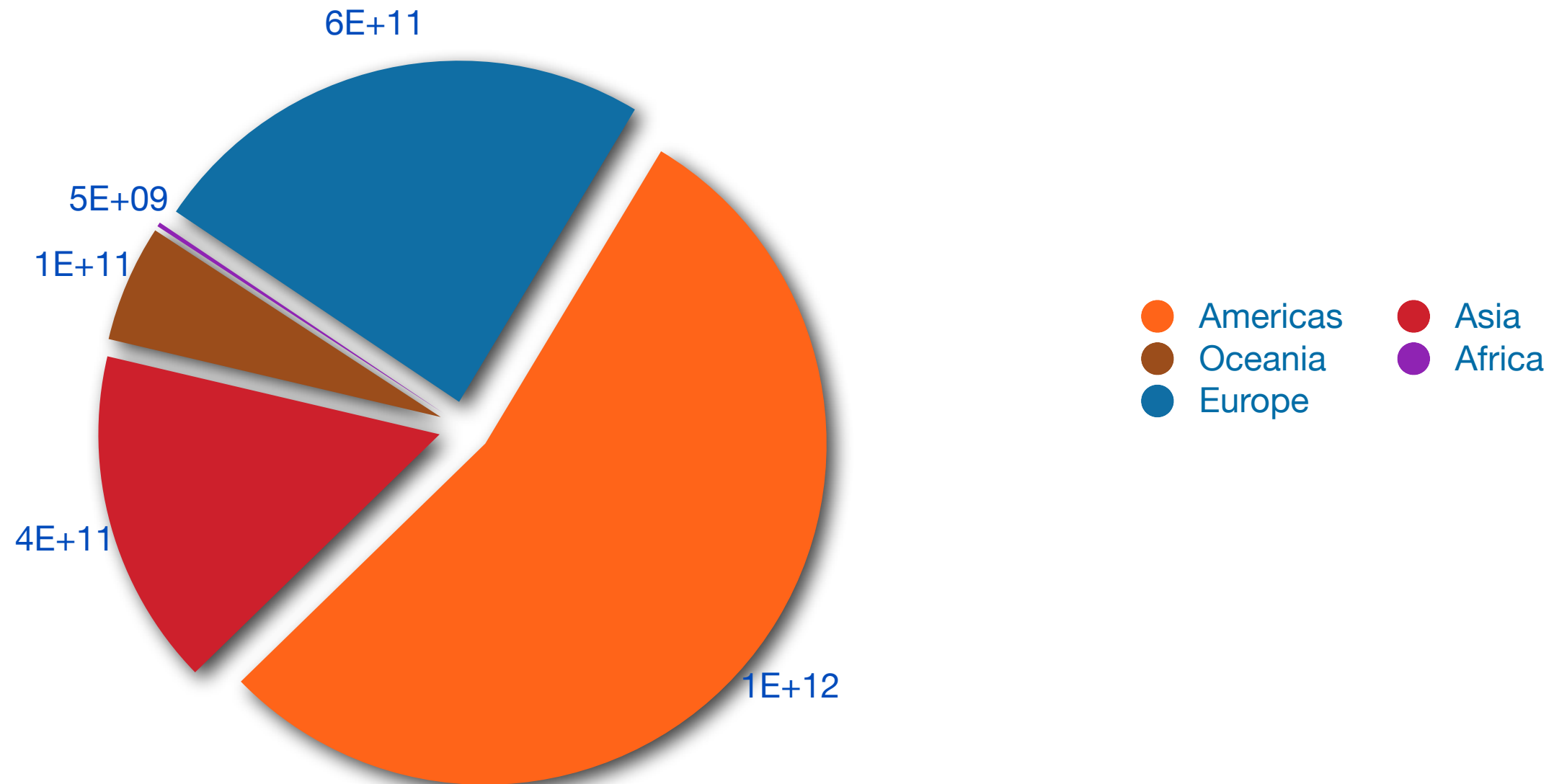
IPv6 RIPEness in the RIPE NCC Service Region

7887 LIRs



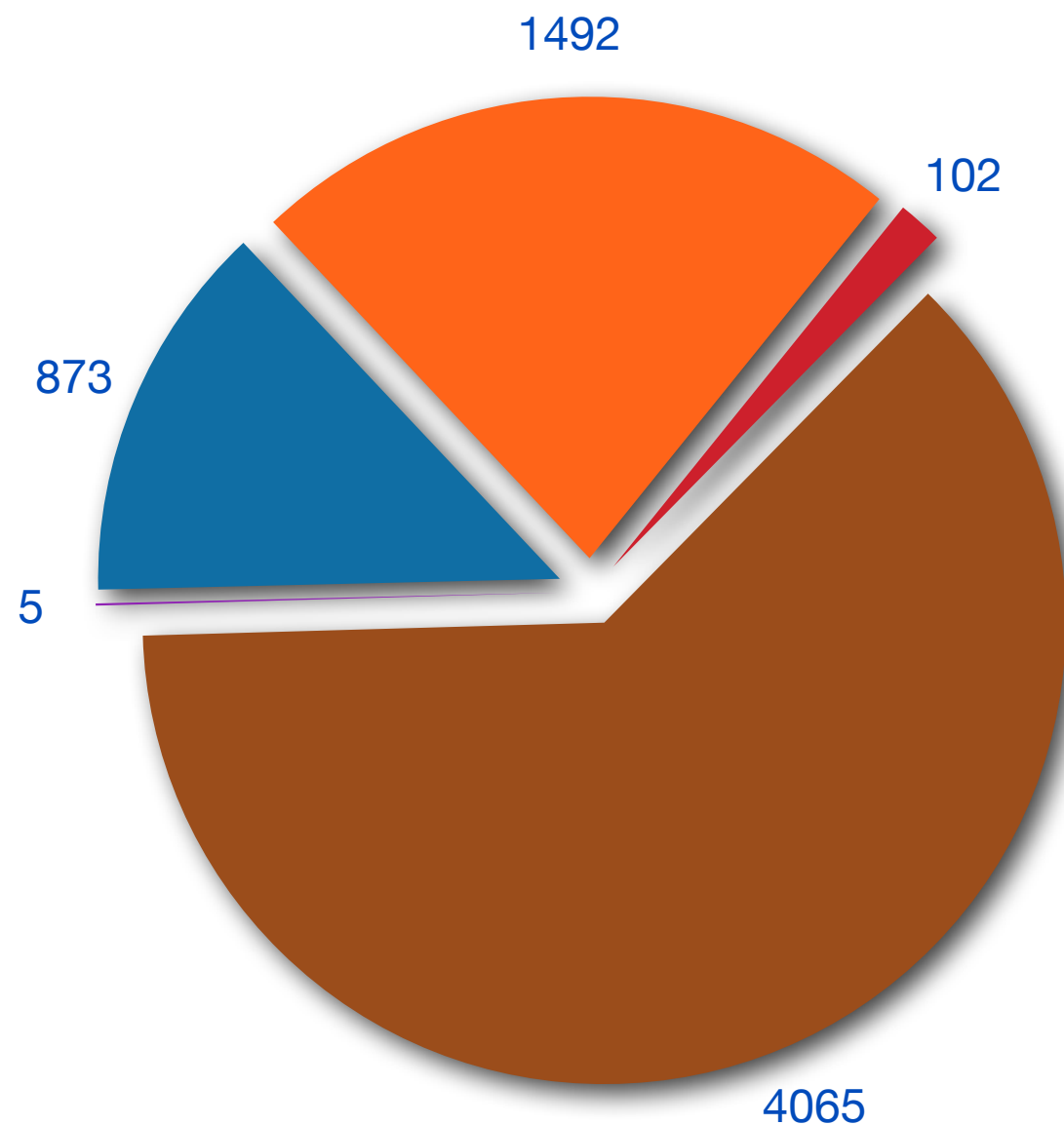
<http://ripeness.ripe.net/pies.html>

IPv6 Allocations (/56)

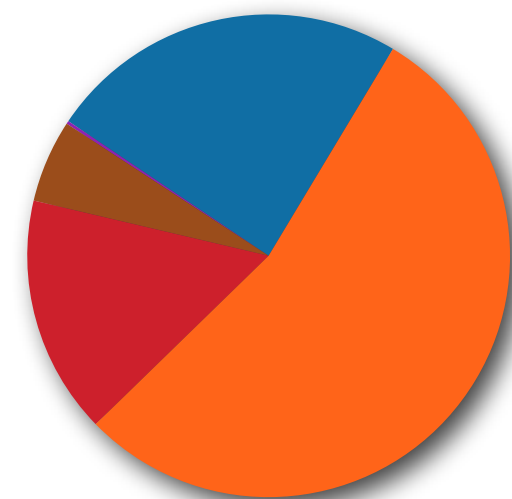


<http://bgp.potaroo.net/iso3166/v6cc.html>

IPv6 Allocations Per User (/56)

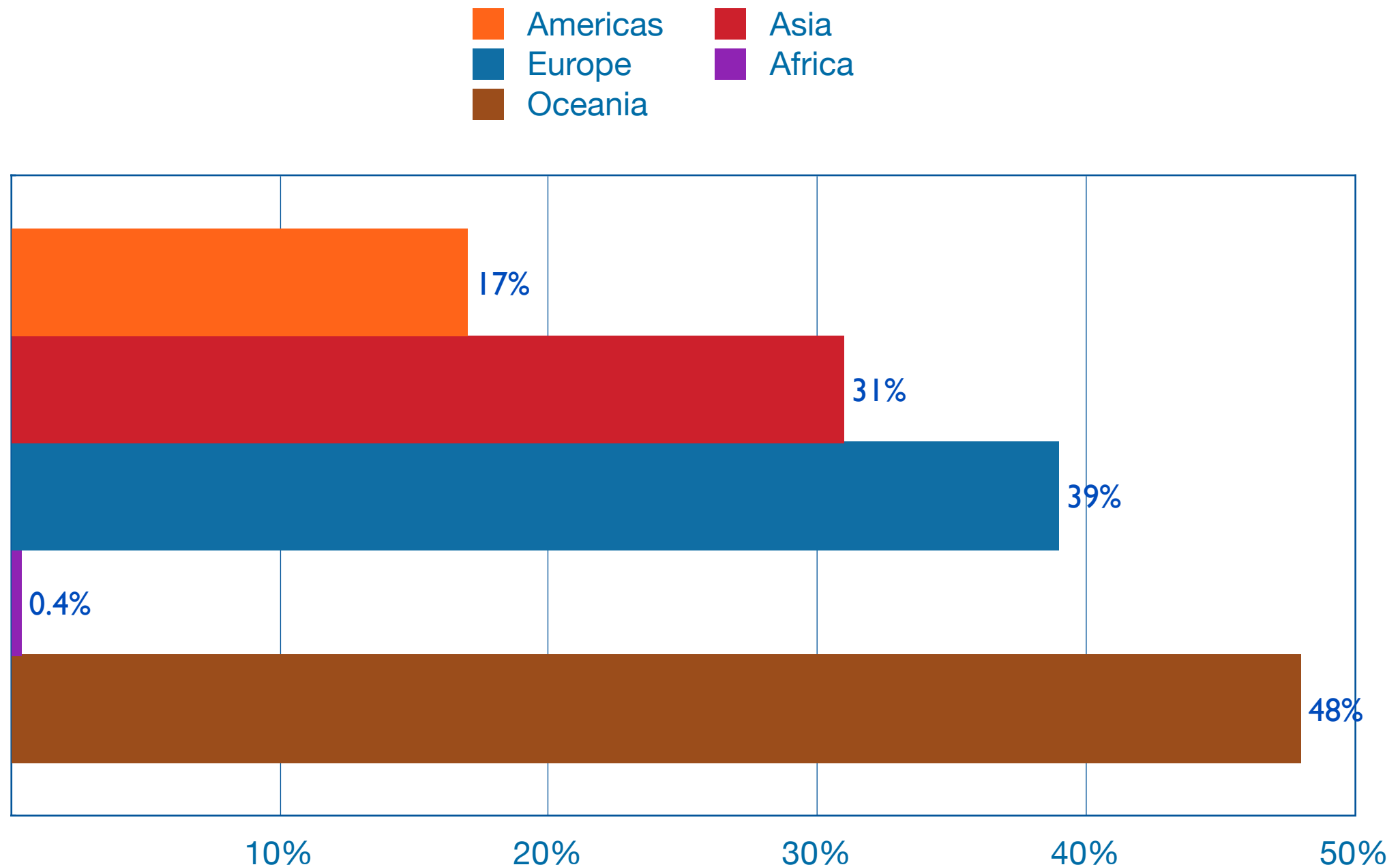


Total Allocations



<http://bgp.potaroo.net/iso3166/v6cc.html>

IPv6 Advertisements/Allocated (%)



<http://bgp.potaroo.net/iso3166/v6cc.html>

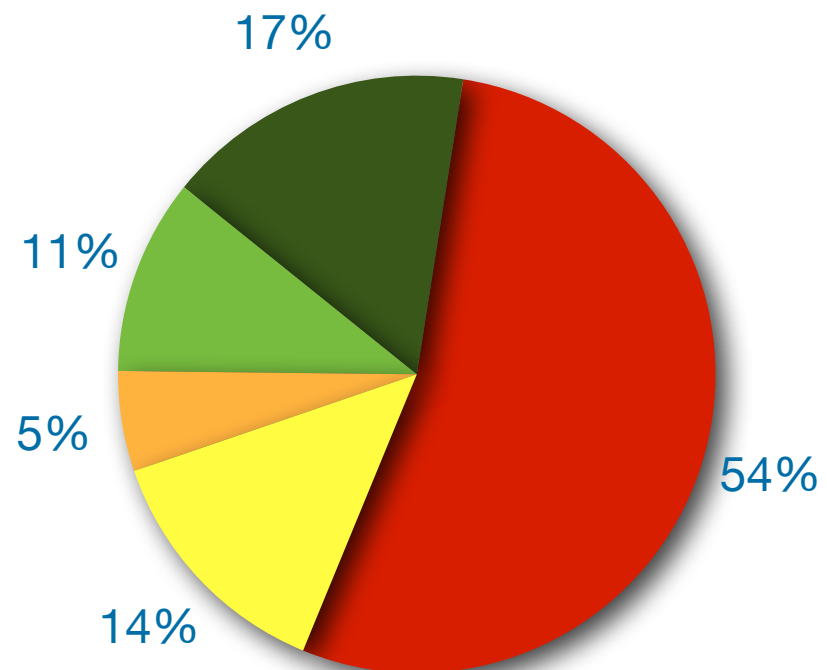
The Situation in Italy



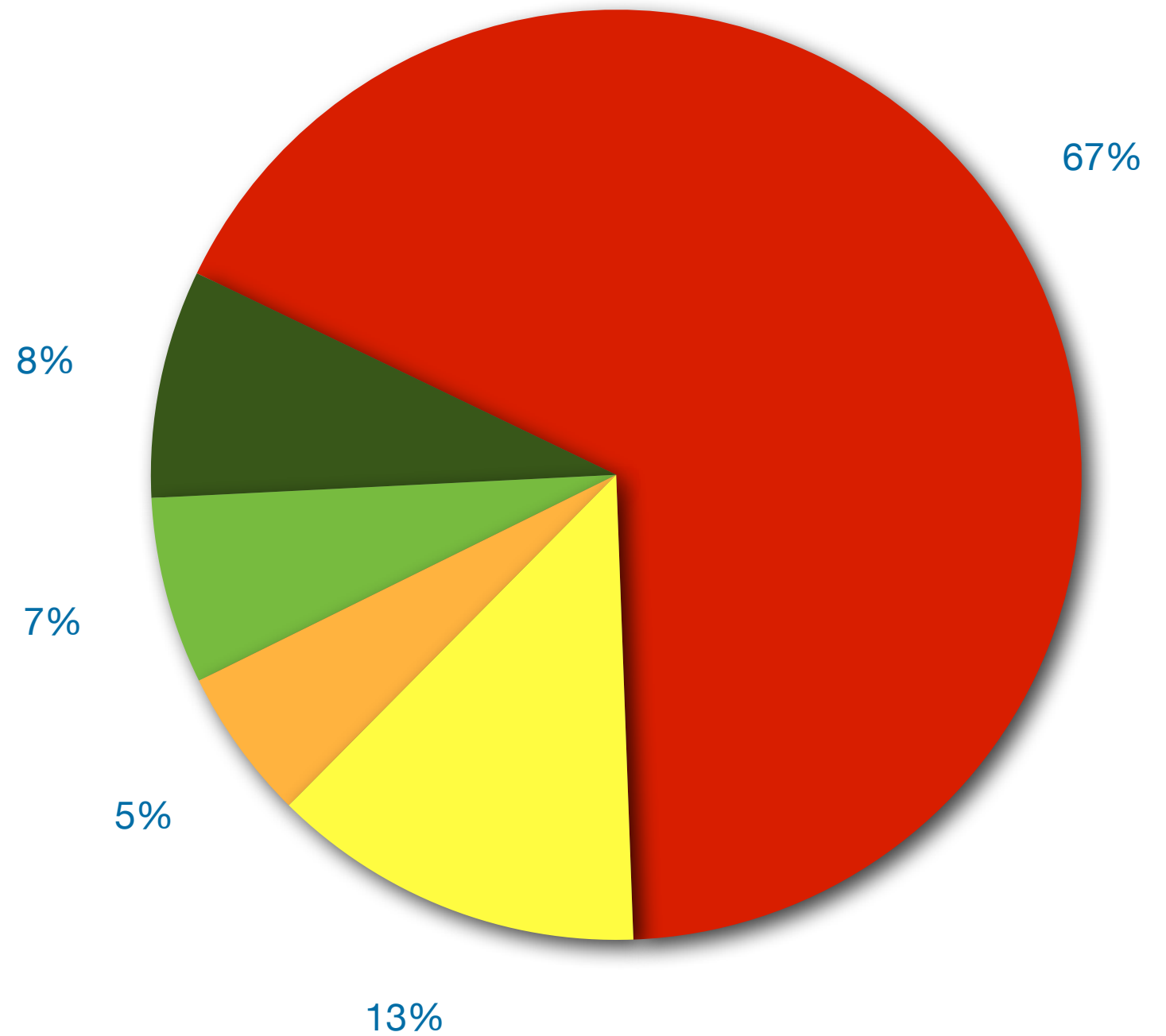
IPv6 RIPEness in Italy

- 1 star
- 2 stars
- 3 stars
- 4 stars
- No IPv6

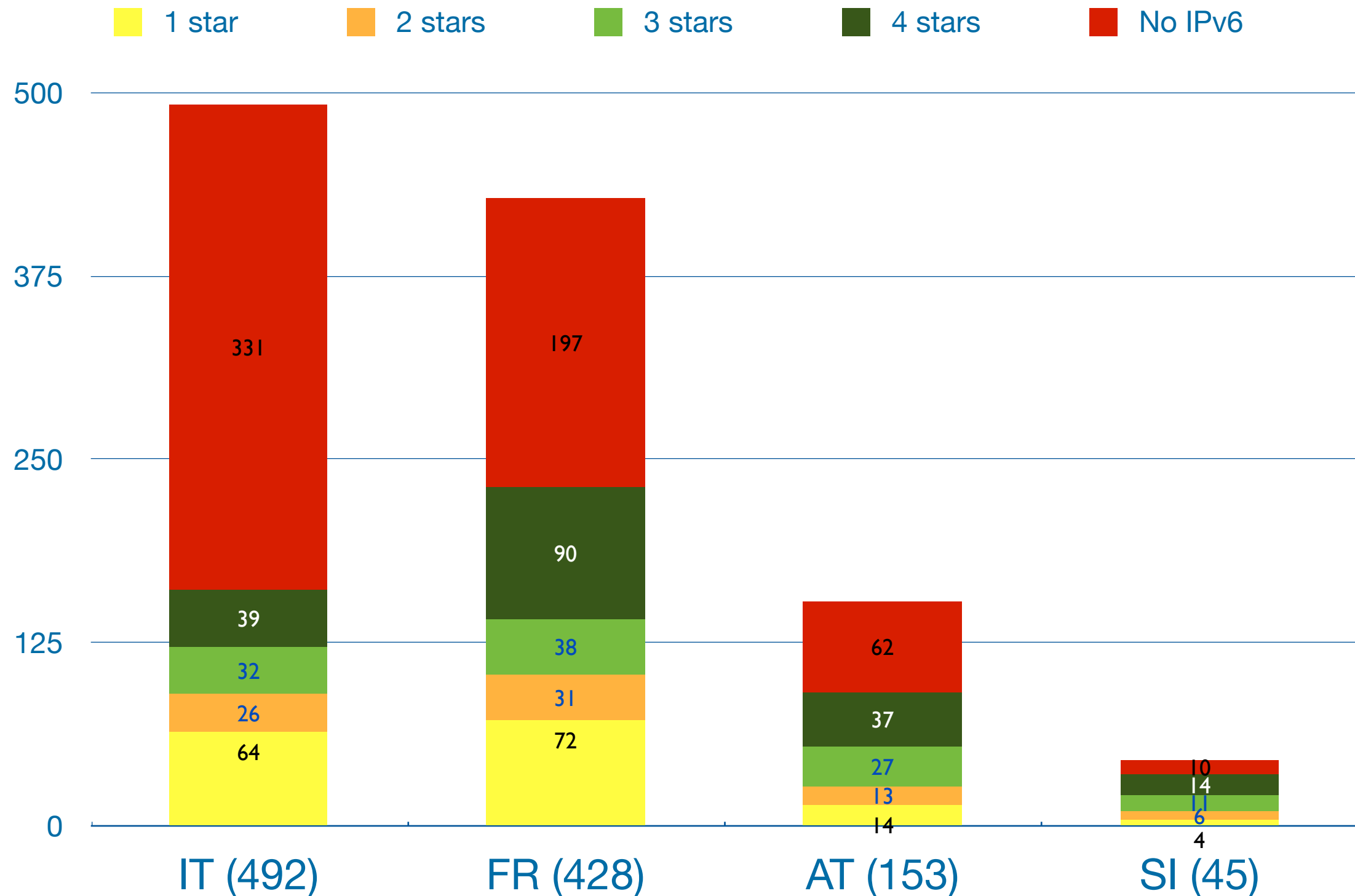
RIPE NCC Service Region



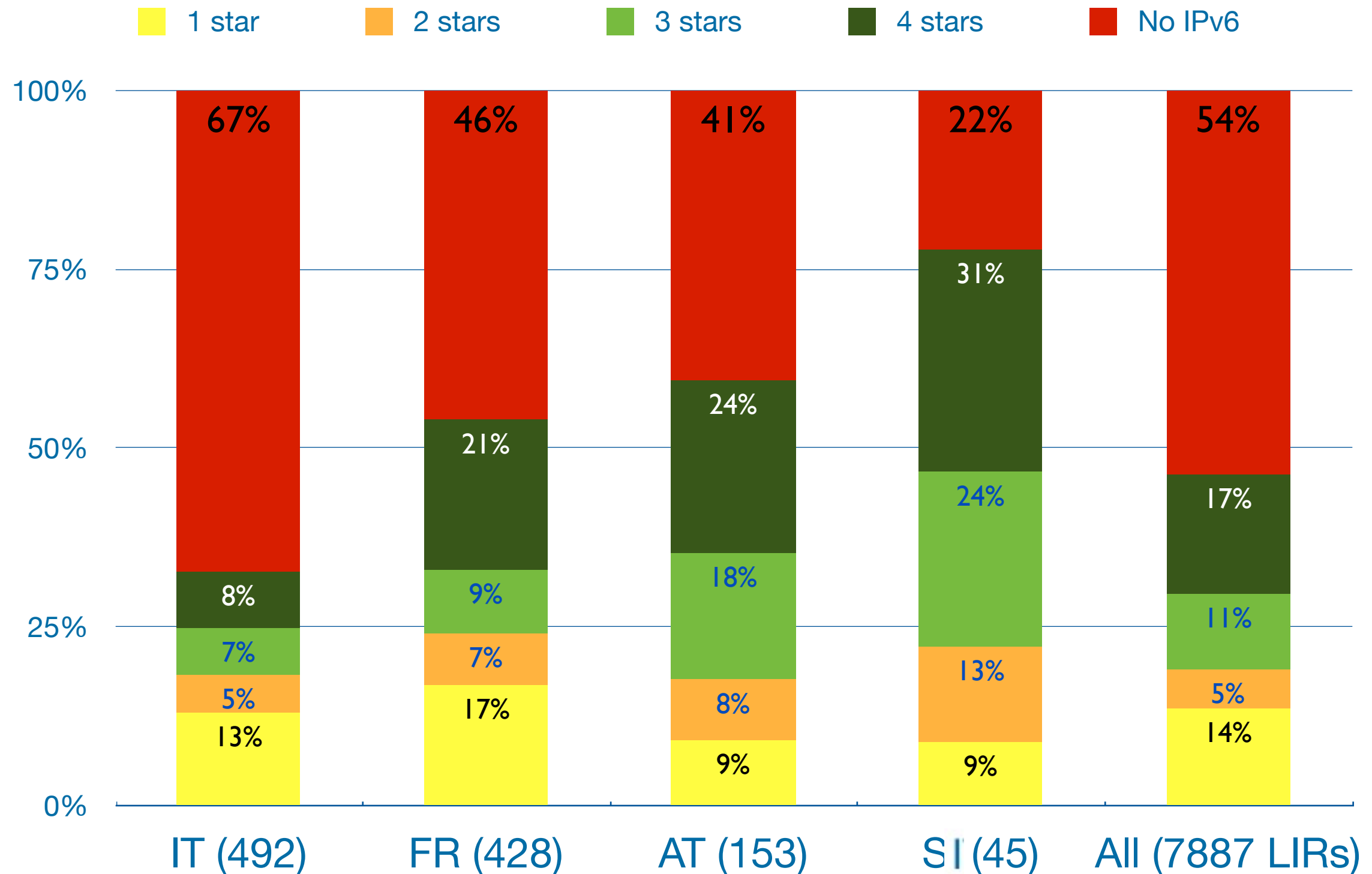
Italy



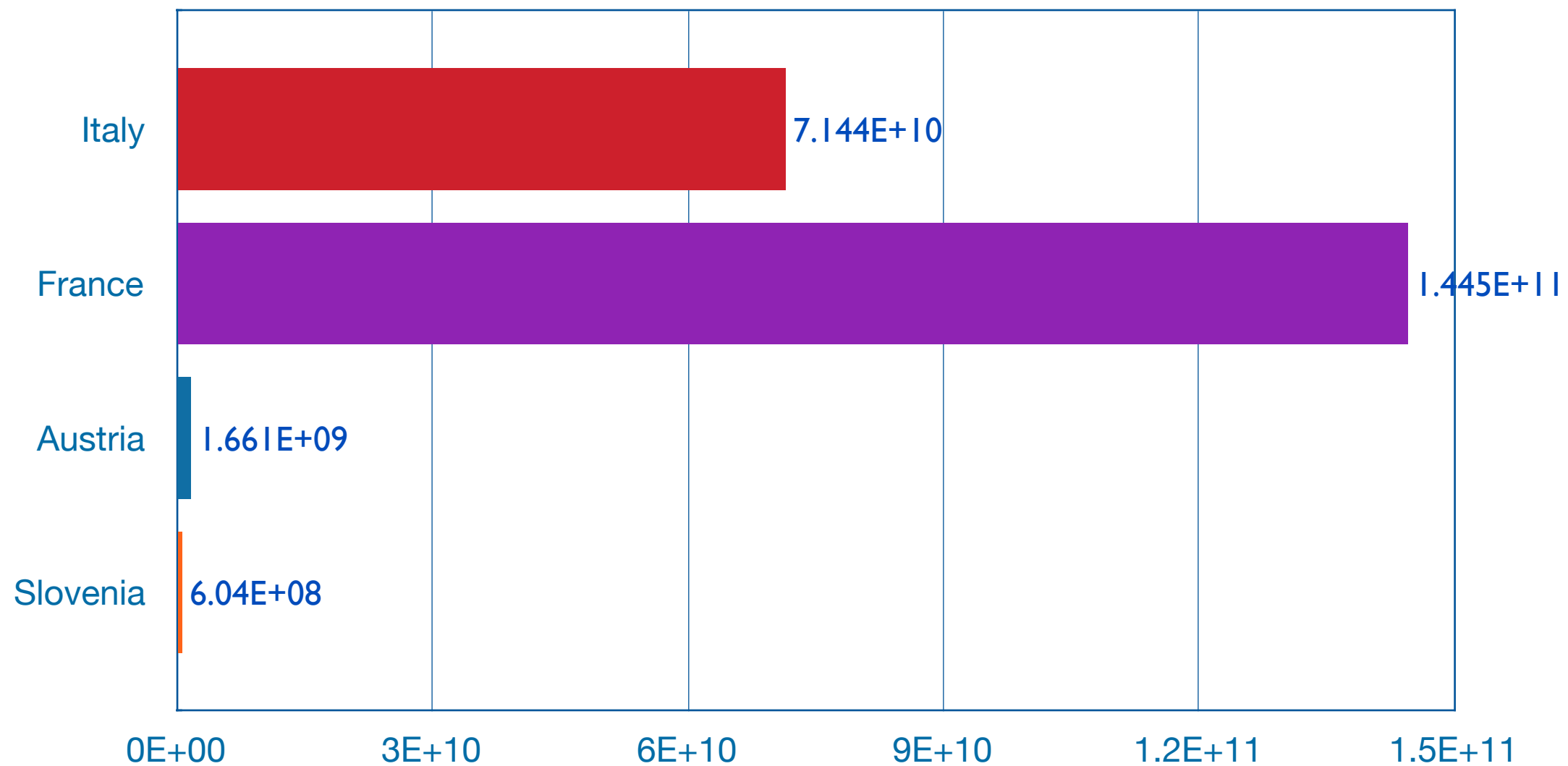
Comparative IPv6 RIPEness - Absolute



Comparative IPv6 RIPEness - Relative

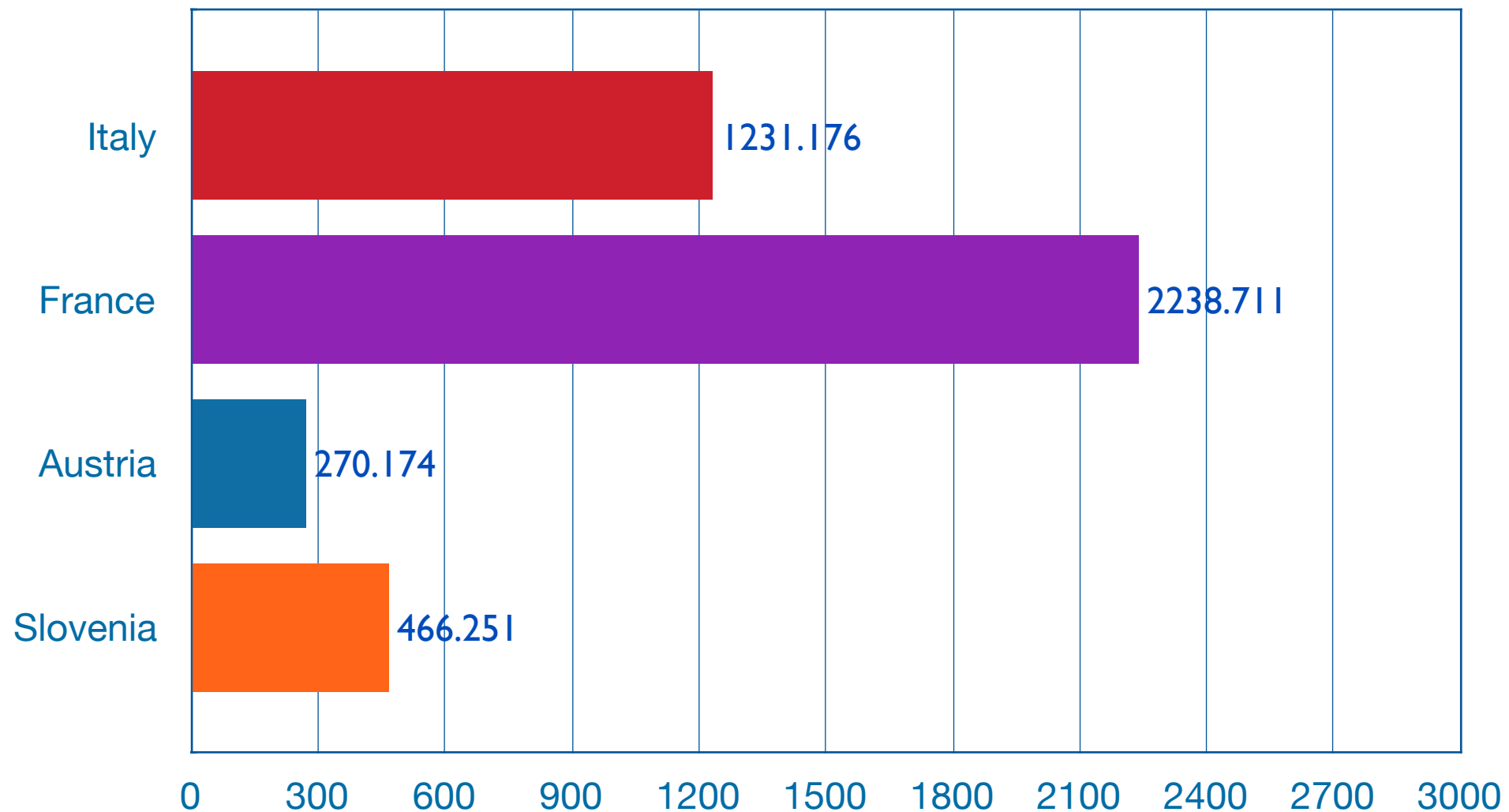


IPv6 Allocations in Italy (/56)



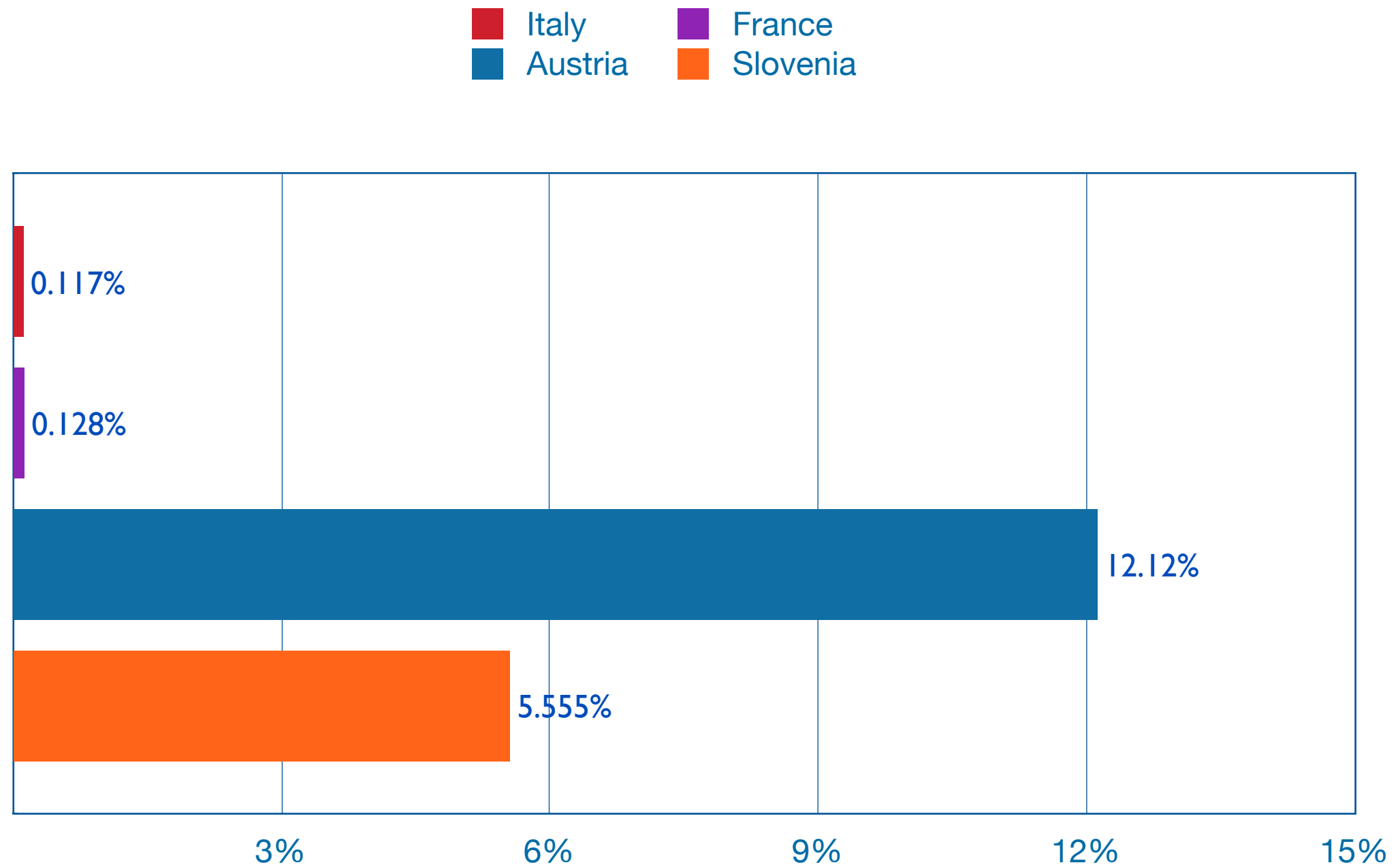
<http://bgp.potaroo.net/iso3166/v6cc.html>

IPv6 Allocations Per Italian User (/56)



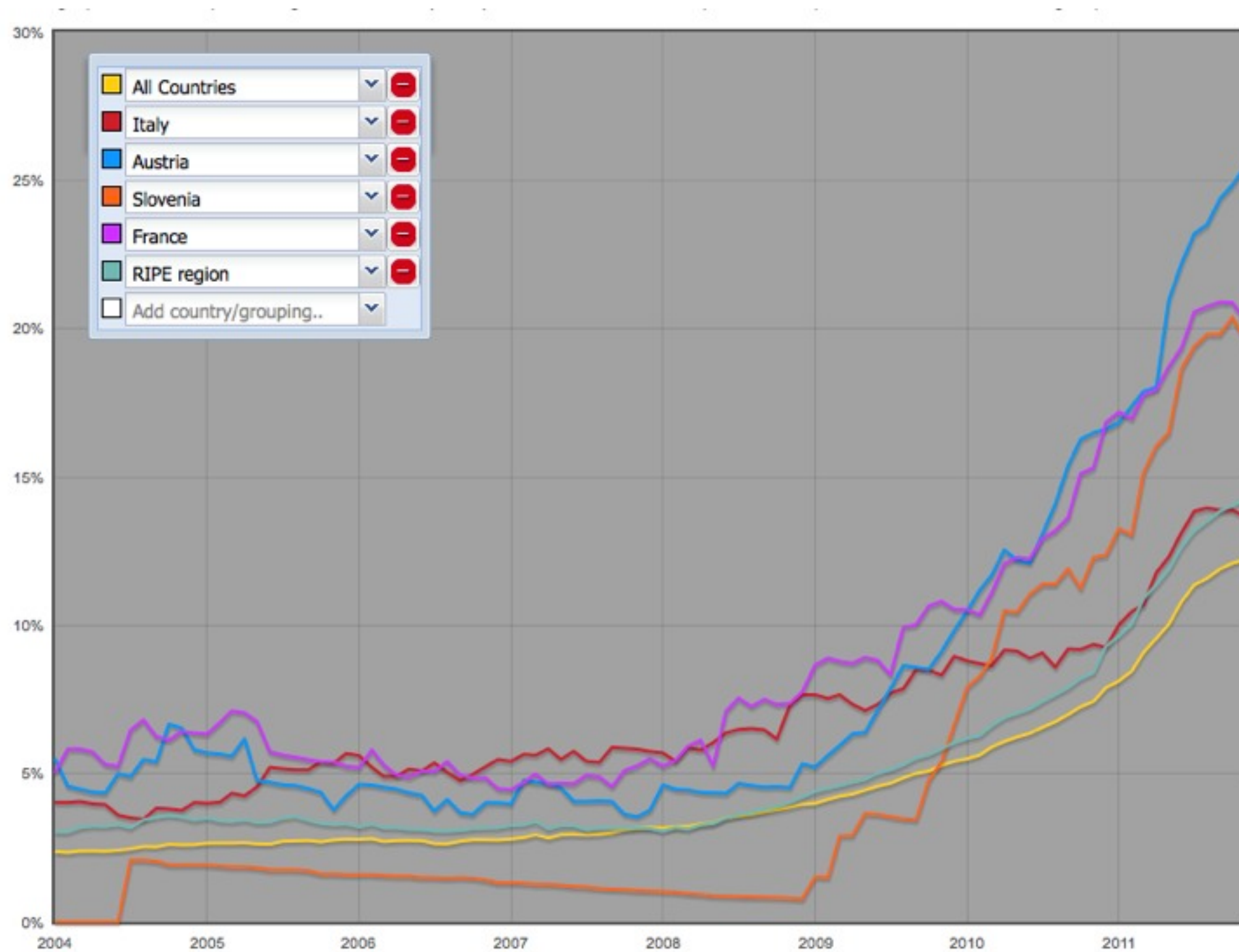
<http://bgp.potaroo.net/iso3166/v6cc.html>

Italian IPv6 Advertisements/Allocated (%)



<http://bgp.potaroo.net/iso3166/v6cc.html>

IPv6 Enabled ASes in Global Routing



Capacity Building: Education

- Training for LIRs
- IPv6 hands-on workshops and roadshows
 - Targeted at technical staff operating government and enterprise networks
 - Collaboration with industry and regional Network Operators Groups (NOGs)
- Presenting at various conferences and events
 - Internet Governance Forum (IGF)
 - European Commission (EC)
 - International Telecommunications Union (ITU)

Capacity Building: Outreach

- World IPv6 Day
 - World IPv6 **week** planned for spring
- IPv6 Act Now website: <http://www.ipv6actnow.org/>
- RIPEness



Capacity Building: Resources

- Equipment Requirements document (ripe-501):
<https://www.ripe.net/ripe/docs/ripe-501>
 - Co-authored by RIPE community members
 - Reviewed and approved by RIPE IPv6-WG
- Labs articles: <http://labs.ripe.net>
 - Customer premise equipment (CPE) survey
 - IPv6 statistics and measurements

Questions?



Presentation Link

<https://www.ripe.net/internet-coordination/press-centre/publications/presentations/2011>