

IPv4 depletion and IPv6 adoption in the RIPE NCC service region

Nathalie Trenaman

Trainer

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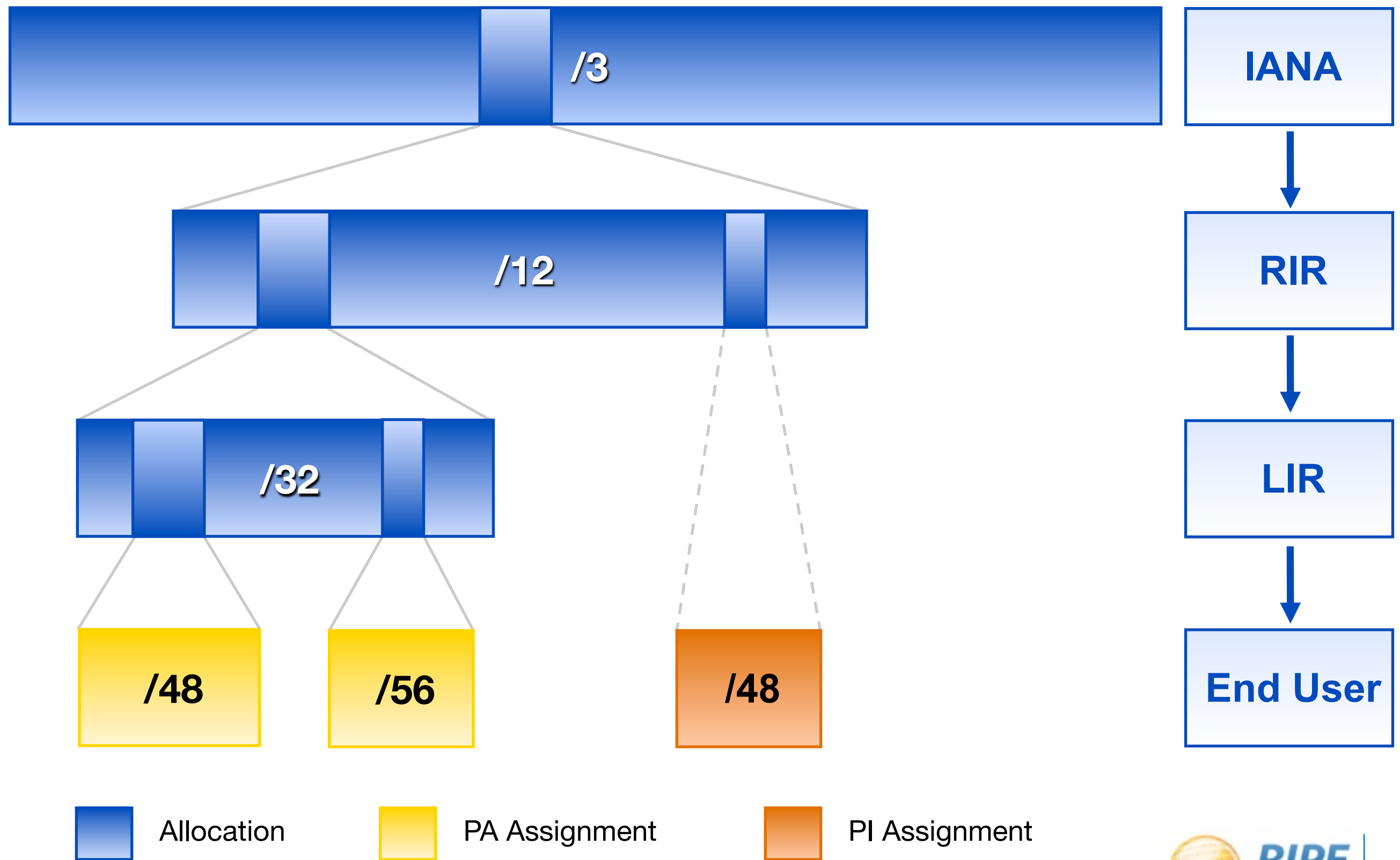
RIPE and RIPE NCC



About RIPE NCC

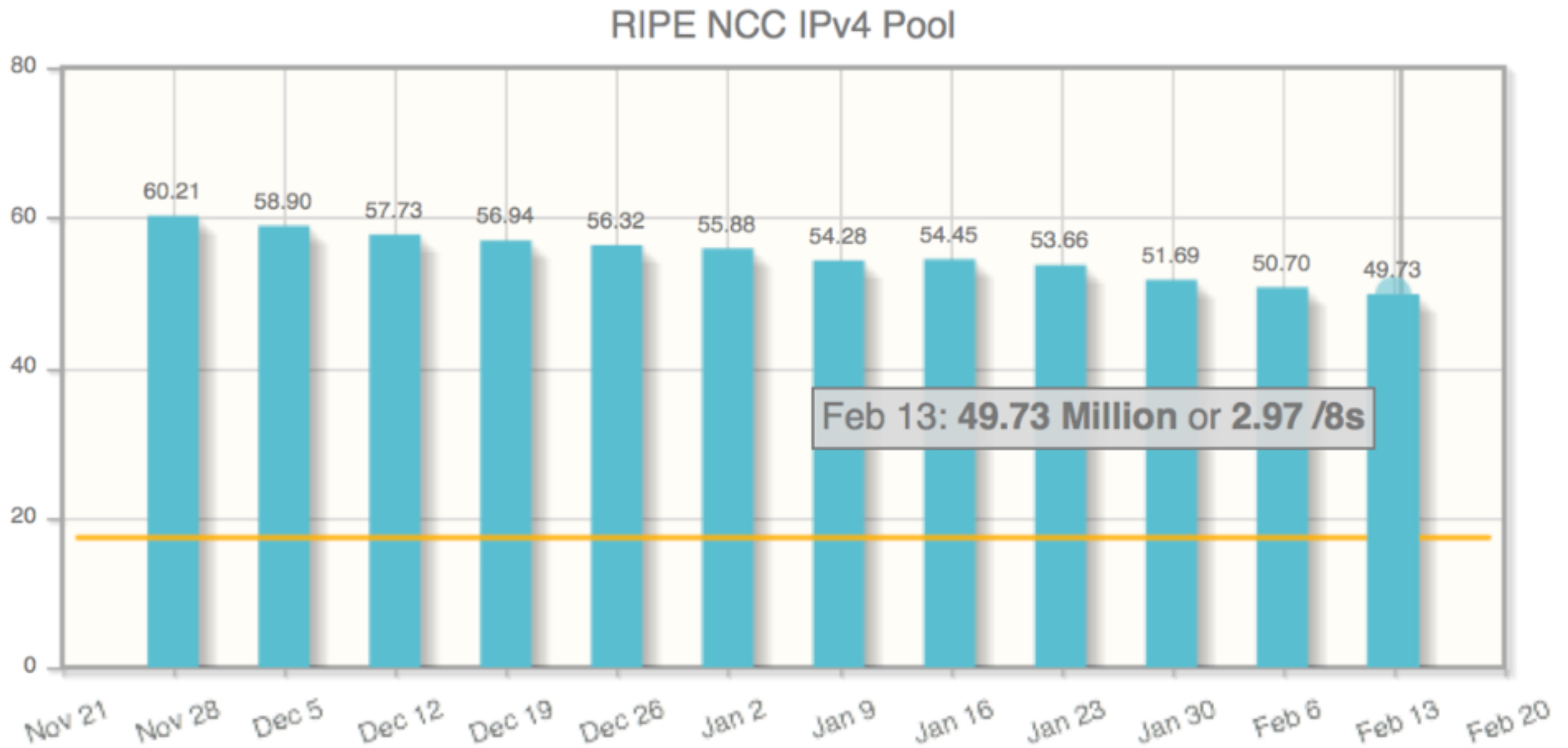
- One of the five Regional Internet Registries (RIR)
- RIPE NCC service region covers Europe, the Middle East and parts of central Asia
- Not-for-profit association, based in Amsterdam
- Funded from the membership fee
- 7.800 members throughout the region
- Neutral, impartial, open and transparent

IP Address Distribution

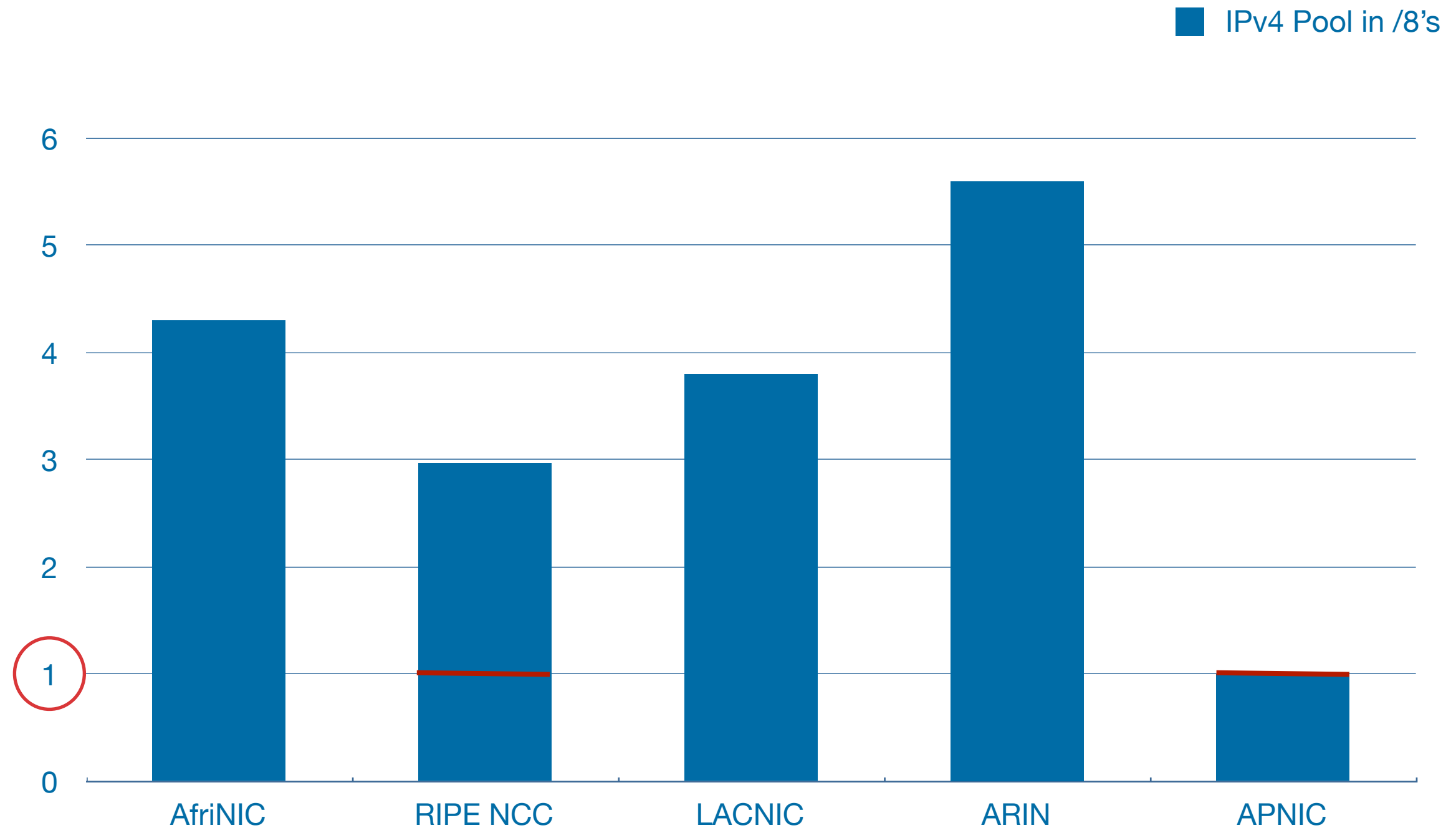


IPv4?

RIPE NCC IPv4 Available Pool



IPv4 Depletion Worldwide



Reduced Assignment Periods

- Used to be: 24 months
- January 2010: 12 months
- July 2010: 9 months
- January 2011: 6 months
- **July 2011: 3 months**

RIPE NCC's last /8

- We do things differently!
- Ensures IPv4 access for all members
 - 16000+ /22s in a /8
 - members can get **one /22** (=1024 addresses)
 - must already hold IPv6
 - must qualify for allocation
- /16 set aside for unforeseen situations
 - if unused, will be distributed
- No PI

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>

IPv6!

Getting an IPv6 allocation from the RIPE NCC

- To qualify, an organisation must:
 - Be an LIR
 - Have a plan for making assignments within two years
- Minimum allocation size /32
- Allocation size is based on customer numbers and growth, not on transition technique!

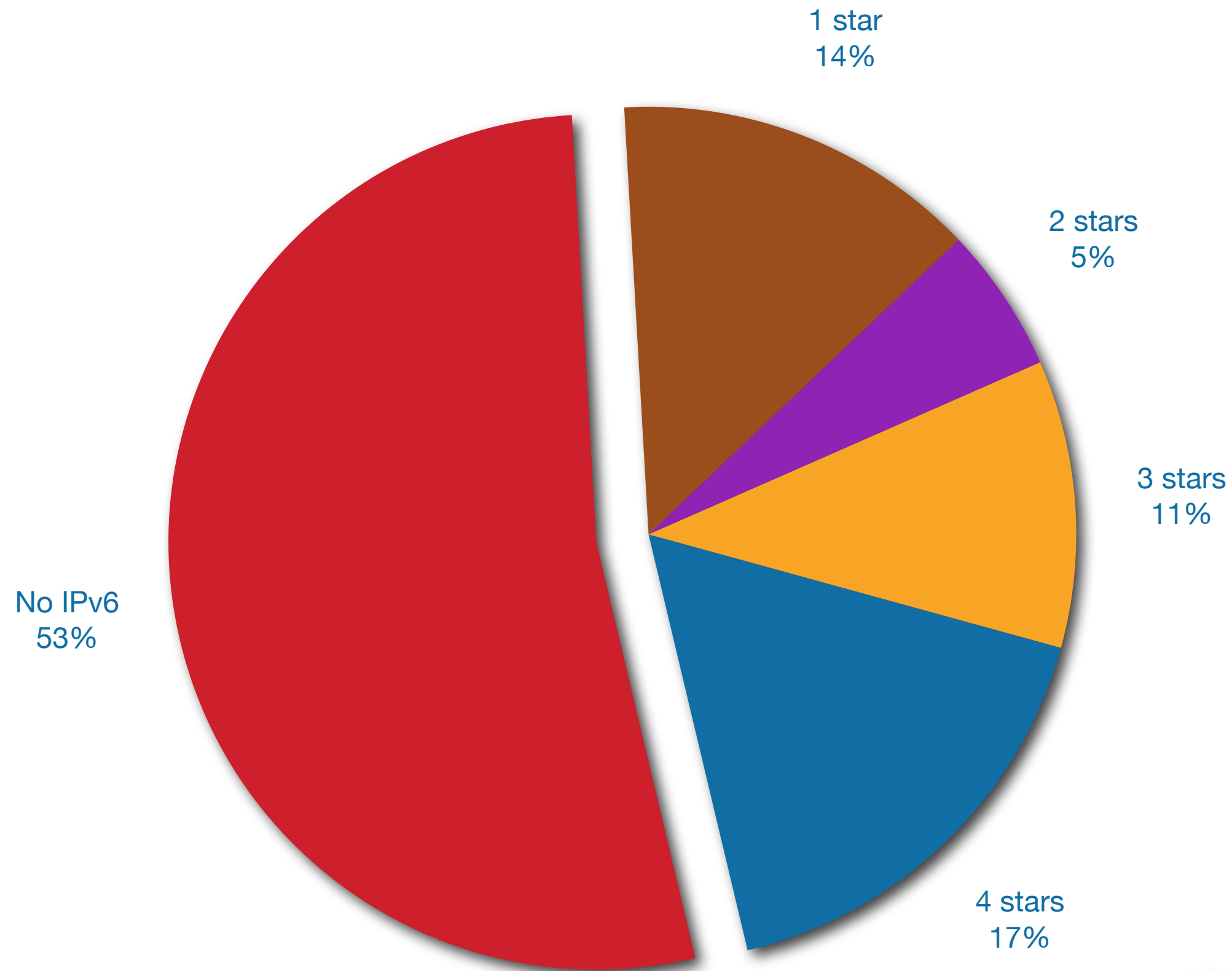
RIPE Policy Proposal 2011-04

- Extension of the Minimum Size for IPv6 Initial Allocation
 - Proposes initial allocation up to a /29
 - For example, for small LIRs to deploy IPv6 via 6RD (RFC 5969)
- Proposal currently in Review Phase
 - The RIPE NCC is working on impact analysis

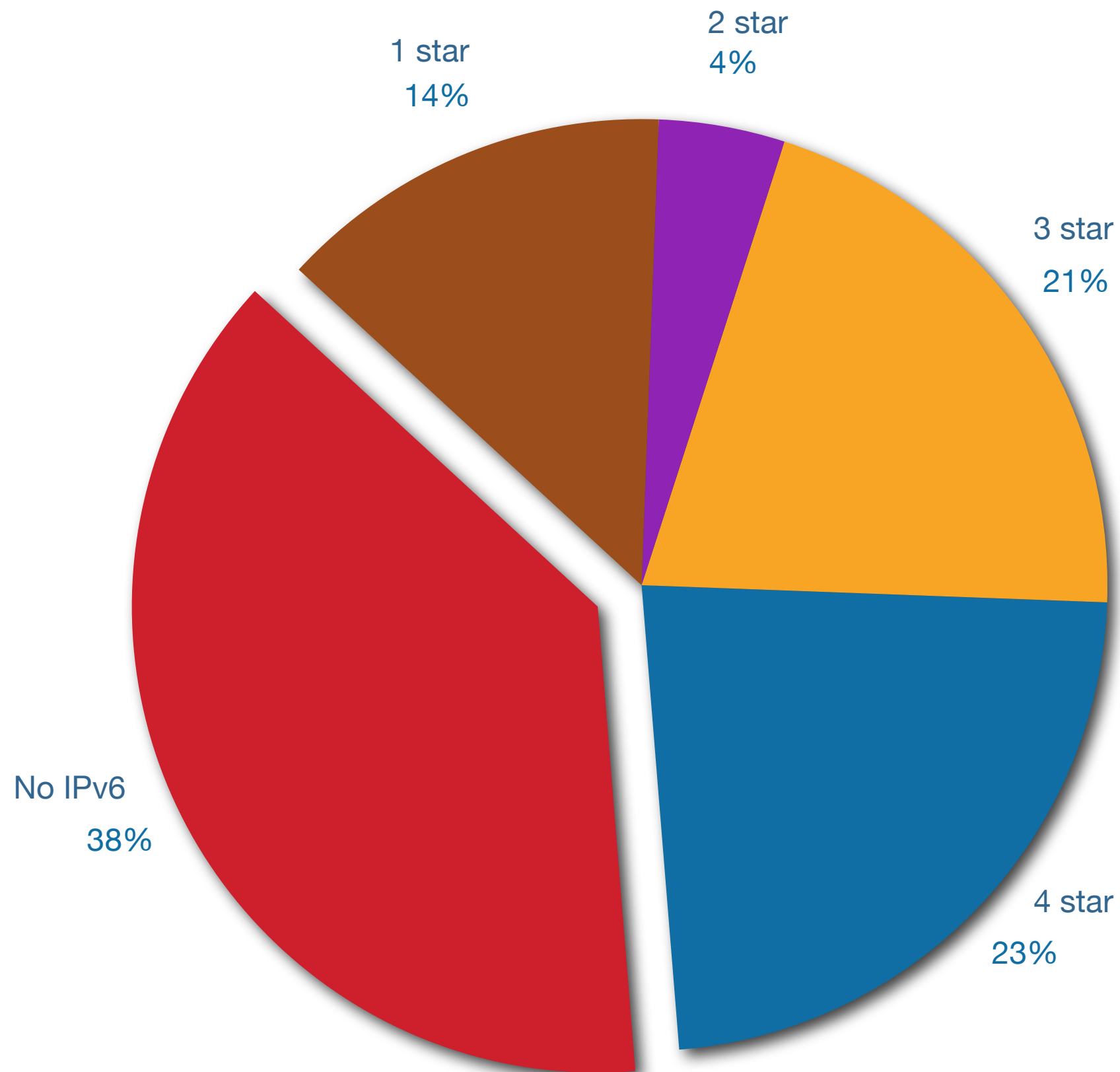
IPv6 Ripeness

- Rating system:
 - One star if the LIR has an IPv6 allocation
 - Additional stars if:
 - IPv6 Prefix is announced on router
 - A route6 object is in the RIPE Database
 - Reverse DNS is set up
 - A list of all 4 star LIRs: <http://ripeness.ripe.net/>

IPv6 RIPEness: 8004 LIRs



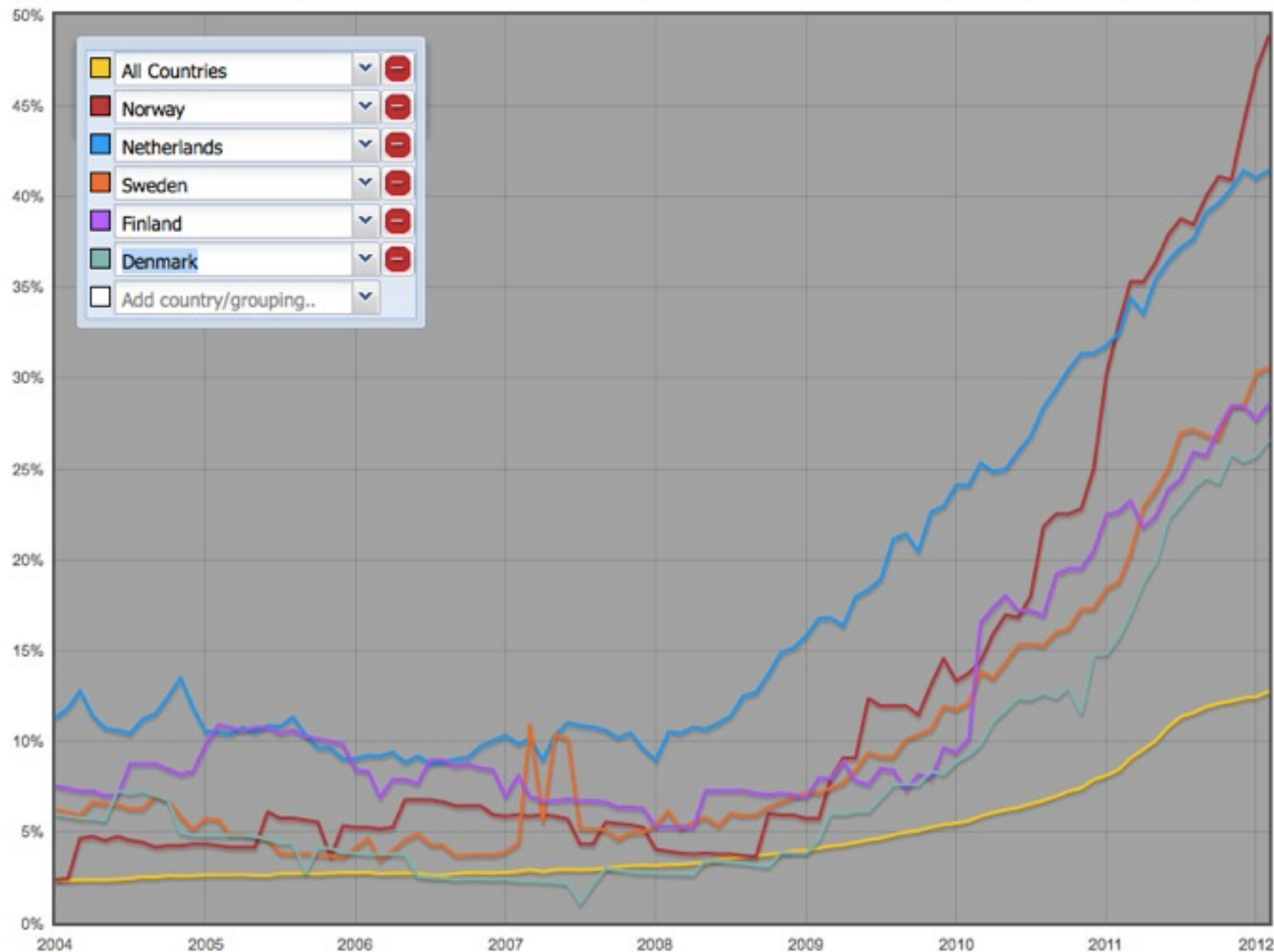
IPv6 RIPEness: Norway (160 LIRs)



IPv6 Enabled ASes in Global Routing

- Any country or region possible, updated daily

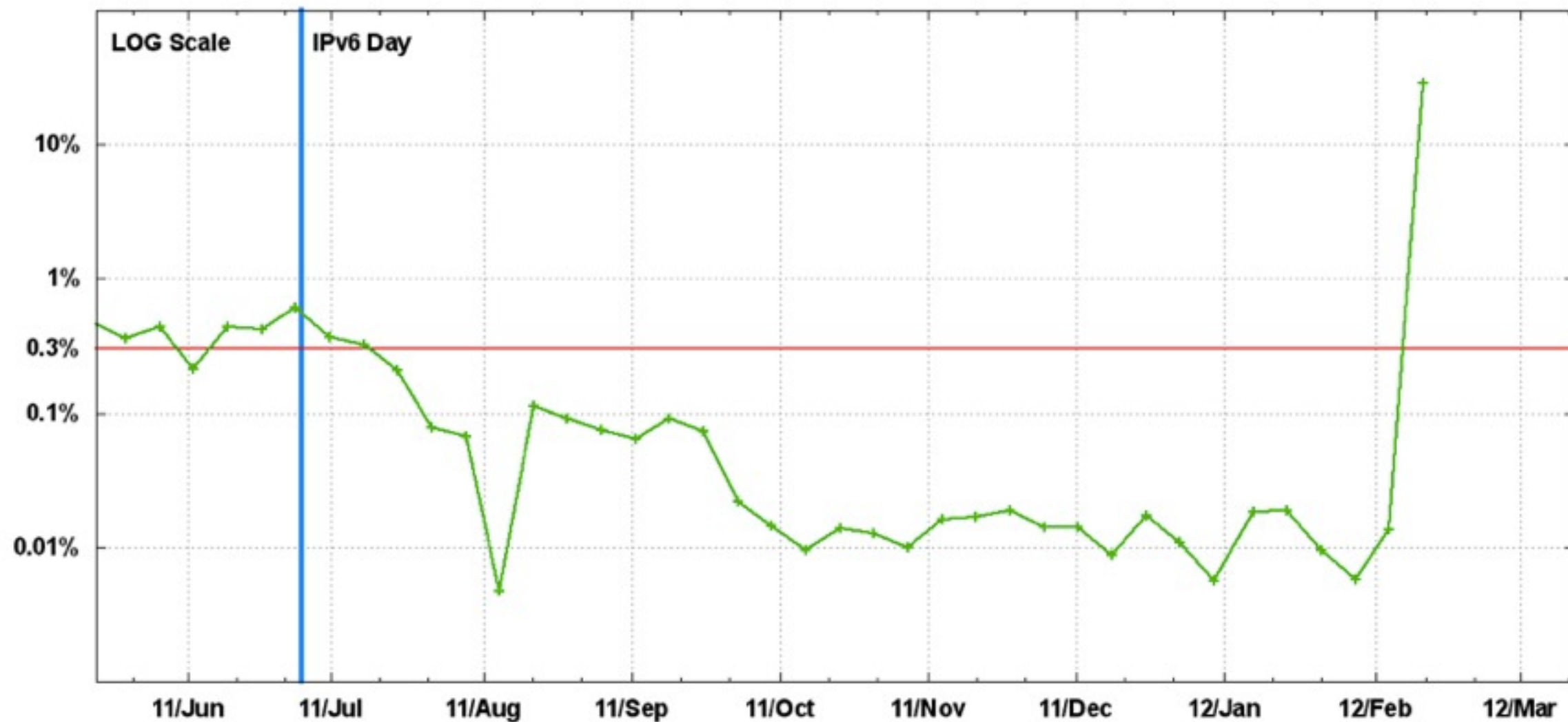
This graph shows the percentage of networks (ASes) that announce an IPv6 prefix for a specified list of countries or groups of countries



<http://v6asns.ripe.net>

Hot News: What is Opera doing?

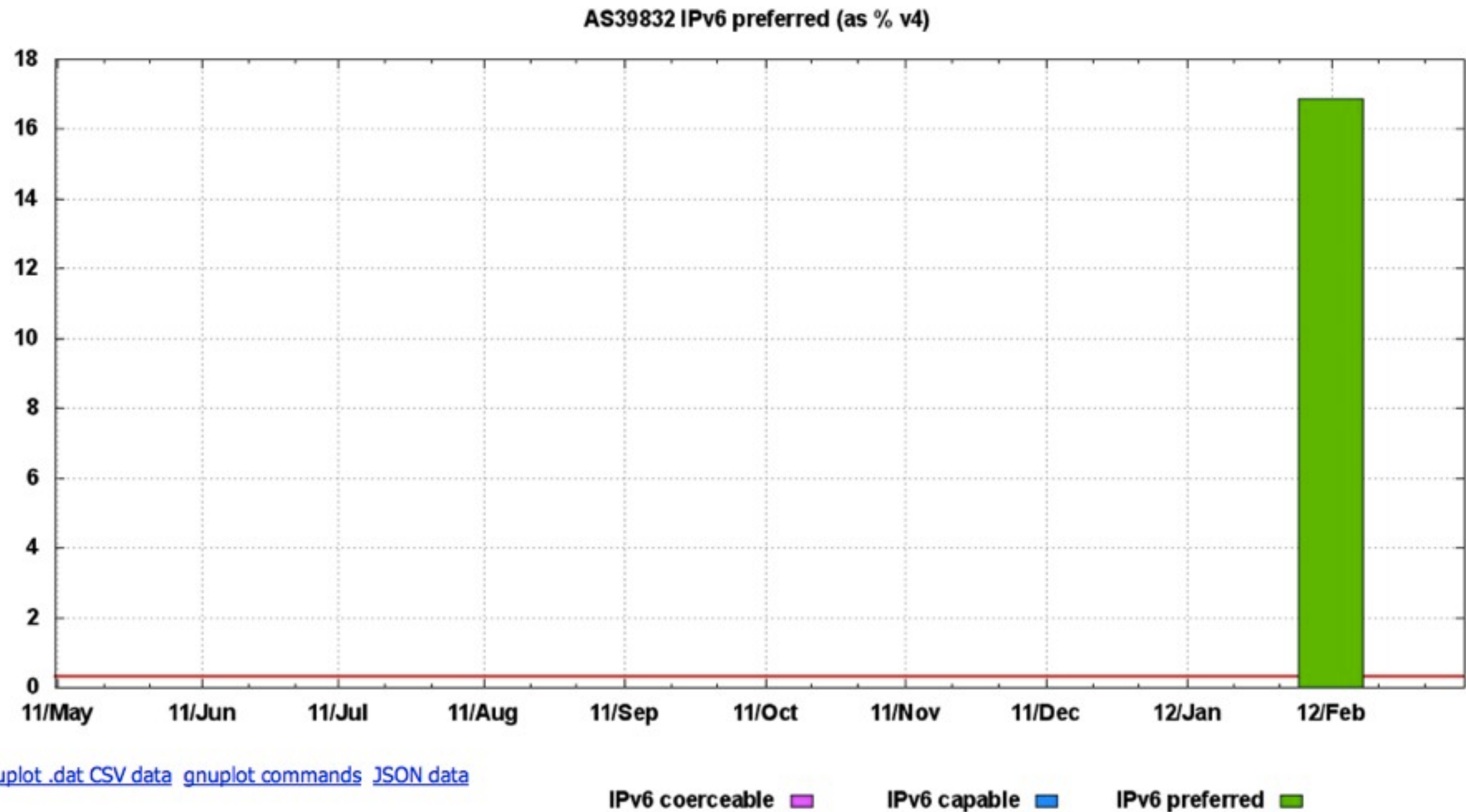
NO IPv6 preferred (as % v4)



[gnuplot cmd](#) [CSV](#) [.json](#)

IPv6 preferred + IPv6 capable * IPv6 coerceable *

Hot News: What is Opera doing? (2)



Source: <http://labs.apnic.net/ipv6-measurement/AS/3/9/8/3/2/index-months.html>