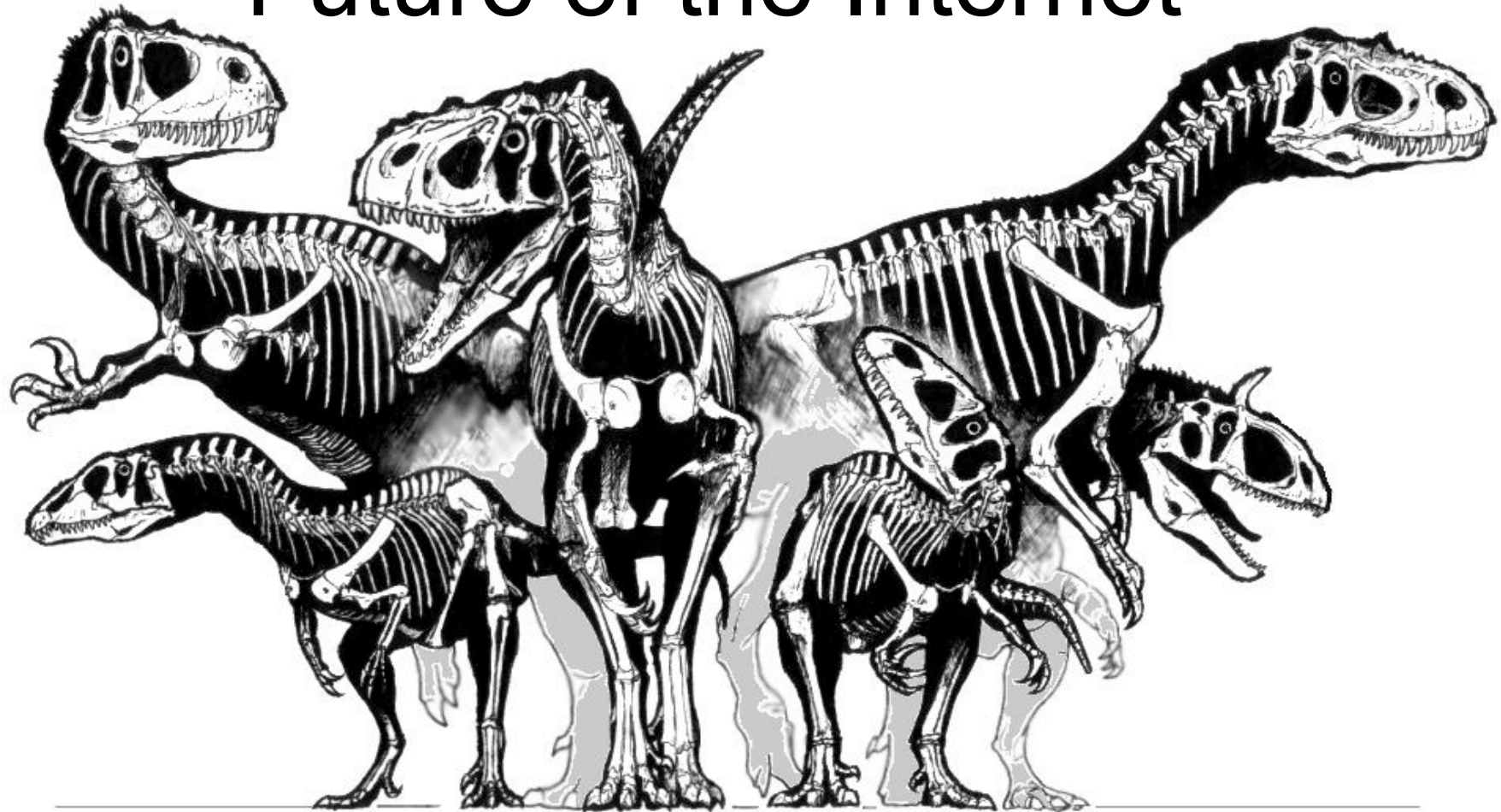
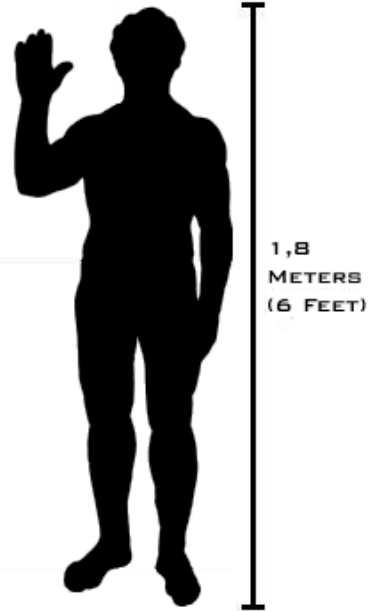


# Addressing the Future of the Internet



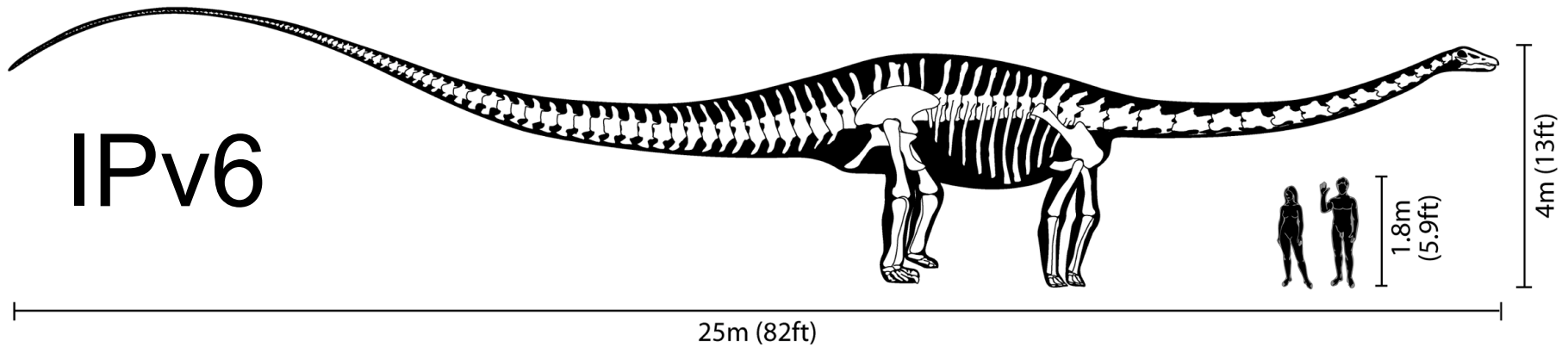
Vesna Manojlovic, RIPE NCC  
SIGINT, Cologne, May 2009

# IPv4

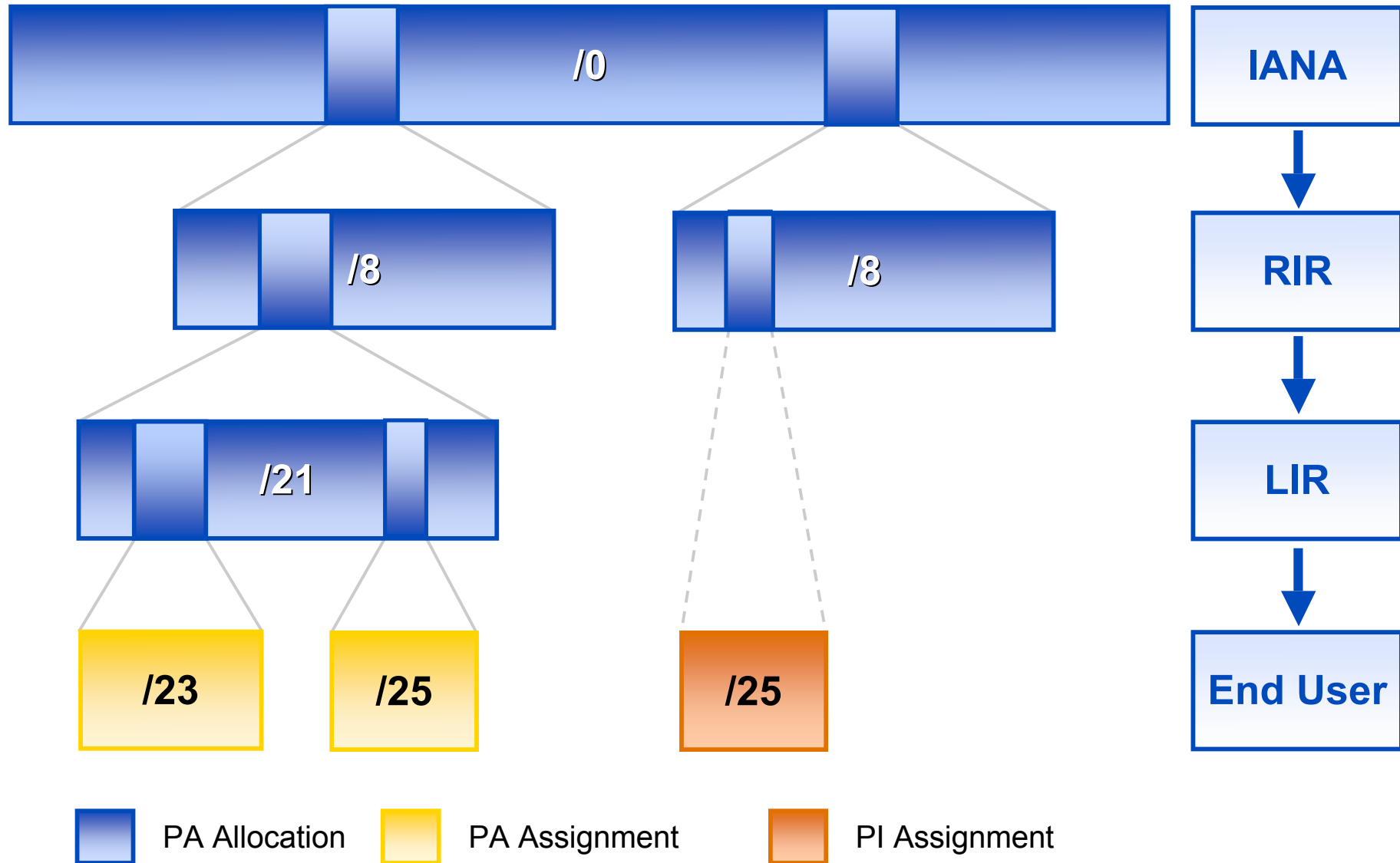


## Size Does Matter

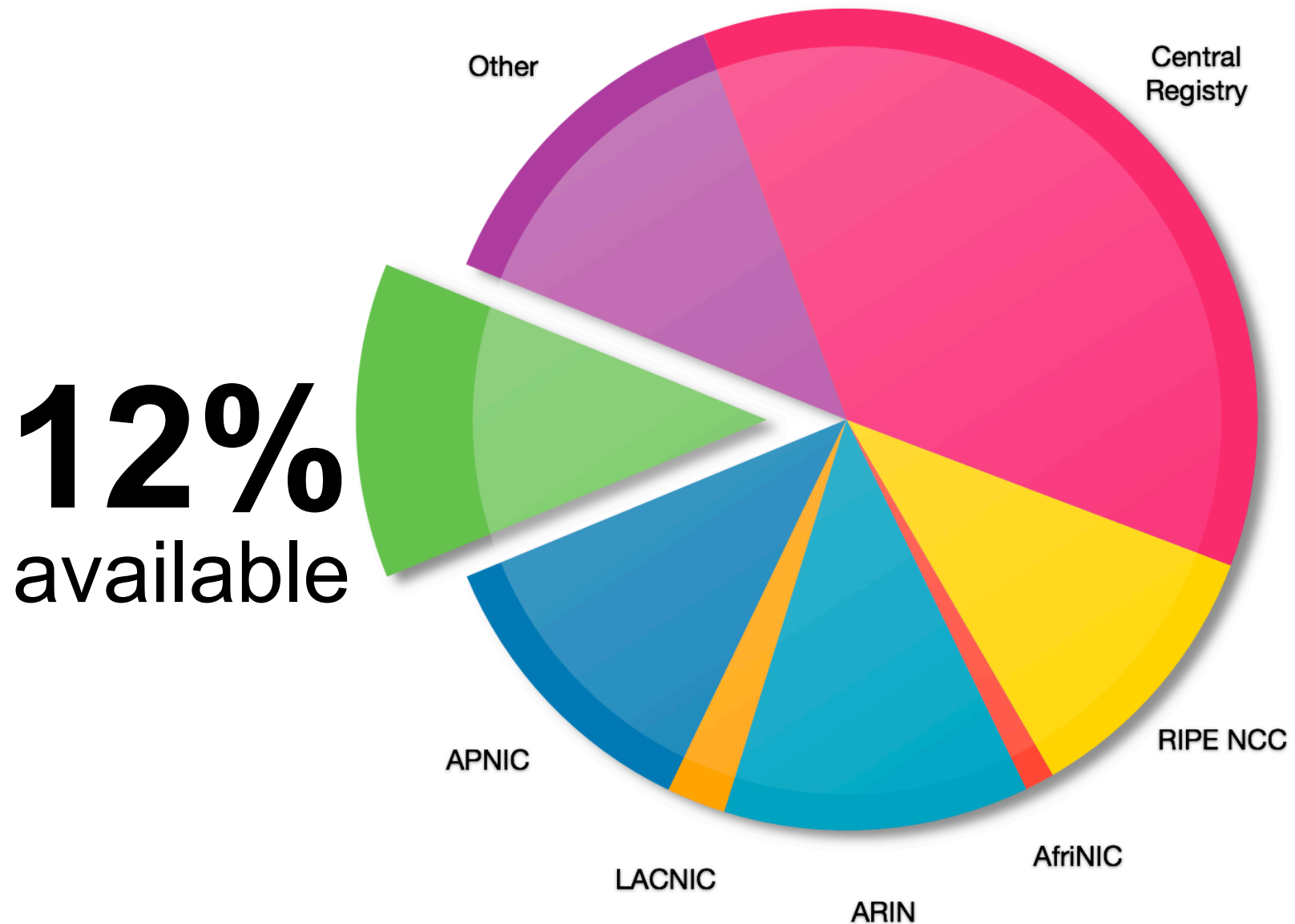
# IPv6



# IPv4 address space distribution

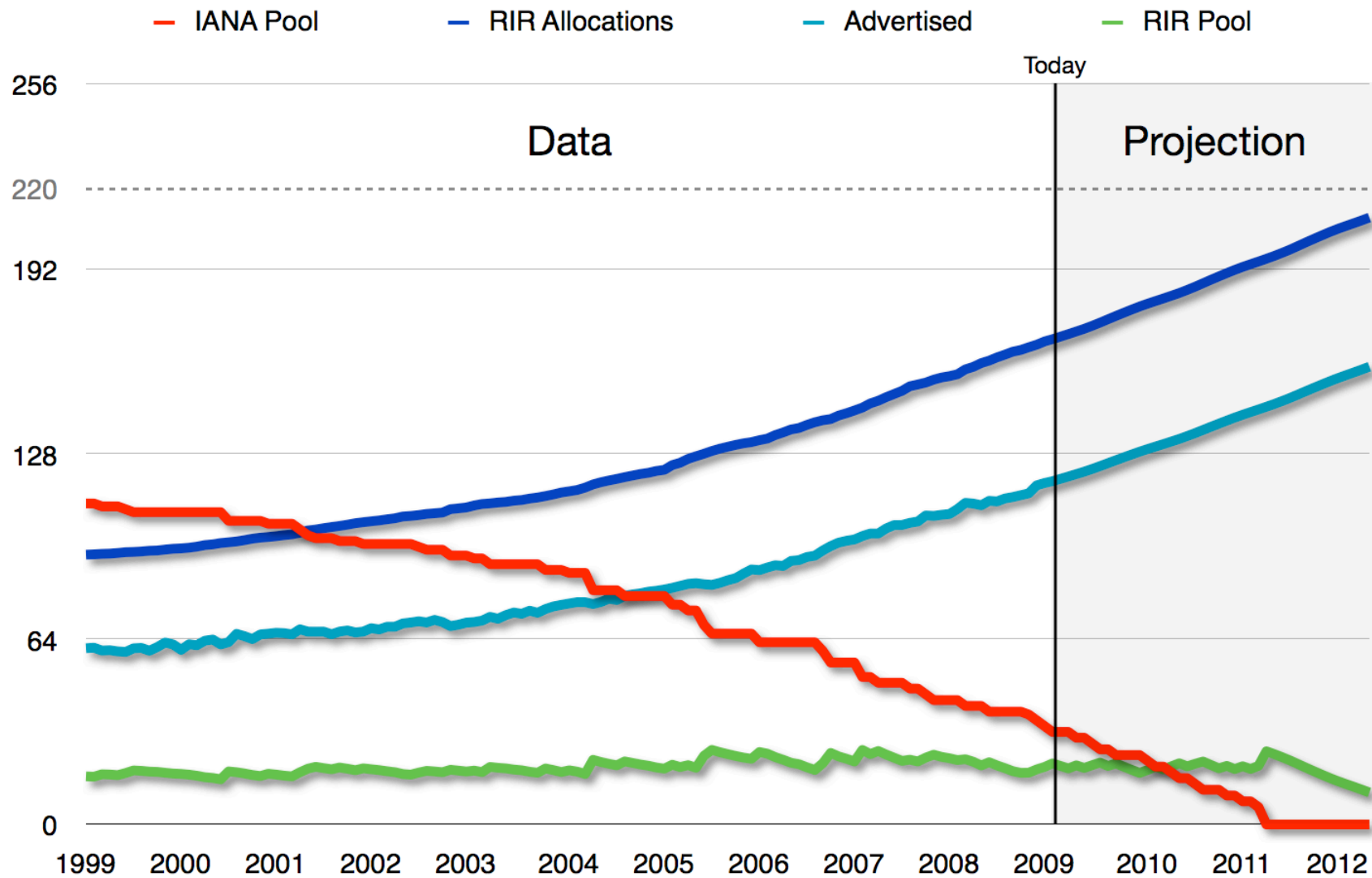


# Only 32 /8s left in IPv4 address pool

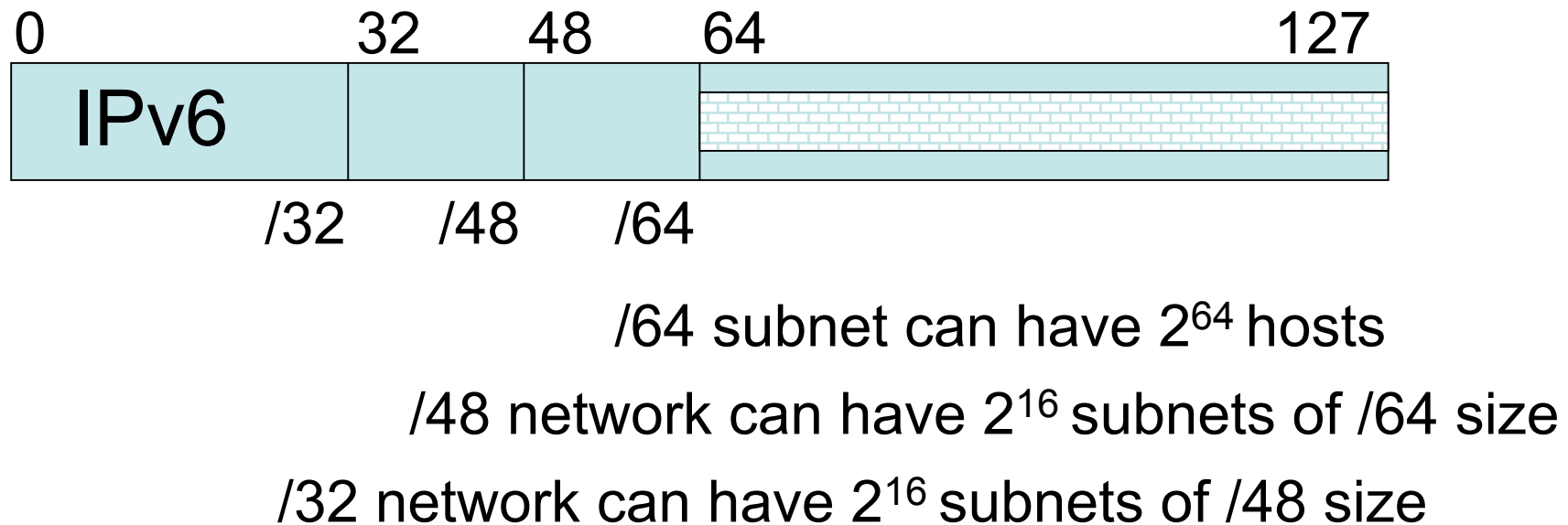
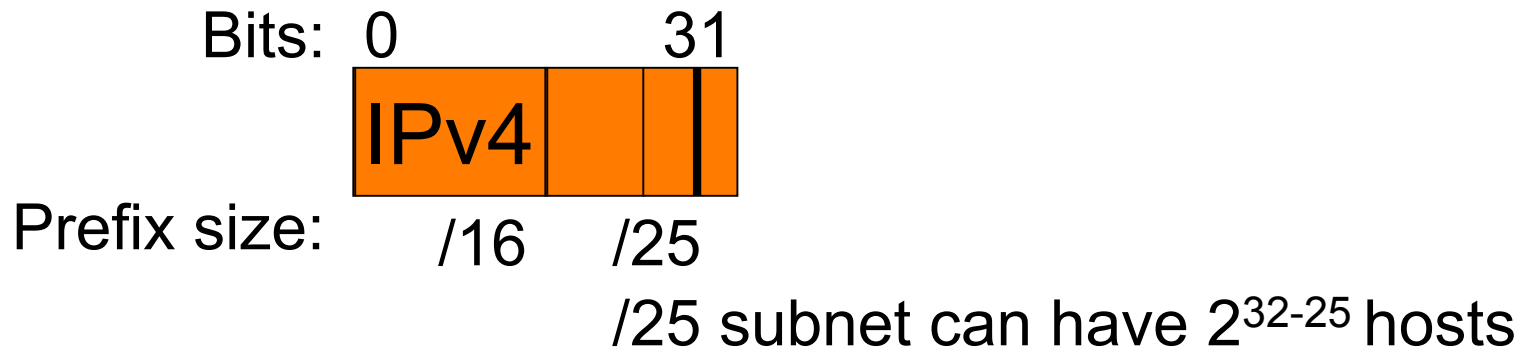




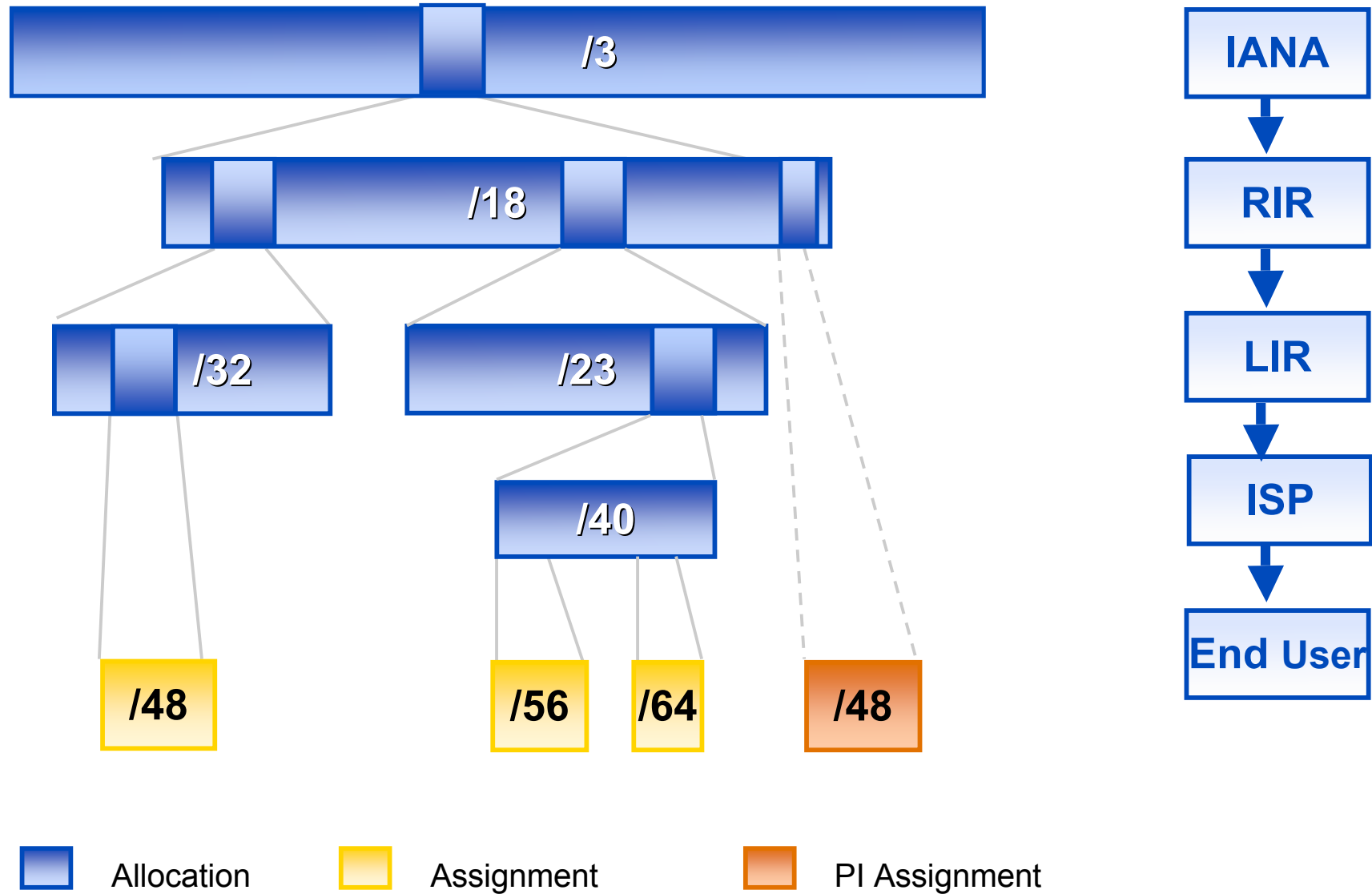
# Running out in 2012?



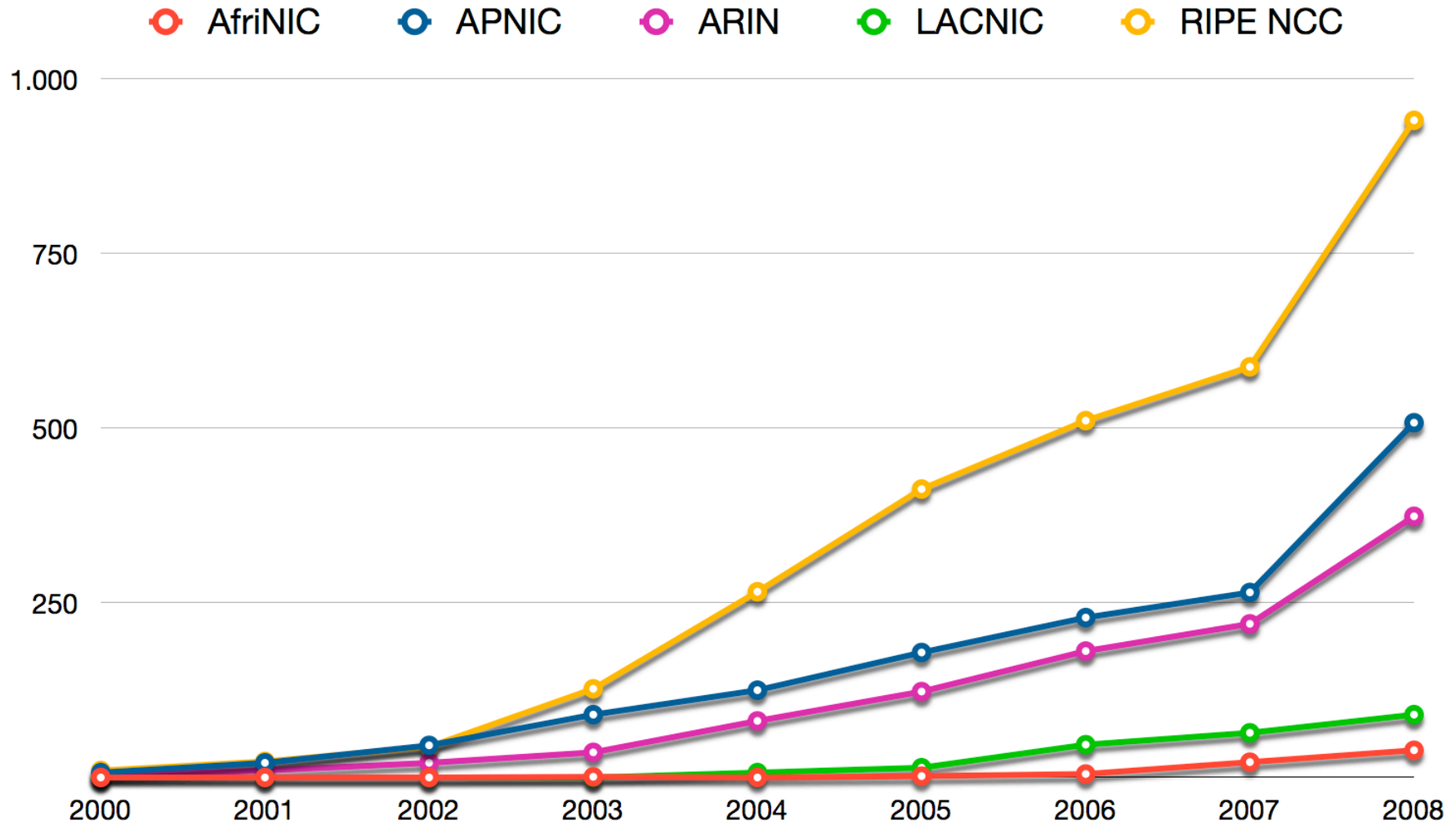
# Addressing basics



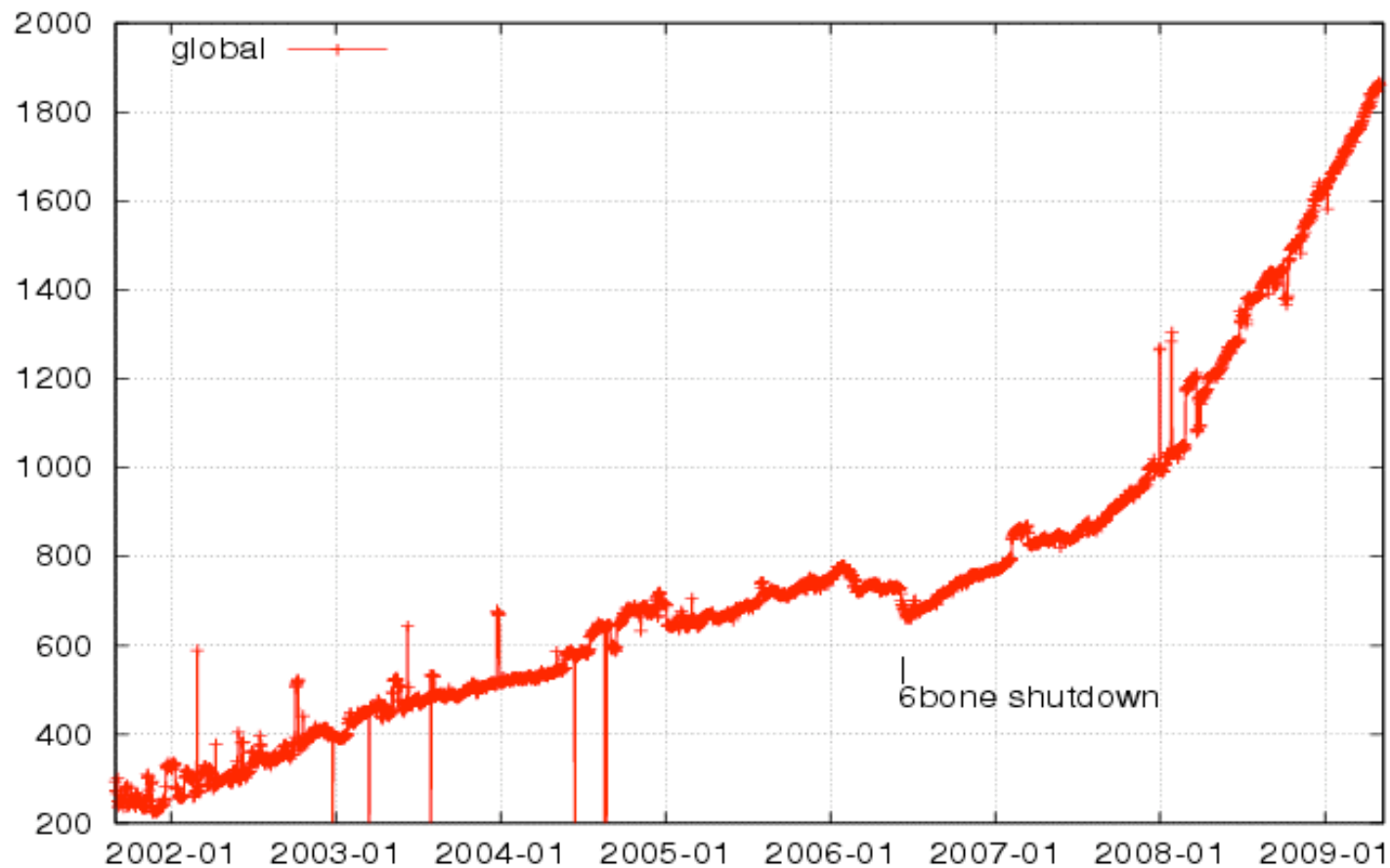
# IPv6 address space distribution



# IPv6 allocations by region



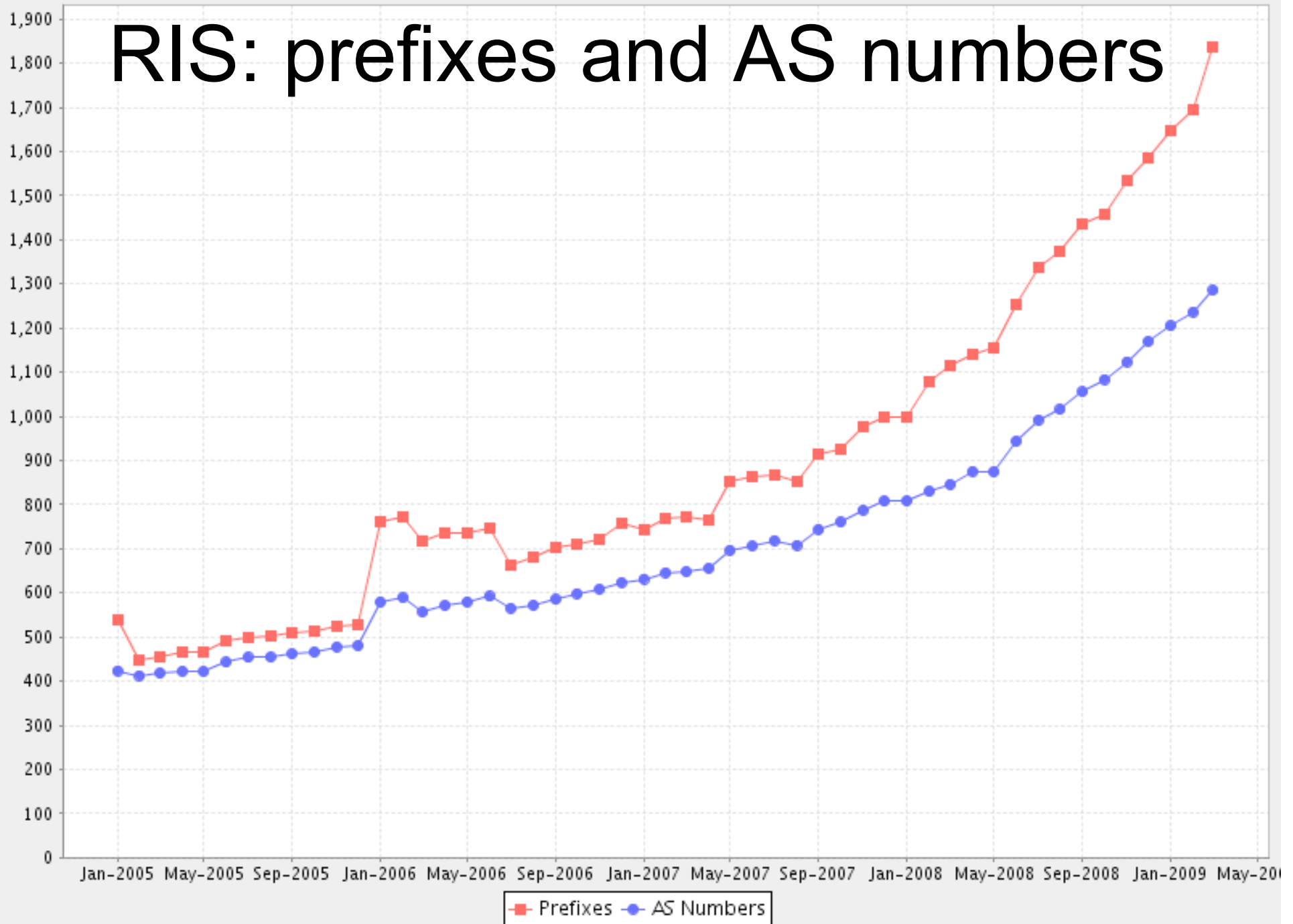
### Graphics: Total Prefixes - 7 years



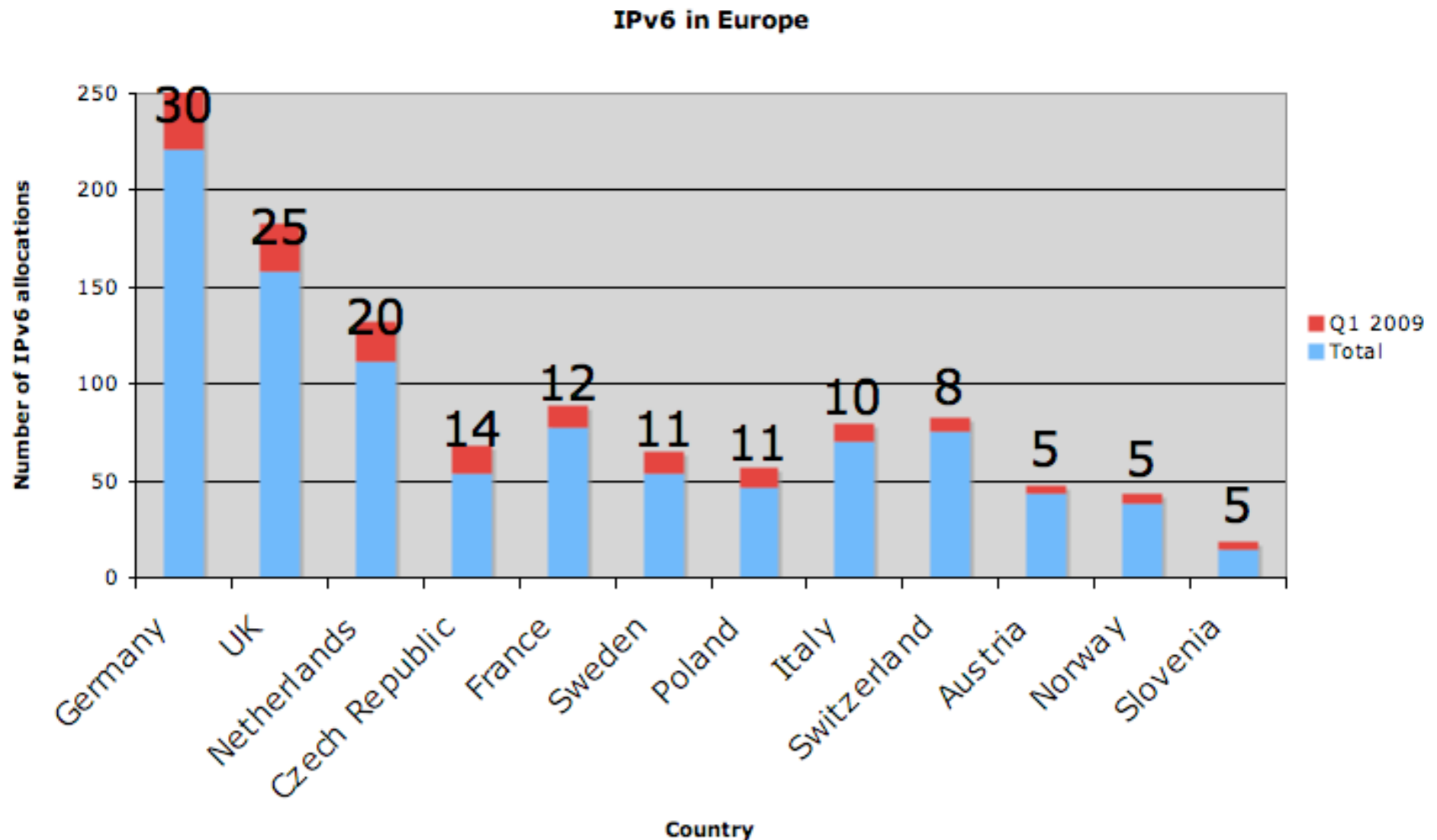
Source: <http://www.space.net/~gert/RIPE/>

## IPv6 Deployment

# RIS: prefixes and AS numbers

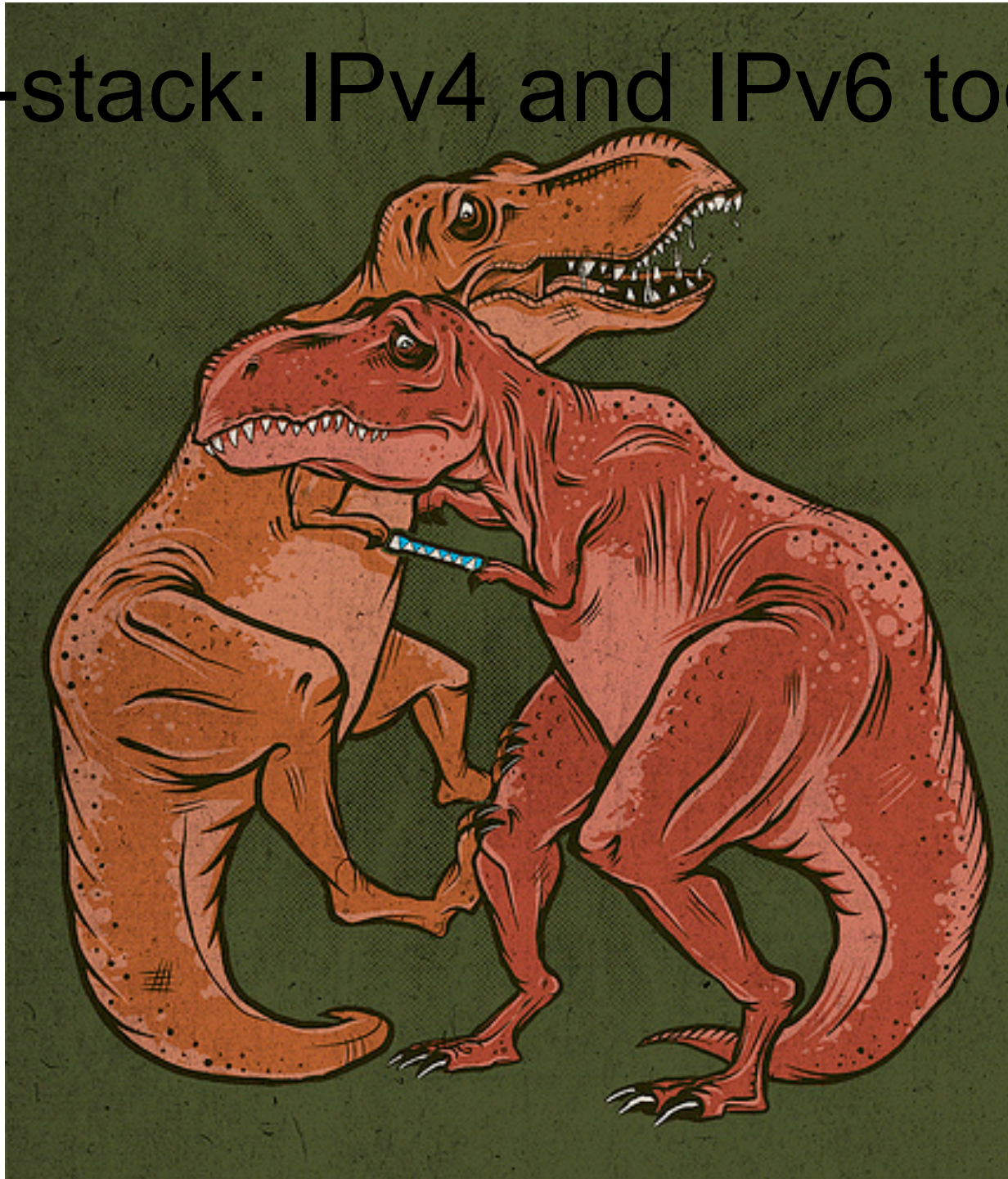


# Top 12 countries in Q1 2009

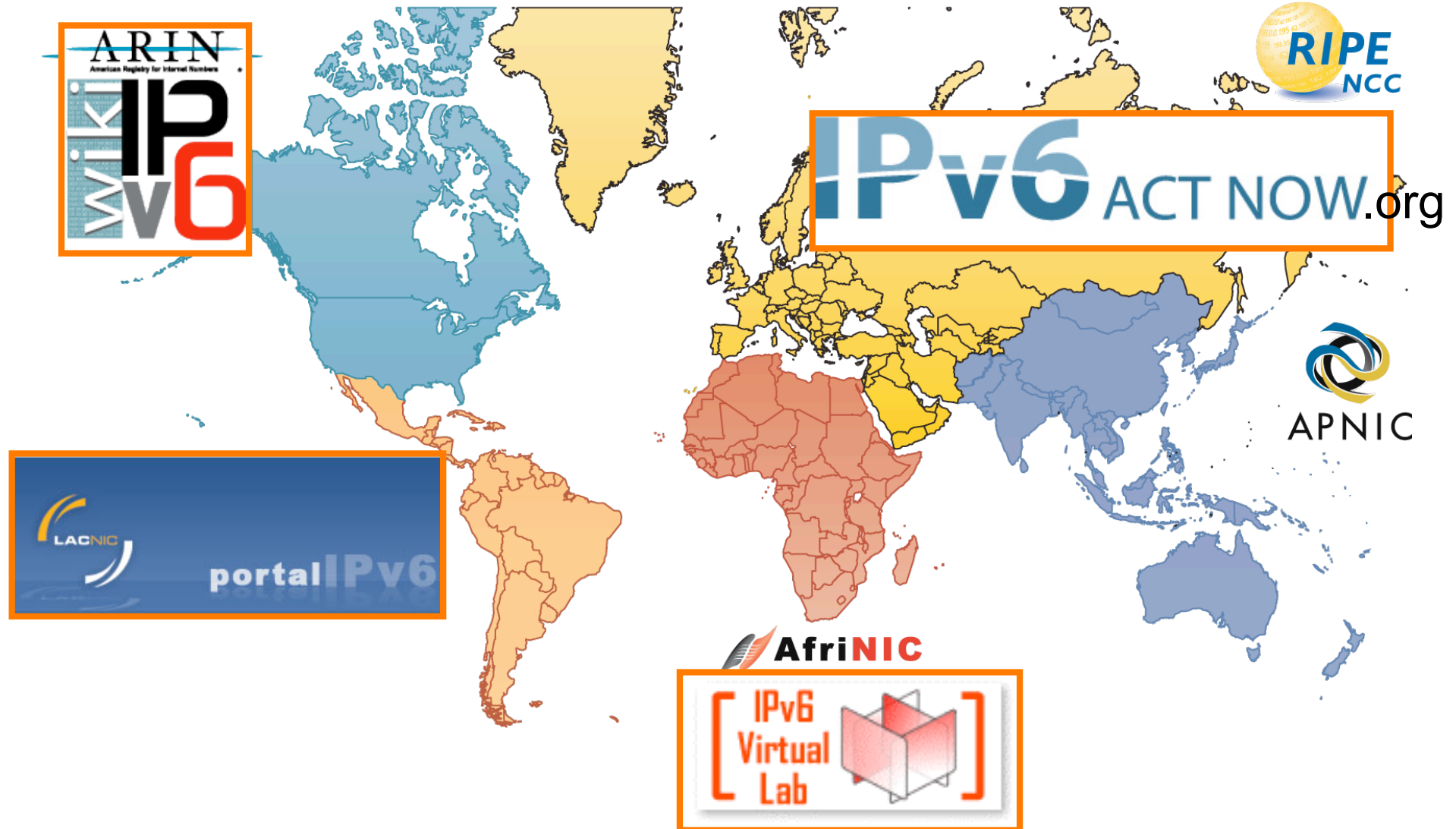




Dual-stack: IPv4 and IPv6 together

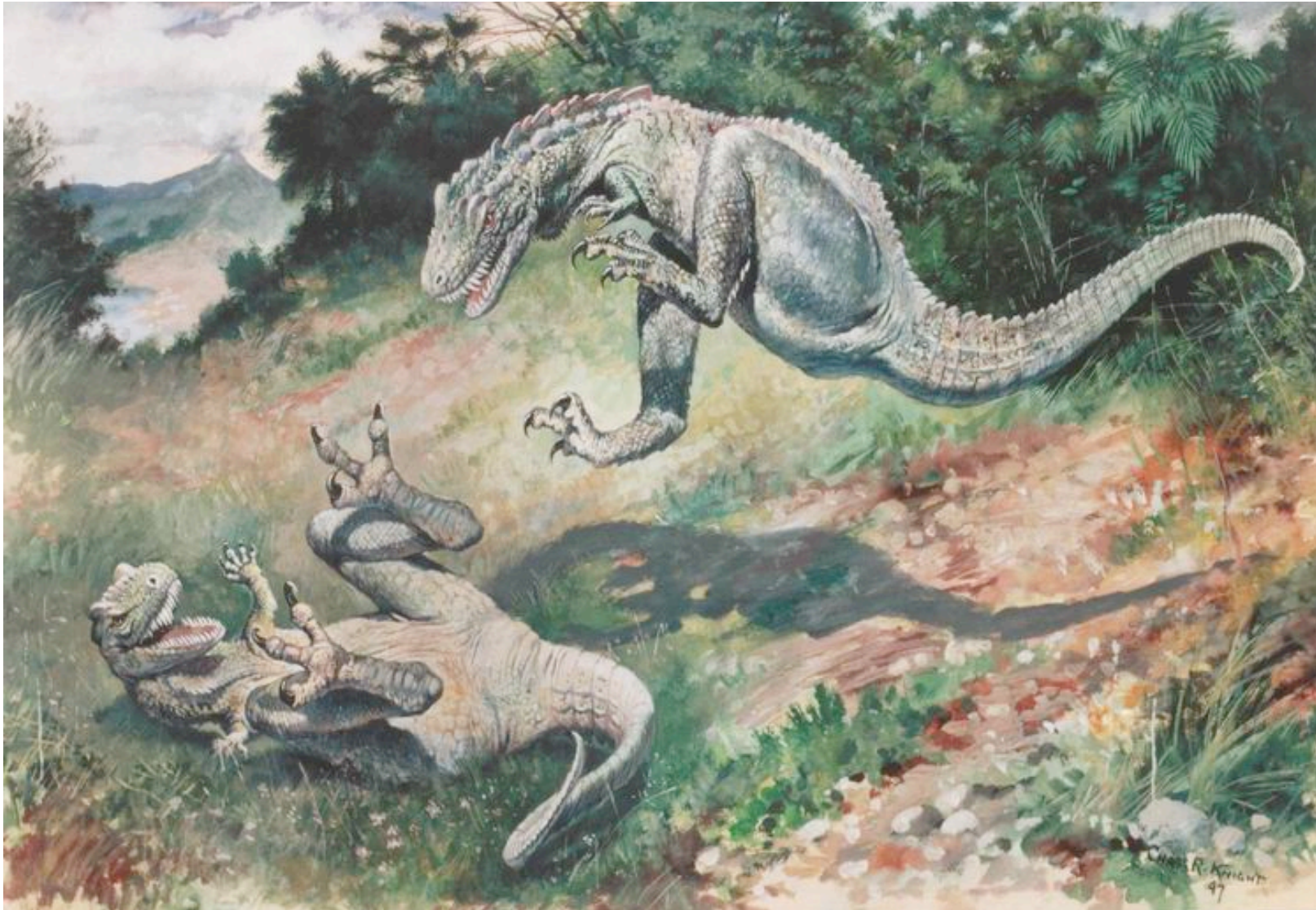


# RIRs' IPv6 initiatives

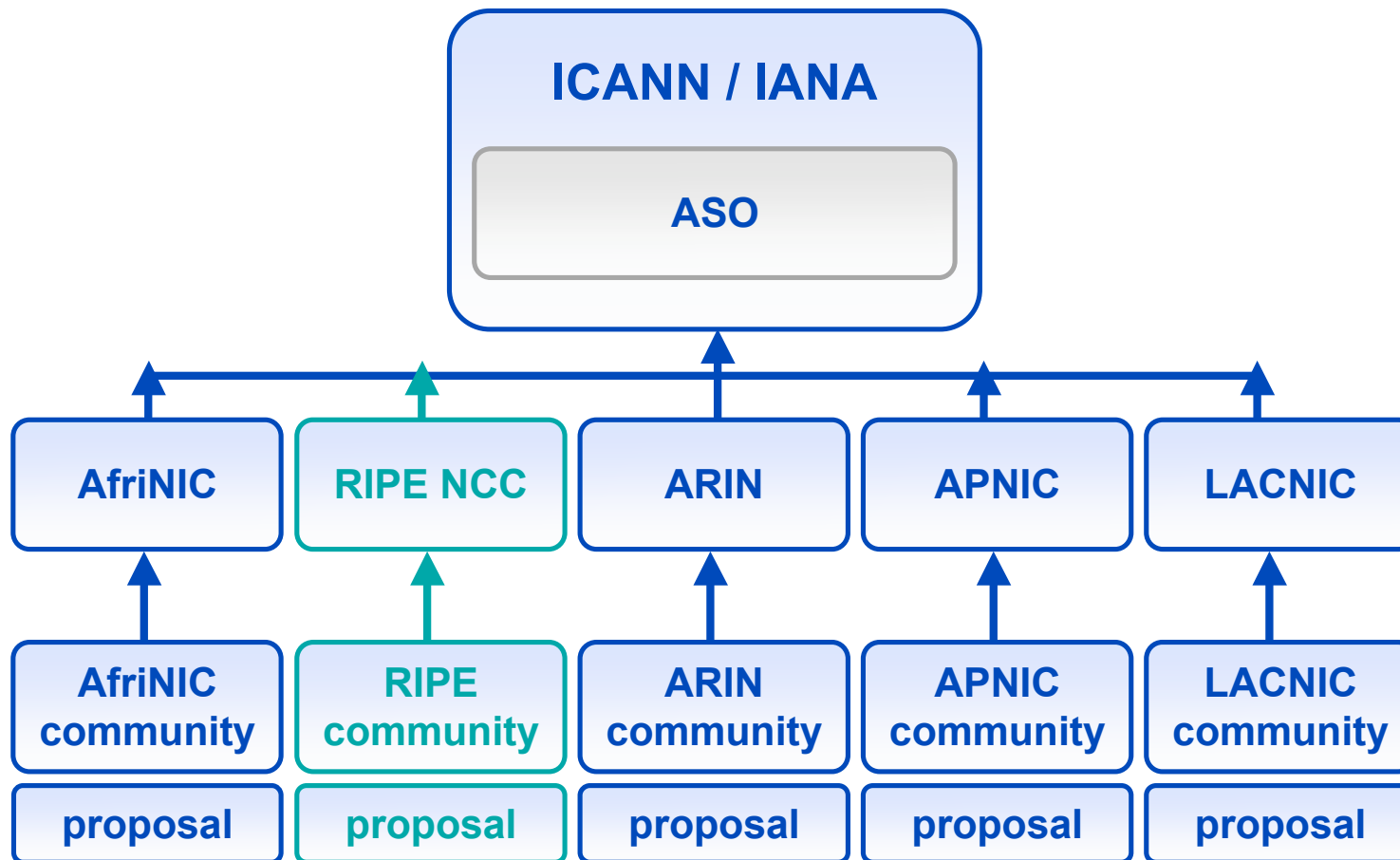




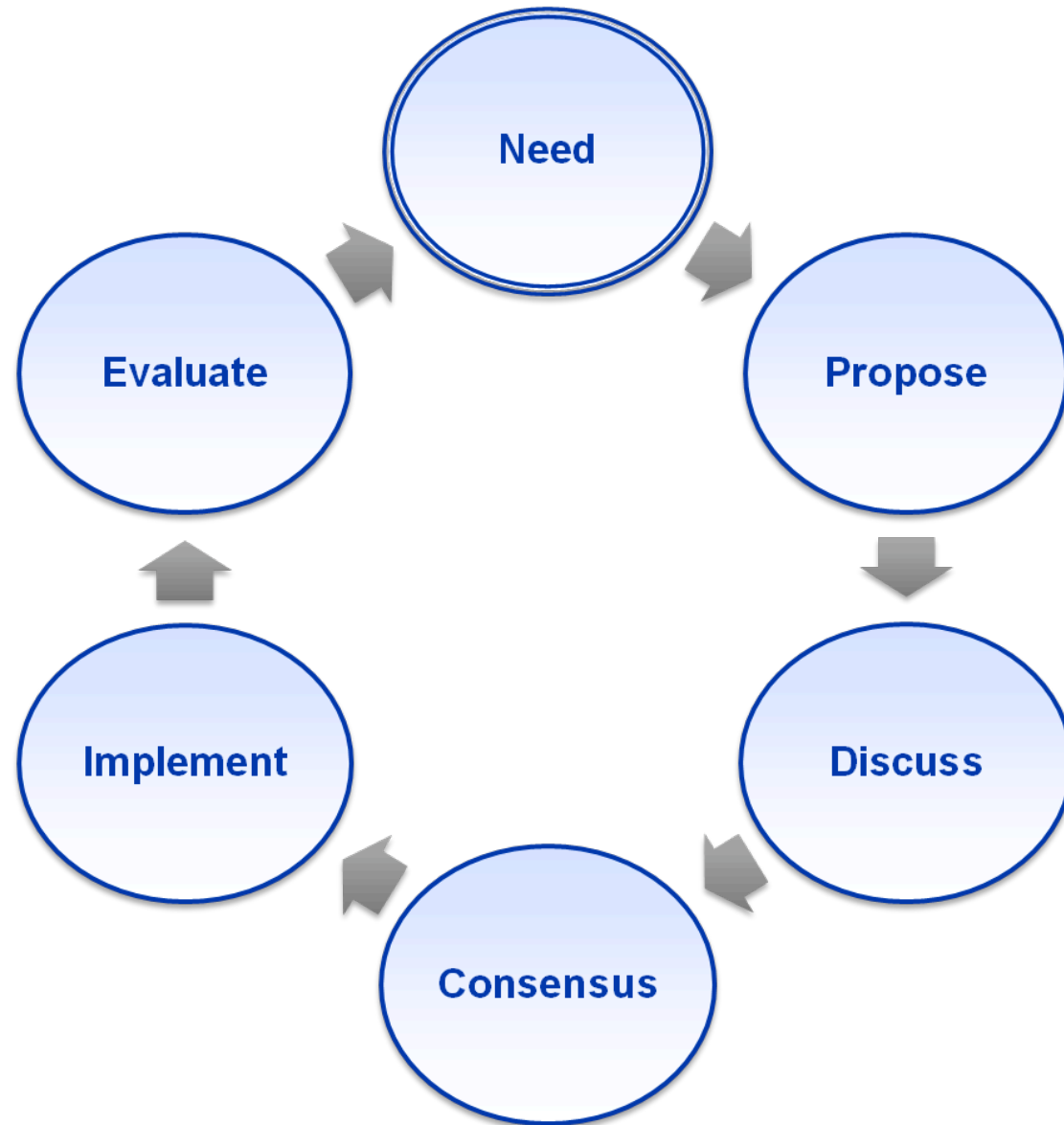
# How is the policy made



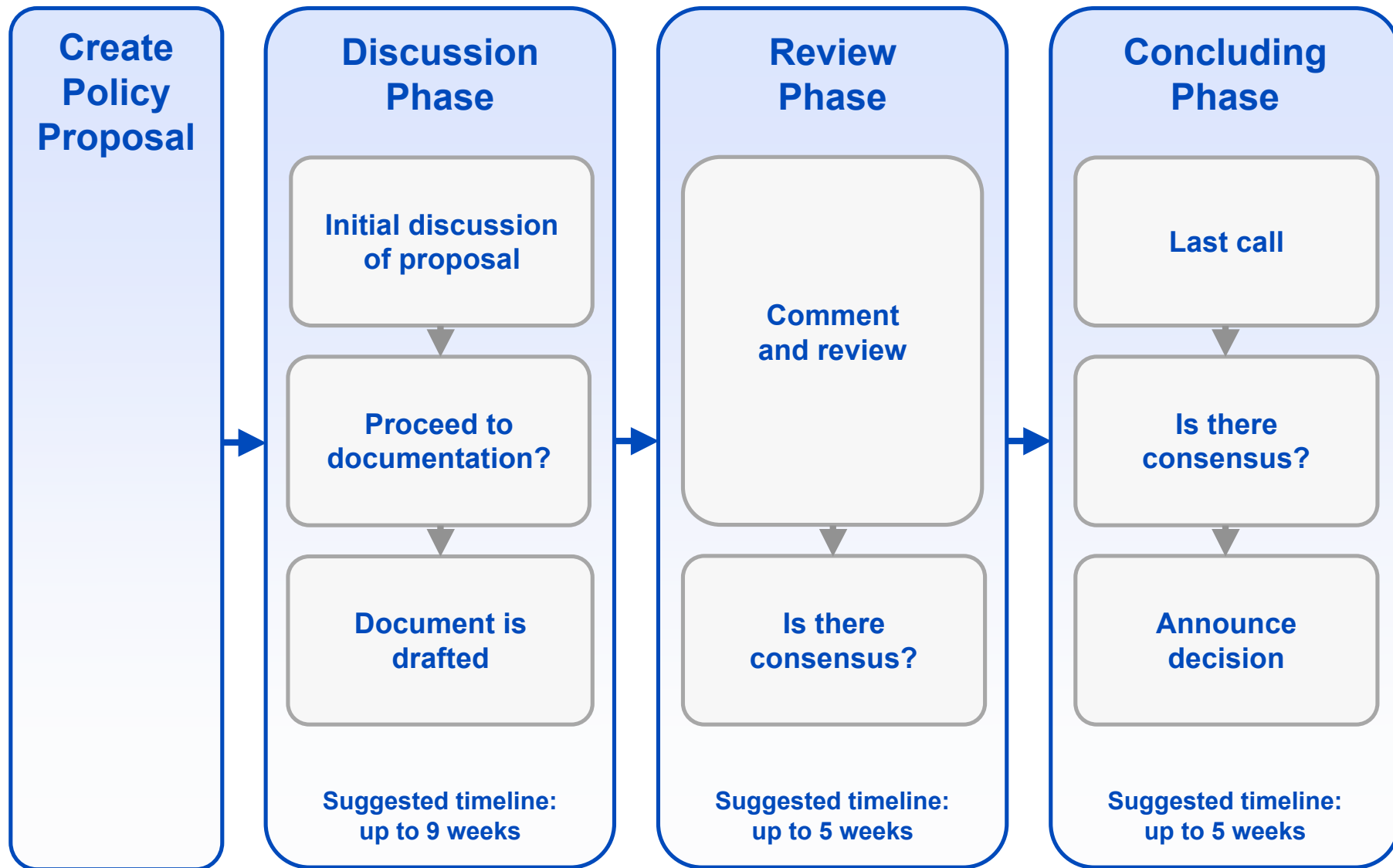
# Who makes policies?



# Policy development cycle



# Policy development process







RIPE 58  
4-8 MAY 2009, AMSTERDAM



RIPE 57  
DUBAI, 26-30 OCTOBER 2008

Hosted by:  
etisalat

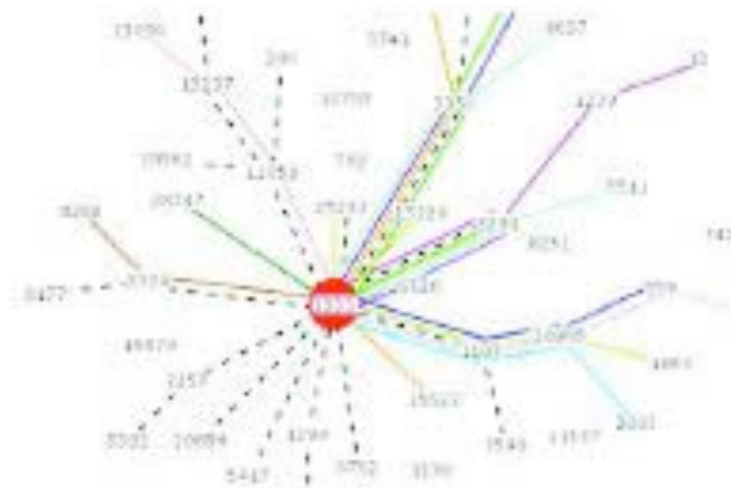


RIPE 56  
BERLIN, 5-9 MAY 2008  
Session Archives





# RIPE NCC Information Services



**Routing Information Service (RIS)**



**Test Traffic Measurements (TTM)**



**Hostcount**



**DNS Monitoring Service (DNSMON)**



# From Hankins, Nanog45

## RIR ASN Allocation Schedule



*2007 and 2008:*

- 16-bit ASN default
- 32-bit ASN optional

*January 1, 2009:*

- 32-bit ASN default
- 16-bit ASN optional

*January 1, 2010:*

- No distinction between 16-bit and 32-bit ASNs
- 32-bit ASN only
- Unallocated 16-bit ASNs are reserved

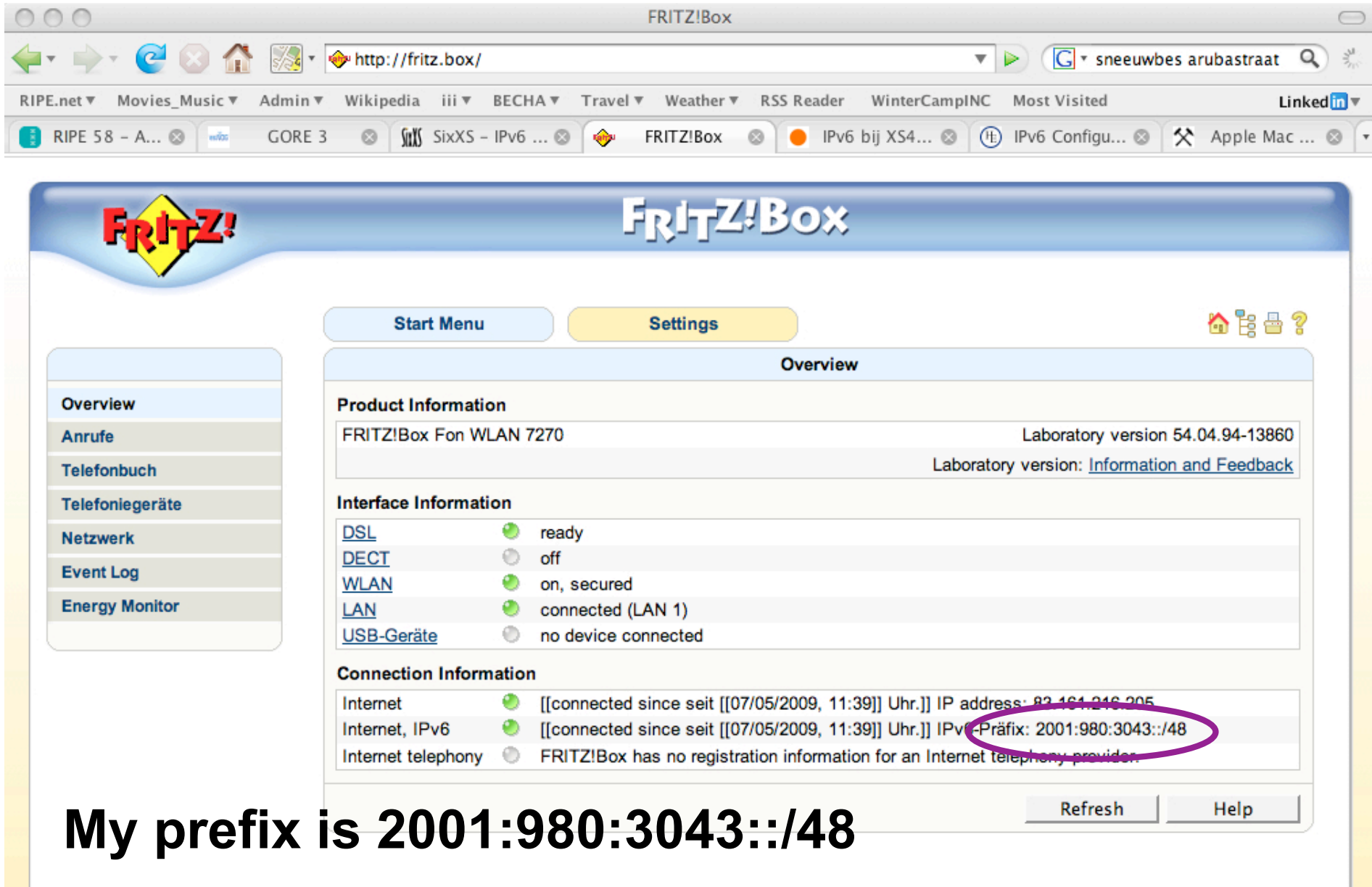


**You  
are  
here!**

RIR <sup>[1]</sup>	32-bit ASNs Allocated	32-bit ASNs Advertised
AfriNIC	4	1
APNIC	84	6
ARIN	7	2
RIPE NCC	24	7
LACNIC	1	0

[1] <http://www.potaroo.net/tools/asn32/>

# First woman on native IPv6 ;-)



The screenshot shows a web browser window with the address bar displaying `http://fritz.box/`. The browser's tab bar includes several open tabs, with the active one being the FRITZ!Box interface. The interface itself has a blue header with the FRITZ!Box logo and navigation buttons for 'Start Menu' and 'Settings'. A left sidebar contains a menu with options like 'Overview', 'Anrufe', 'Telefonbuch', 'Telefoniegeräte', 'Netzwerk', 'Event Log', and 'Energy Monitor'. The main content area is titled 'Overview' and contains three sections: 'Product Information', 'Interface Information', and 'Connection Information'. The 'Connection Information' section lists the status of various network connections. A purple oval highlights the 'Internet, IPv6' entry, which shows a status of 'connected' and an IPv6 prefix of '2001:980:3043::/48'. Below the interface, the text 'My prefix is 2001:980:3043::/48' is displayed.

FRITZ!Box

Start Menu Settings

Overview

**Product Information**

FRITZ!Box Fon WLAN 7270 Laboratory version 54.04.94-13860  
Laboratory version: [Information and Feedback](#)

**Interface Information**

<a href="#">DSL</a>	<input checked="" type="radio"/>	ready
<a href="#">DECT</a>	<input type="radio"/>	off
<a href="#">WLAN</a>	<input checked="" type="radio"/>	on, secured
<a href="#">LAN</a>	<input checked="" type="radio"/>	connected (LAN 1)
<a href="#">USB-Geräte</a>	<input type="radio"/>	no device connected

**Connection Information**

Internet	<input checked="" type="radio"/>	[[connected since seit [[07/05/2009, 11:39]] Uhr.]] IP address: 82.161.216.205
Internet, IPv6	<input checked="" type="radio"/>	[[connected since seit [[07/05/2009, 11:39]] Uhr.]] IPv6-Präfix: 2001:980:3043::/48
Internet telephony	<input type="radio"/>	FRITZ!Box has no registration information for an Internet telephony provider.

Refresh Help

My prefix is 2001:980:3043::/48

# LIR course slogans... about IPv4

- Will work for /24
- RIPE NCC - absolutely classless
- You're too late - we have a /8
- Soon it will be all too late, no space to allocate
- You have reached the end of the Internet



IPv4 - eats, shoots and leaves!

# LIR course slogans... about IPv6

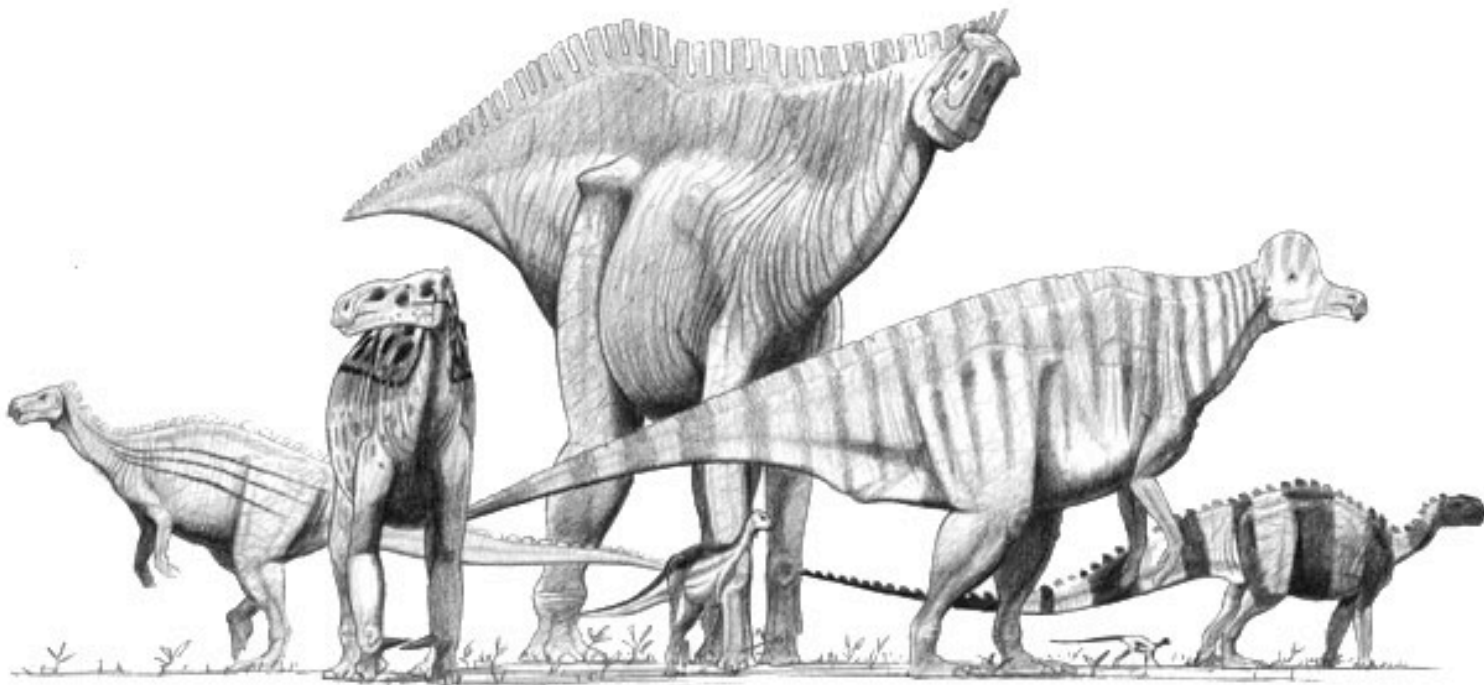
- I will miss IPv4
- Know what to do with your /32
- 2011: make a date with a /48
- Get your IPv6, because the clock ticks
- IPv6 is the fix
- Ignoring IPv6 since 1996

# Get your IPv6 now!





# Take part in influencing the future of the Internet



BECHA@ripe.net