Reaching the last /8 and deploying IPv6

Nathalie Trenaman

RIPE NCC
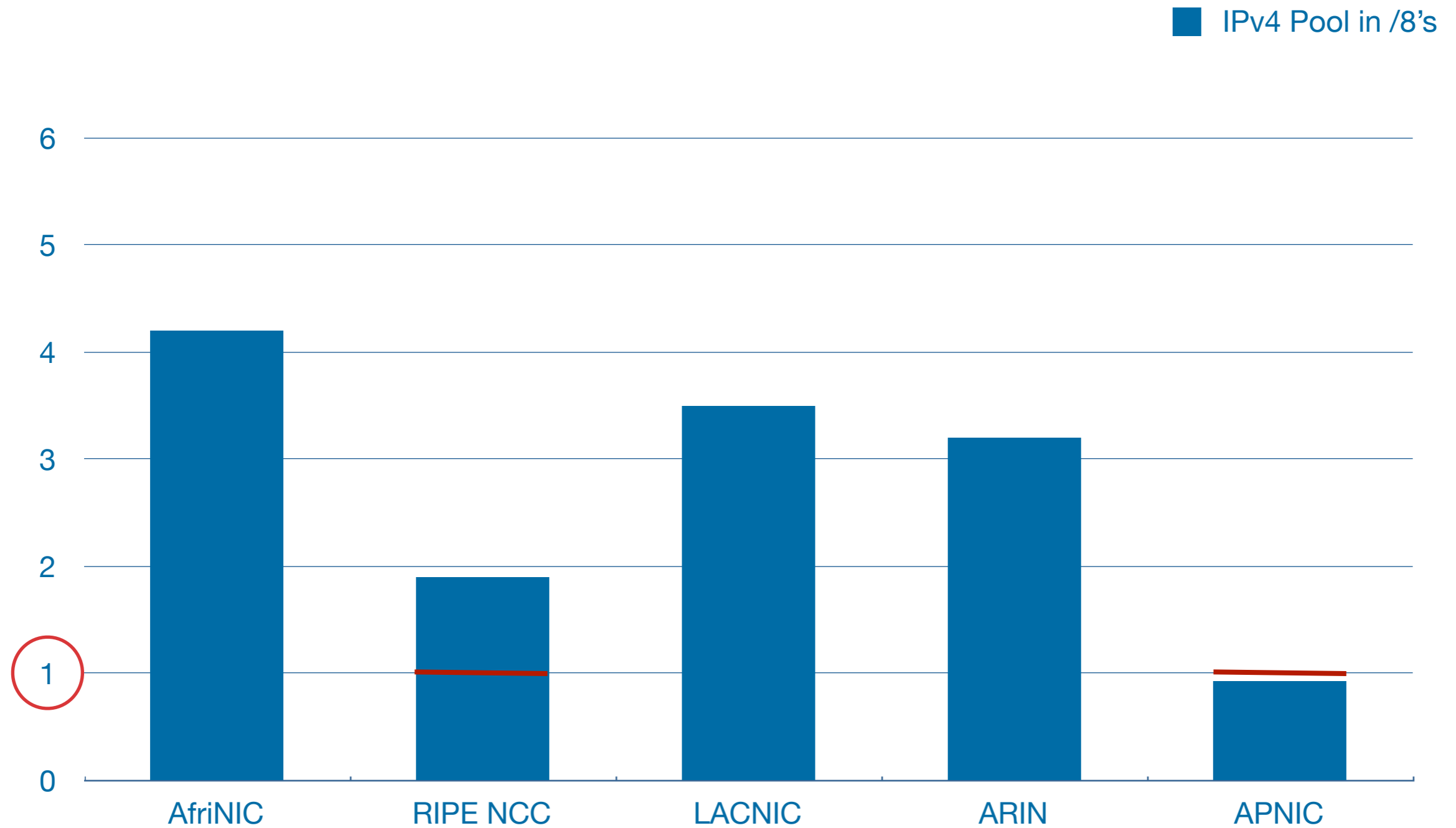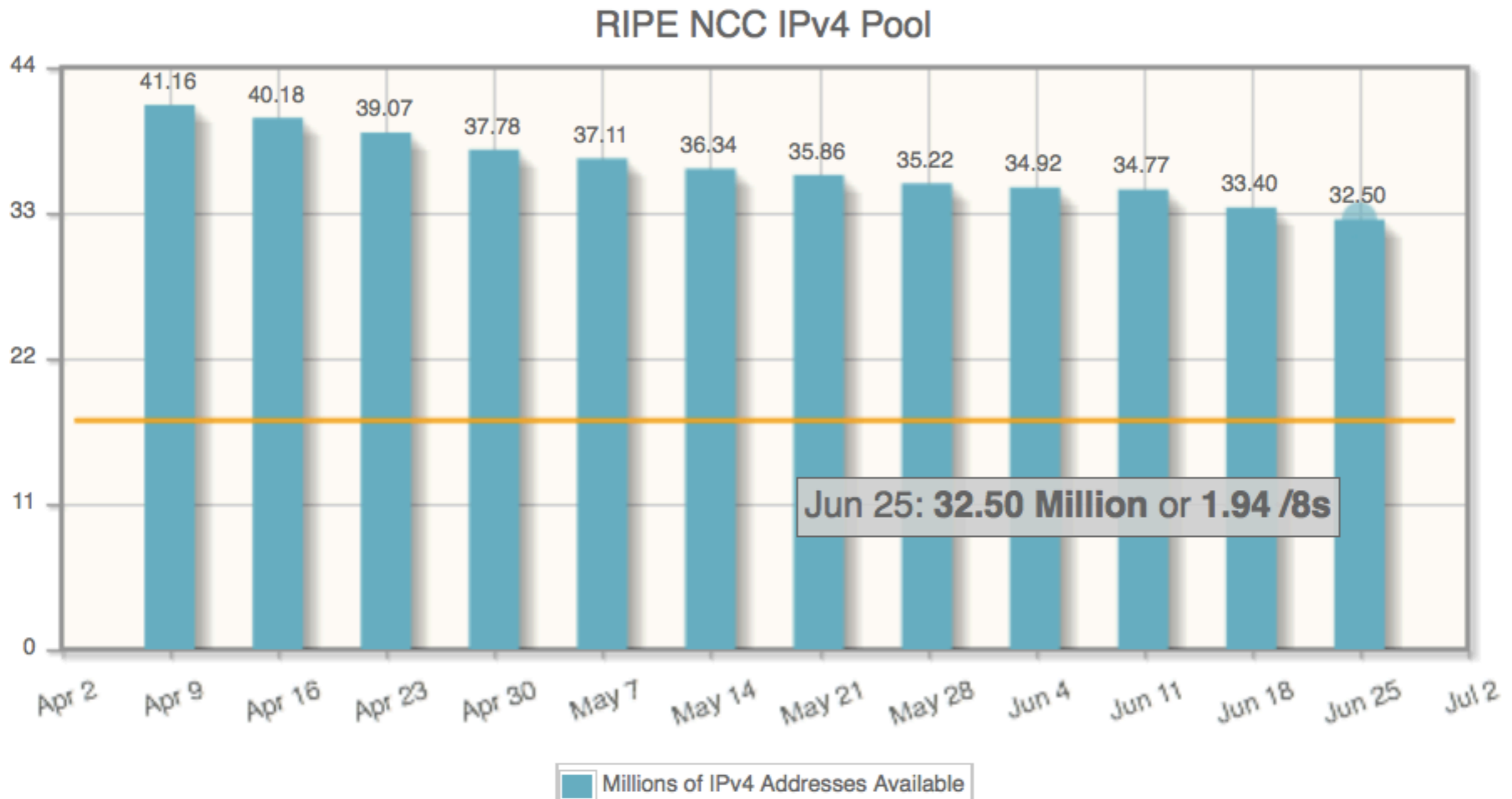
IPv6 World Congress, 27 June 2012

About the RIPE NCC

- One of the five Regional Internet Registries (RIR)
- The 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
- 8,200 members throughout the region
- Neutral, impartial, open and transparent

IPv4 Depletion Worldwide

RIPE NCC IPv4 Pool

RIPE NCC IPv4 Pool

41.16 40.18 39.07 37.78 37.11 36.34 35.86 35.22 34.92 34.77 33.40 32.50

Apr 2 Apr 9 Apr 16 Apr 23 Apr 30 May 7 May 14 May 21 May 28 Jun 4 Jun 11 Jun 18 Jun 25 Jul 2

Jun 25: **32.50 Million** or **1.94 /8s**

Millions of IPv4 Addresses Available

4

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 (yet? policy proposal 2012-04)

IPv6 RIPEness: 8265 LIRs

1 star
14%

2 stars
6%

3 stars
12%

4 stars
18%

No IPv6
50%
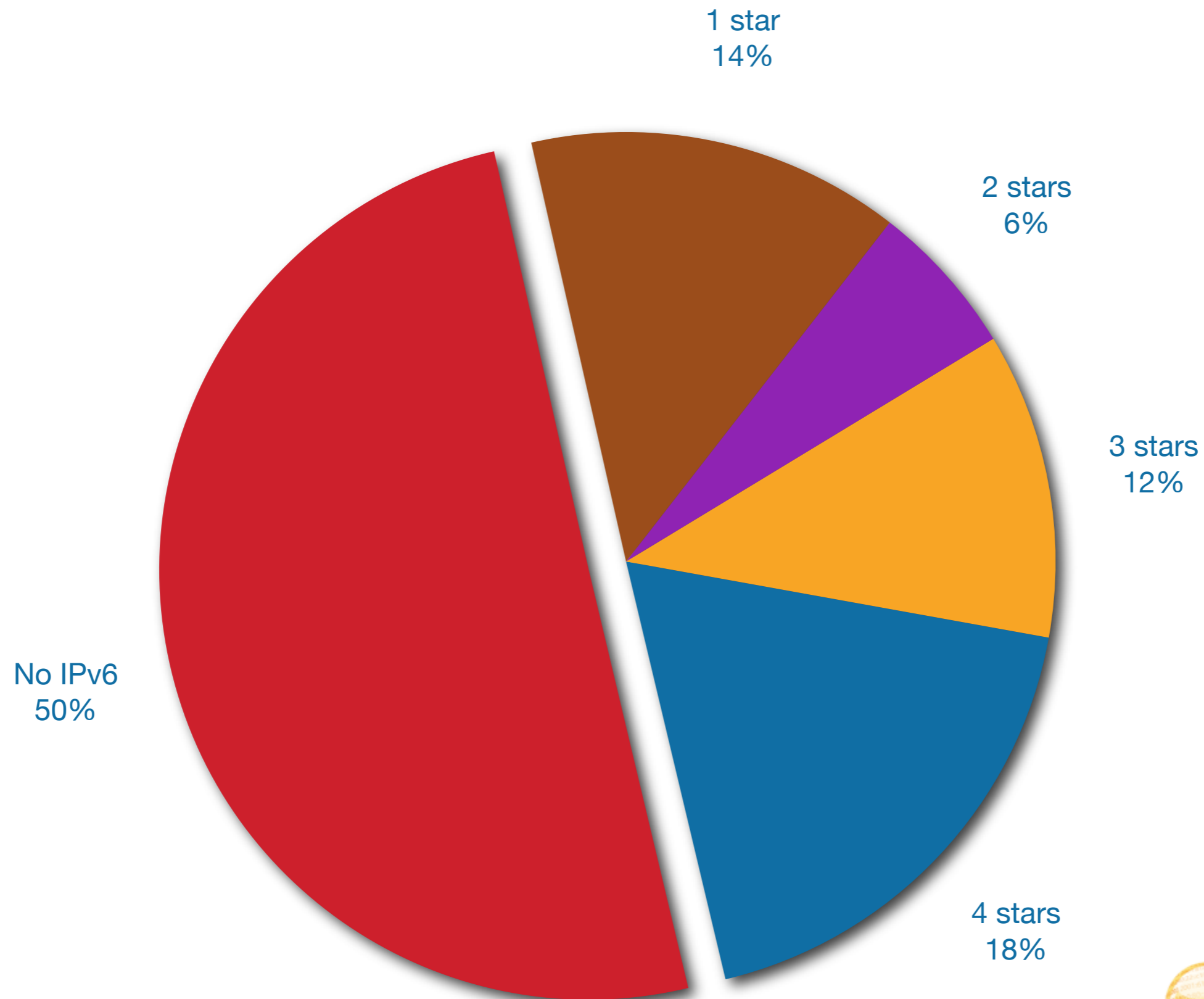
RIPE NCC Training Services

- Delivers training courses to members
  - RIPE NCC membership fee covers course

- Courses
  - LIR
  - Routing Registry
  - IPv6 for LIRs
- E-learning

Interaction and Cooperation

- Surveys
  - After each course
  - Yearly
- Training material freely available
- Mailing lists
- Twitter (@trainingRIPENCC, @ripe_ncc)
- www.ipv6actnow.org
- Conferences and seminars

IPv6 For LIRs: Course History

- Started July 2009
  - 9 courses in 2009
  - 182 attendees
- Half-day course
- Videos
- Focus on awareness

IPv6 For LIRs: 2011

- Numbers increased significant
  - 44 courses
  - 34 countries
  - 987 attendees

- Different demands in different countries
- Focus has changed to deployment
- Added more exercises and best current practices

IPv6 For LIRs: Course Topics

- IPv4?

- IPv6 Address Basics

- Getting it

- Exercise: Making Assignments

- Transition Mechanisms

- Exercise: Addressing Plan

- Deploying

- Exercise: Configuring IPv6

- Real Life IPv6 Deployment

- Exercise: Deployment Challenges

- Tips

MENOG/RIPE NCC IPv6 Roadshow

- Standalone workshop hosted by a government or enterprise organisation
  - 3 or 5 days
- Hands-on technical training, working with industry partners
- Goals
  - Ensure sustainable growth of the Internet in the region
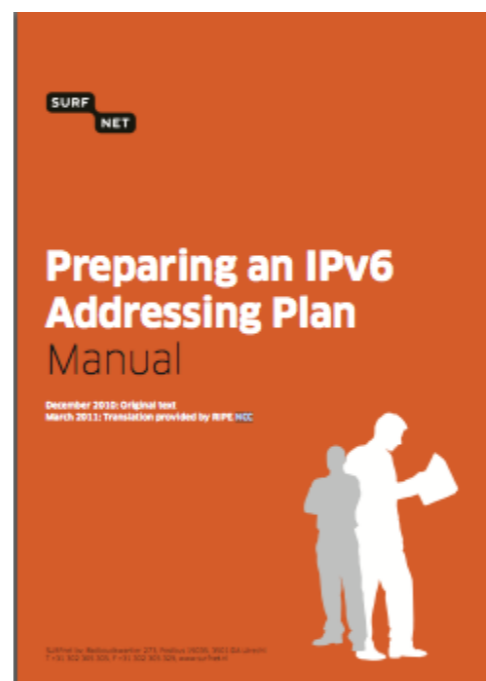 - Help position governments to lead on IPv6

RIPE-554 Document

- "Requirements for IPv6 in ICT Equipment"
- Best Current Practice describing what to ask for when requesting IPv6 Support
- Useful for tenders and RFPs
- Originated by the Slovenian Government
  - Adopted and translated by various others (Germany, Sweden)

http://www.ripe.net/ripe/docs/current-ripe-documents/ripe-554

Customers And Their /48

- Customers have no idea how to handle 65536 subnets!

- Provide them with information

  - https://www.ripe.net/lir-services/training/material/IPv6-for-LIRs-Training-Course/IPv6_addr_plan4.pdf

Questions?