IPv6 Allocation and Assignment

21 October 2010 Krakow Poland

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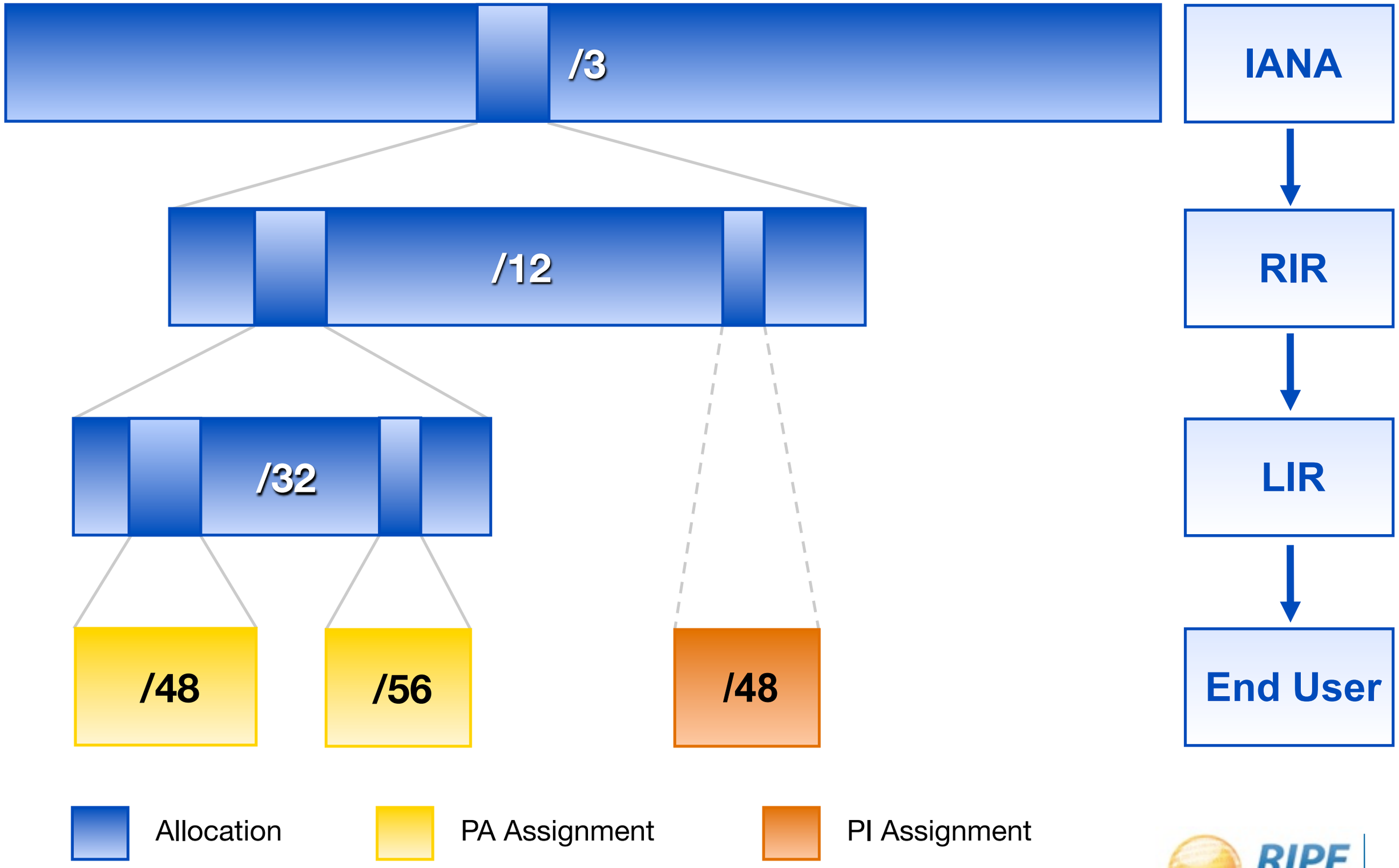
Overview

- The RIPE NCC
- IPv6 Statistics
- Getting IPv6 Addresses

The Registry System

IP Address Distribution



The 5 RIRs


ARIN
American Registry for Internet Numbers
RIPE NCC
APNIC
LACNIC
AfriNIC
RIPE NCC

RIPE / RIPE NCC

RIPE

- Operators community
- Develops addressing policies
- Working group mailing lists
- 2010 meetings:
  - Prague 3-7 May
  - Rome 15-19 November

RIPE NCC

- Located in Amsterdam
- Not for profit membership organisation
- One of five RIRs - distributes IP & ASN

Statistics

Reaching the next billion

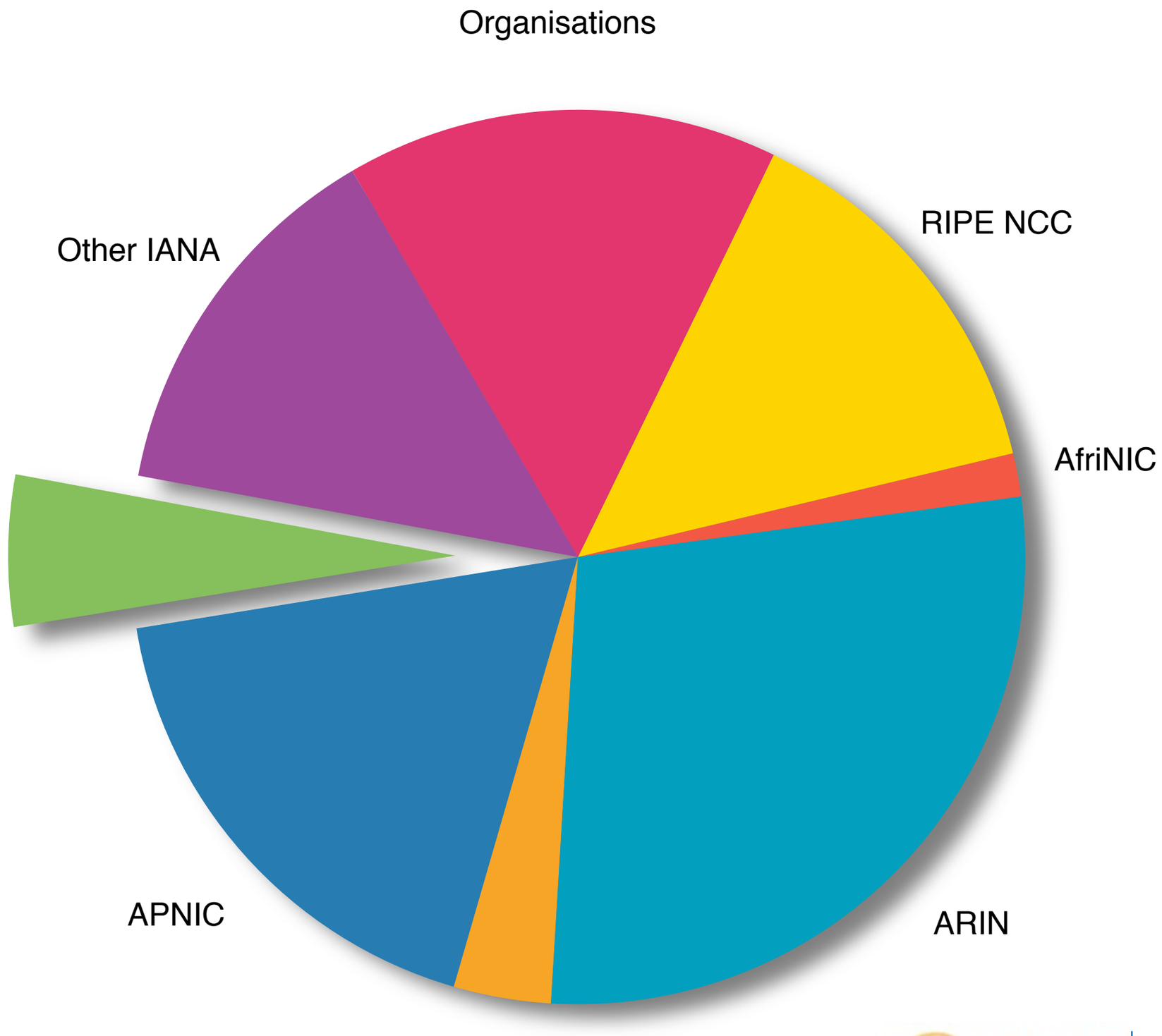
- Around 1.8 billion Internet users now
  - around 27% of all people

- Mobile phones are becoming Internet devices

- The Internet of things

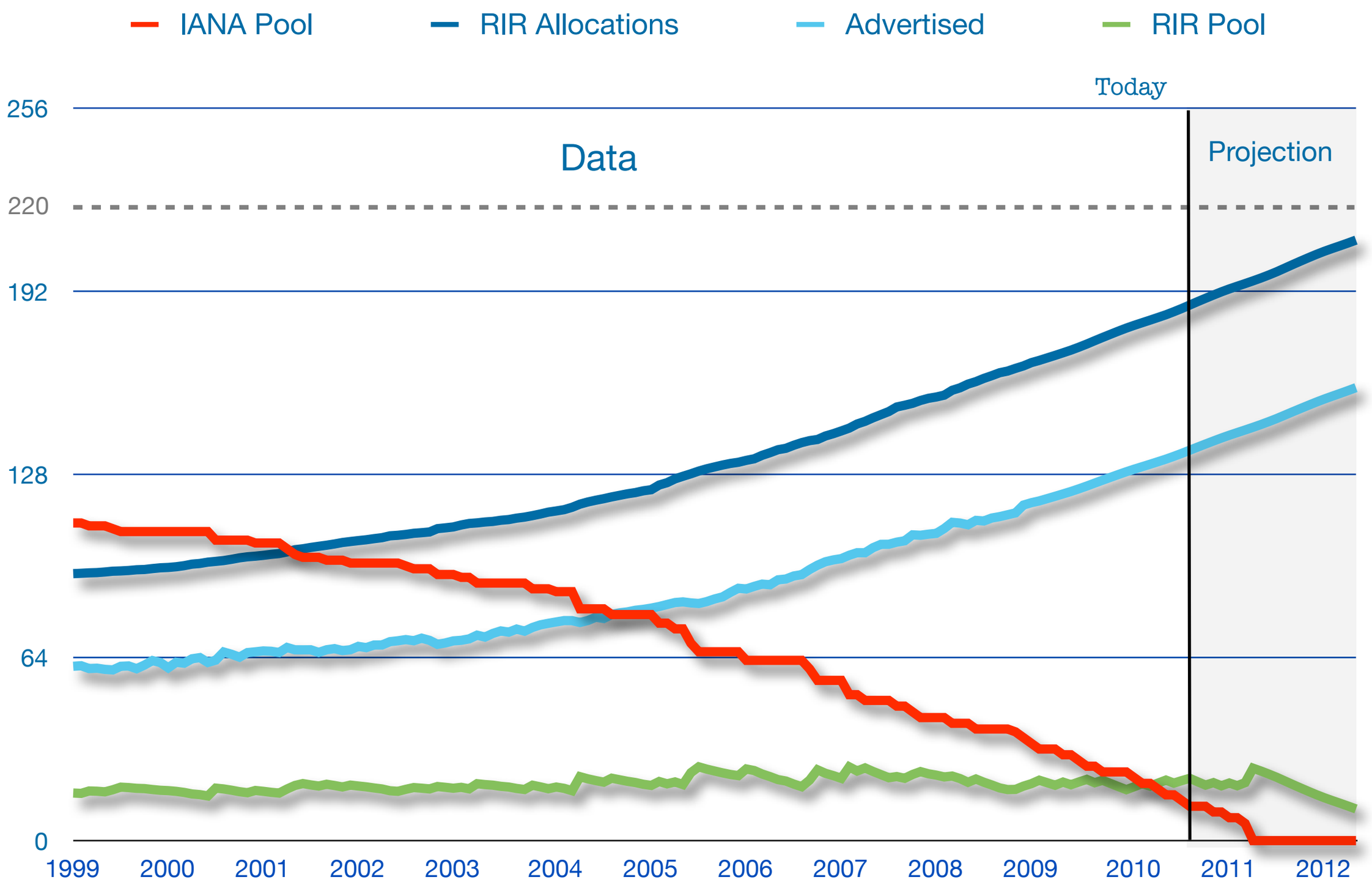
IPv4 Address Pool

4.68%
available



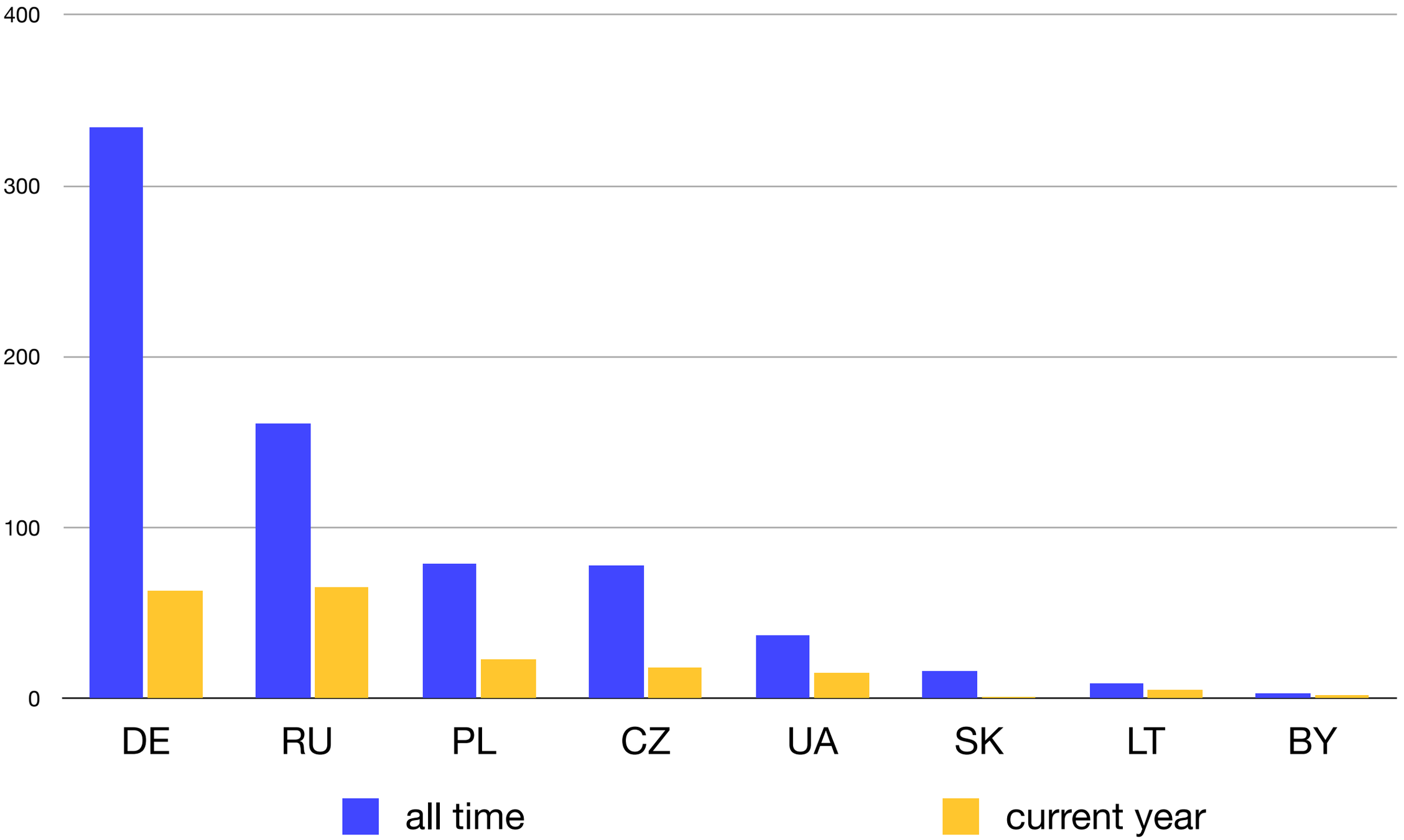
RIPE NCC

IPv4 Allocation Timeline

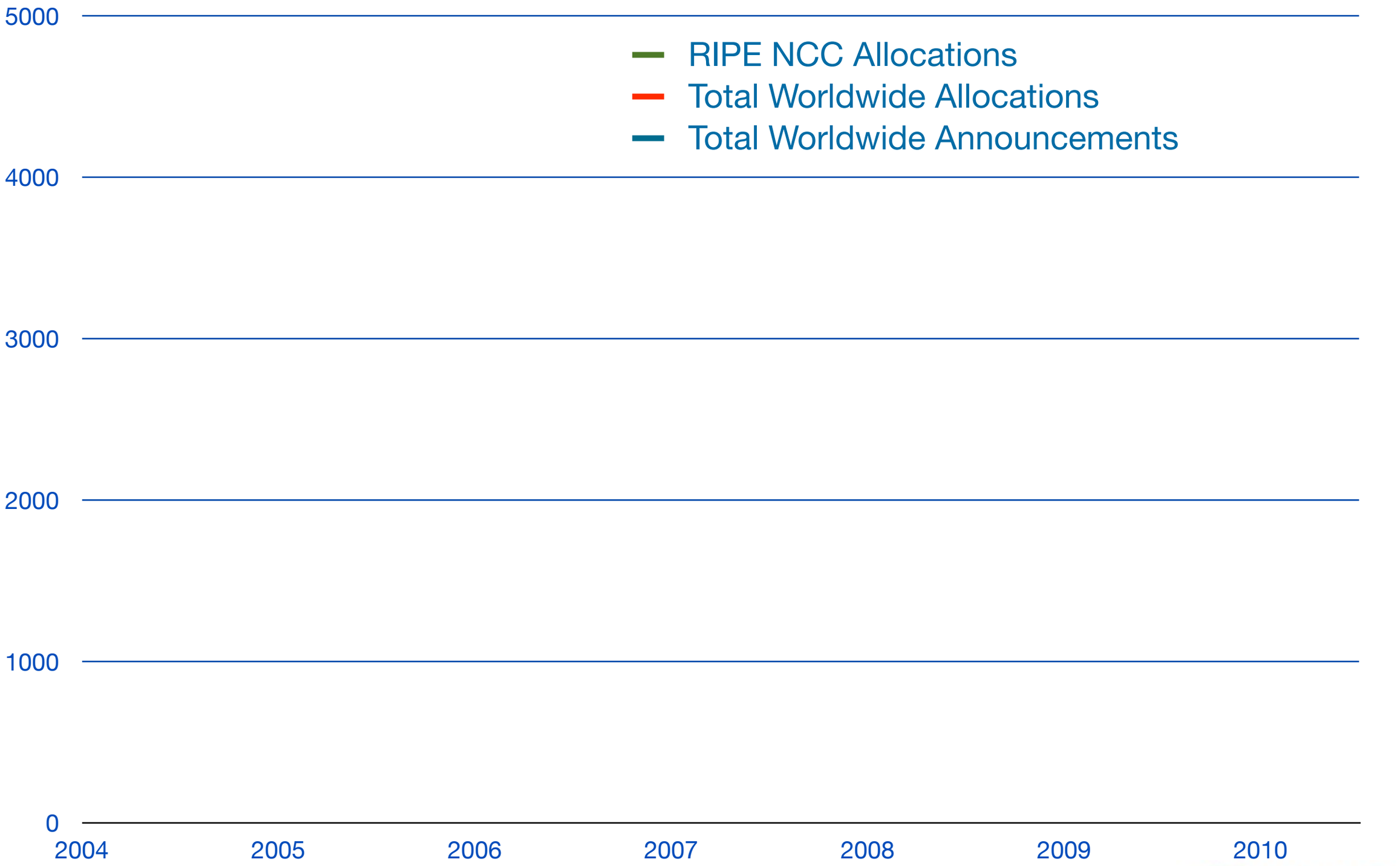


RIPE NCC

Number of Allocations



IPv6 Allocations and Announcements



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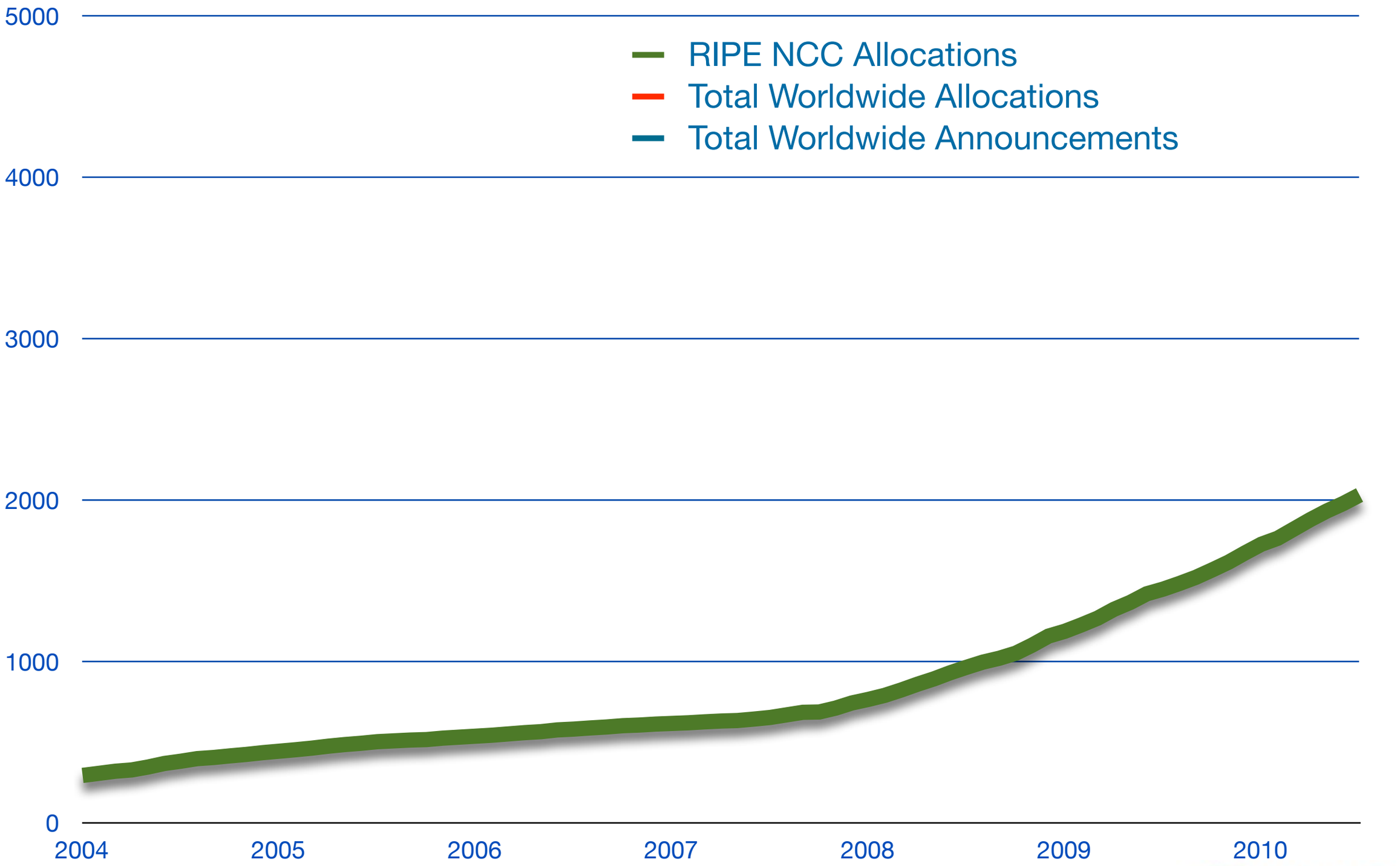

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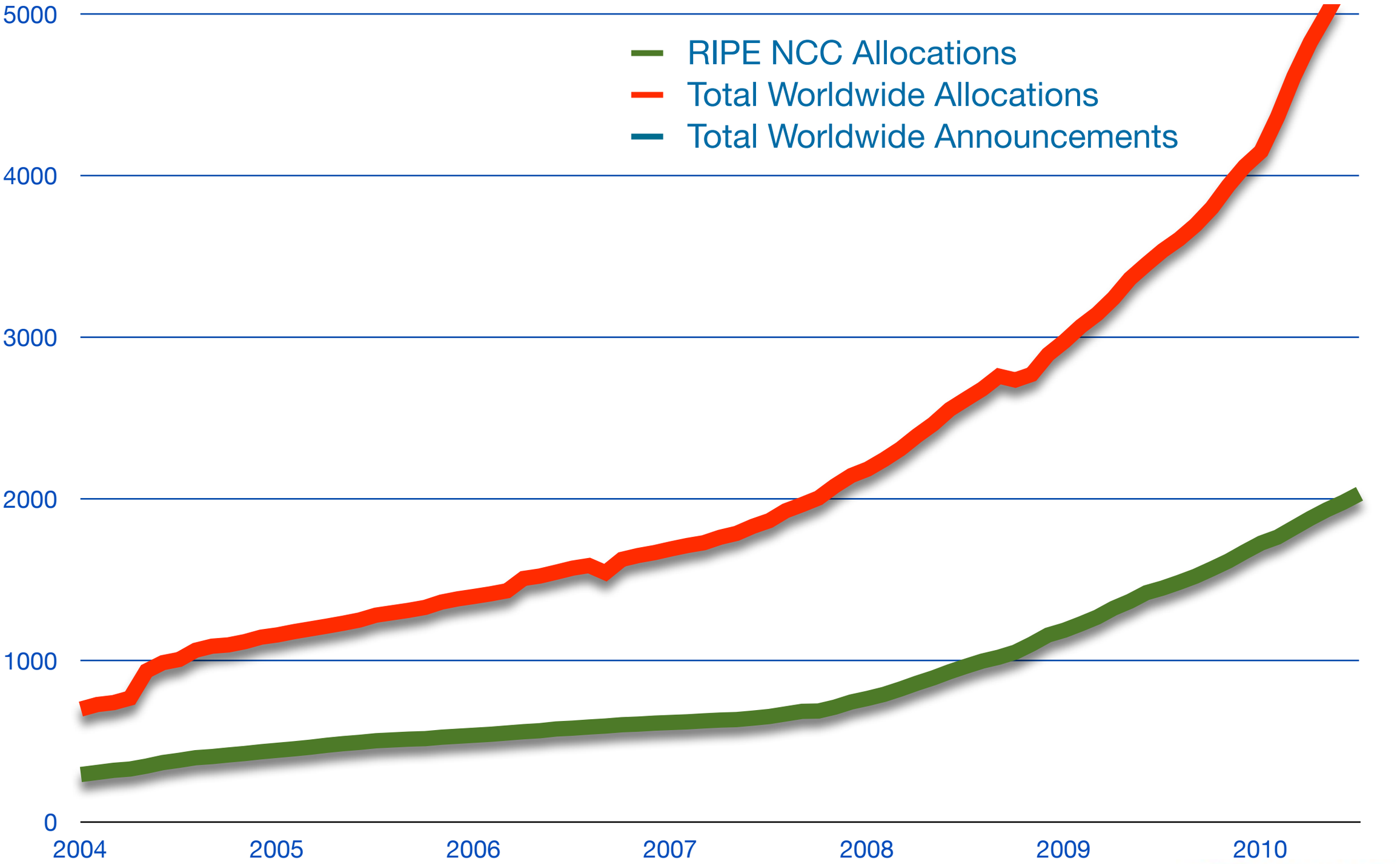
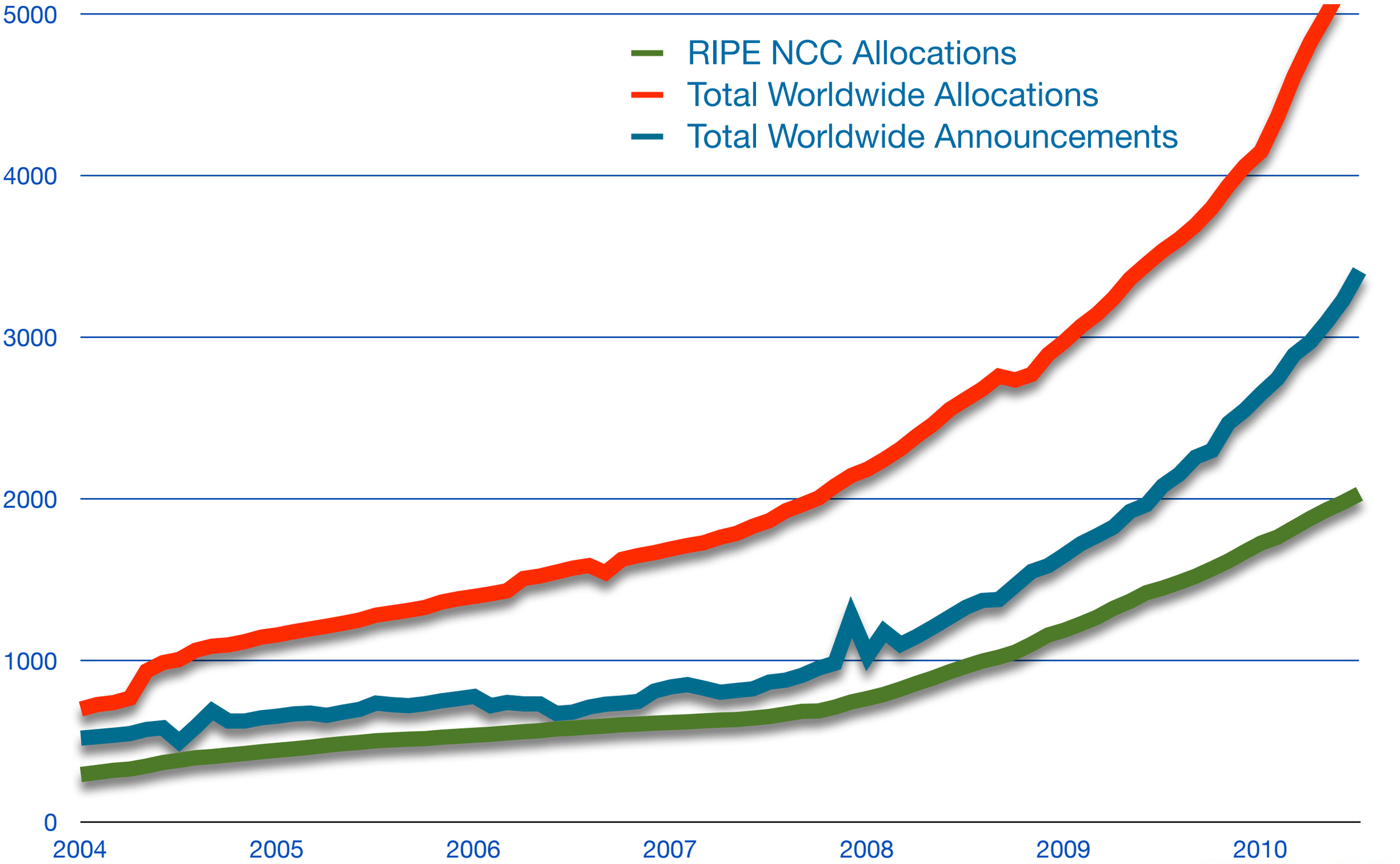


RIPE NCC

IPv6 Allocations and Announcements

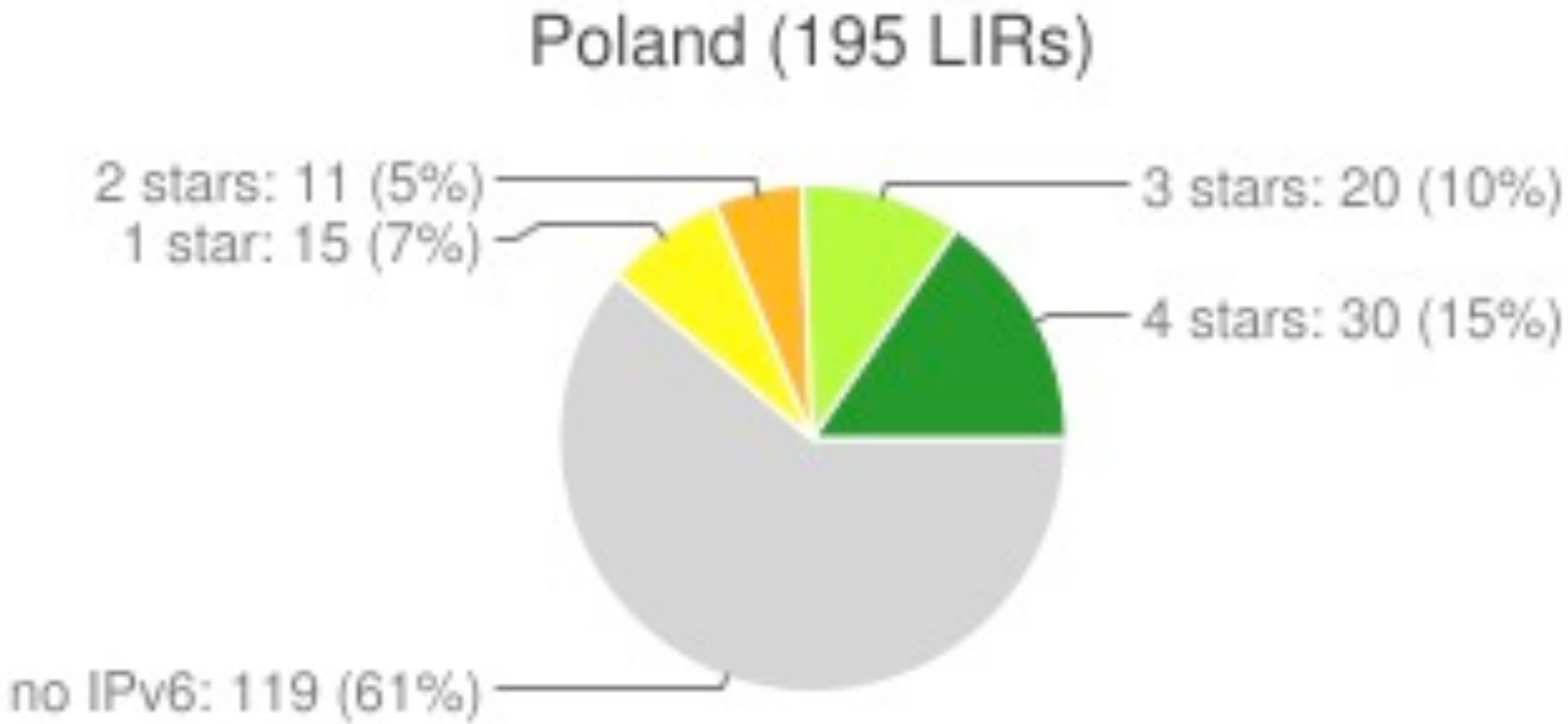


RIPE NCC

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

IPv6 Ripeness



Wait and See?

RIPE NCC

Reduced Assignment Periods

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

Hot IPv4 / IPv6 Policy Topics

- Ensuring efficient use of historical IPv4 Resources (2008-07)
  - On hold for now because there is no proposer

- Allocations from the last /8 (2010-02)
  - New and existing LIRs can receive only one /22 allocation
  - only if they already have IPv6 space!

Getting it

Getting an IPv6 allocation

- To qualify, an organisation must:
  - Be an LIR
  - Have a plan for making assignments within two years

- Minimum allocation size /32

What does an IPv6 allocation cost?

- /32 = 1 scoring unit
- /31 = 2 scoring units
- points = ∑(2010-1992)x(scoring unit) =18x1+...

Category	Points	Fee 2010
Extra Small	0 - 16	€ 1300
Small	- 111	€ 1800
Medium	- 936	€ 2550
Large	- 7116	€ 4100
Extra Large	> 7116	€ 5500

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Extra L	> 7116 € 5500

Scenario: Do Nothing

- No problems for next few years
- Some people won't be able to use your services
- No extra costs
  - until you hit the wall
- High costs for quick implementation
- Short planning times will mean some things go wrong

Scenario: Act Now, Phased Approach

- Change purchasing procedure (feature parity)
- Check your current hardware and software
- Plan every step and test
- One service at a time
  - face first
  - core
  - customers
- Prepare to be able to switch off IPv4

Change your face first

- Web
- Authoritative DNS
- Mail servers

- Outsiders see these services
- Multiple mature implementations exist

Don'ts

- Don't separate IPv6 features from IPv4

- Don't do everything in one go

- Don't appoint an IPv6 specialist
  - do you have an IPv4 specialist?

- Don't see IPv6 as a product
  - the Internet is the product

Do

- Phased approach
- Change requirements for new hardware
- Work outside-in, then inside-out
- Feature parity
- Dual stack
- Think about possible future renumbering

IPv6 Act Now

- Launched in June 2009
- News, statistics, interviews, forum
- For governments, business and technical communities

- http://www.IPv6ActNow.org

Questions?

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