

IP addressing

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Like plumbing

You rarely see or worry about IP addresses



What are IP addresses?

- IP addresses are the numeric identifiers computers use
- They sit underneath the friendly names we use, like www.icann.org

How many are there?



How many are there?



4,294,967,296

But wait, there's more

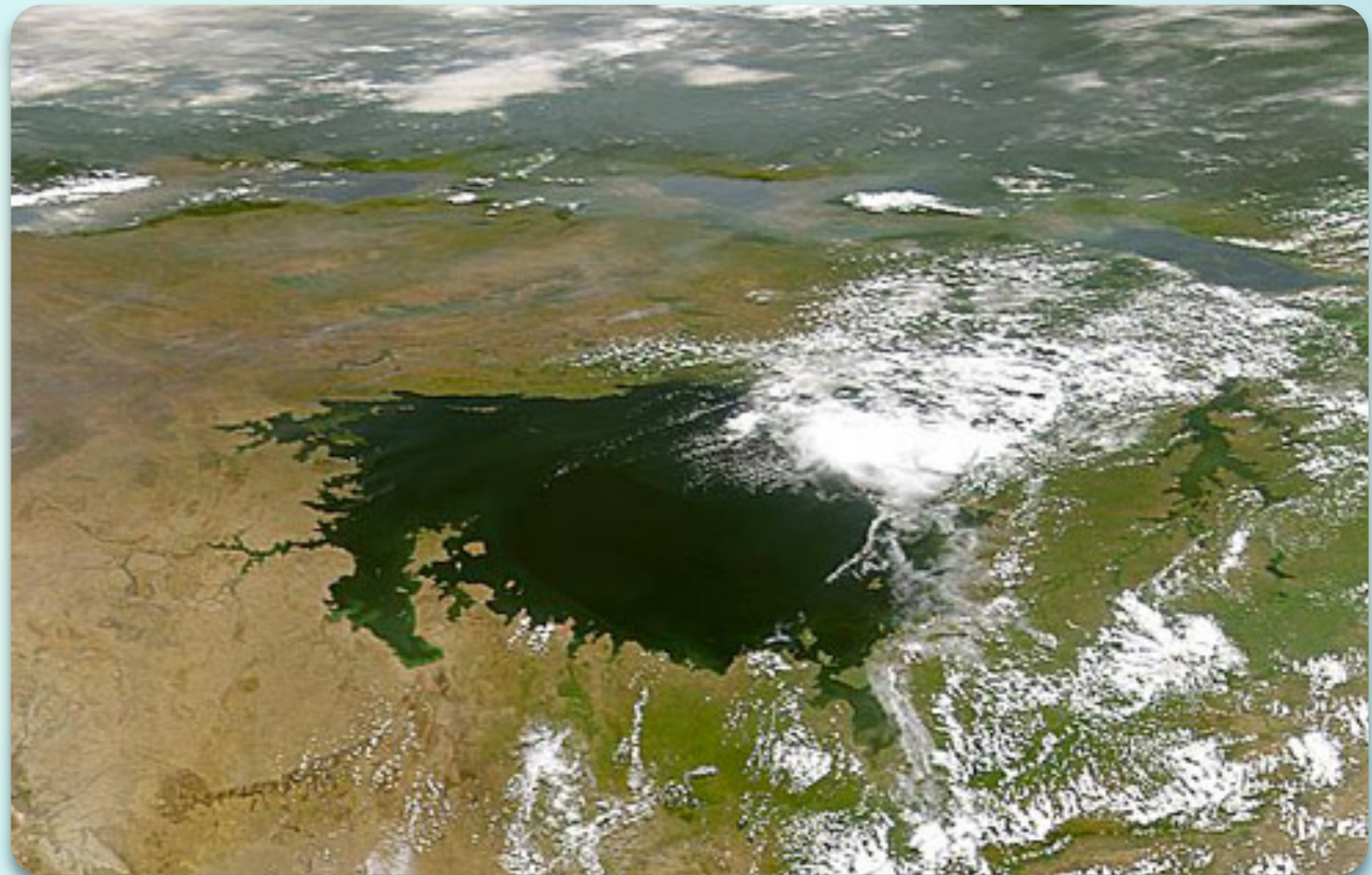
That was IPv4 and IPv6 makes it
look very, very small

The scale is hard to comprehend

The scale is hard to comprehend



The scale is hard to comprehend



IPv6 gives devices much more personal space

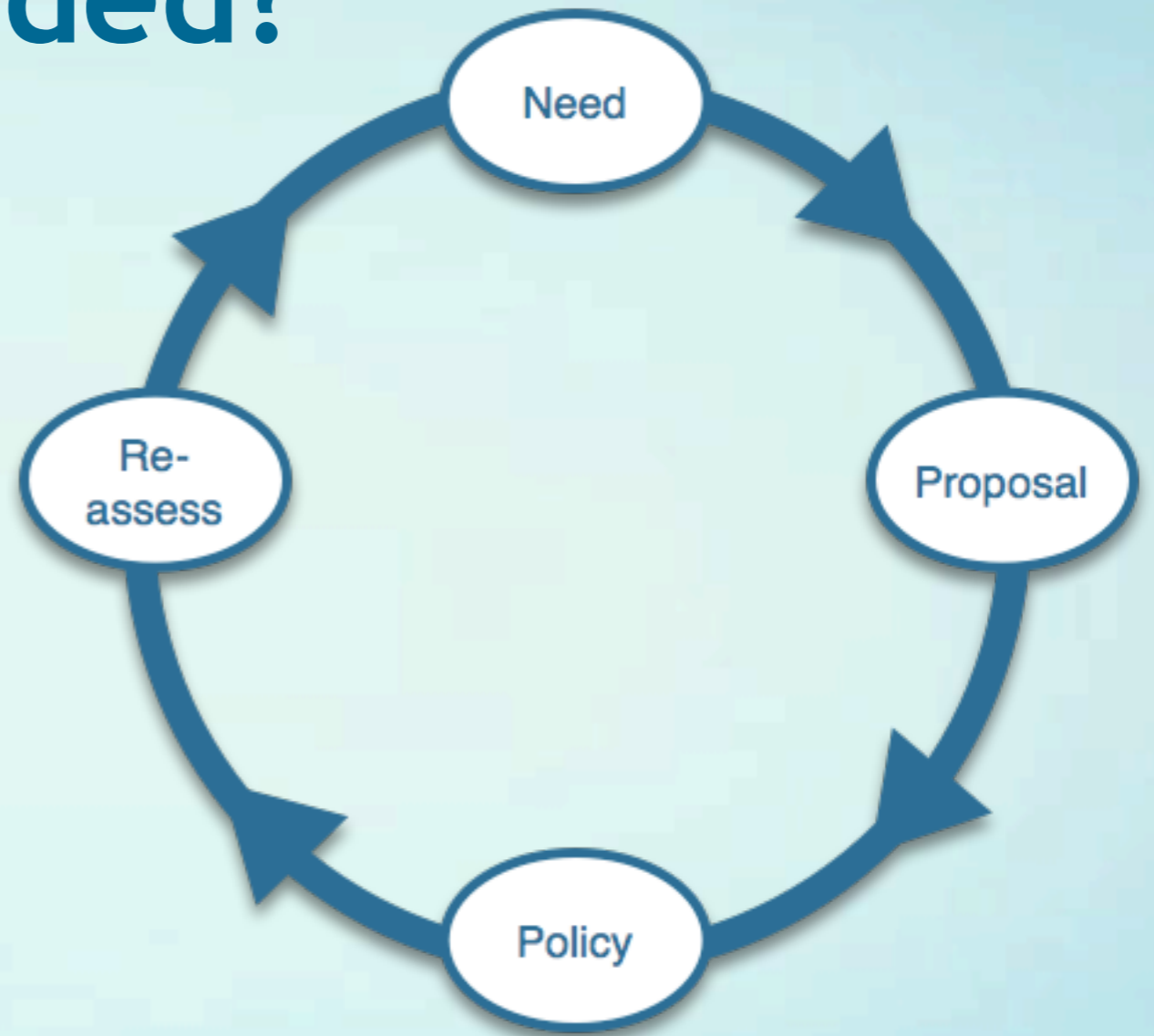


In numbers

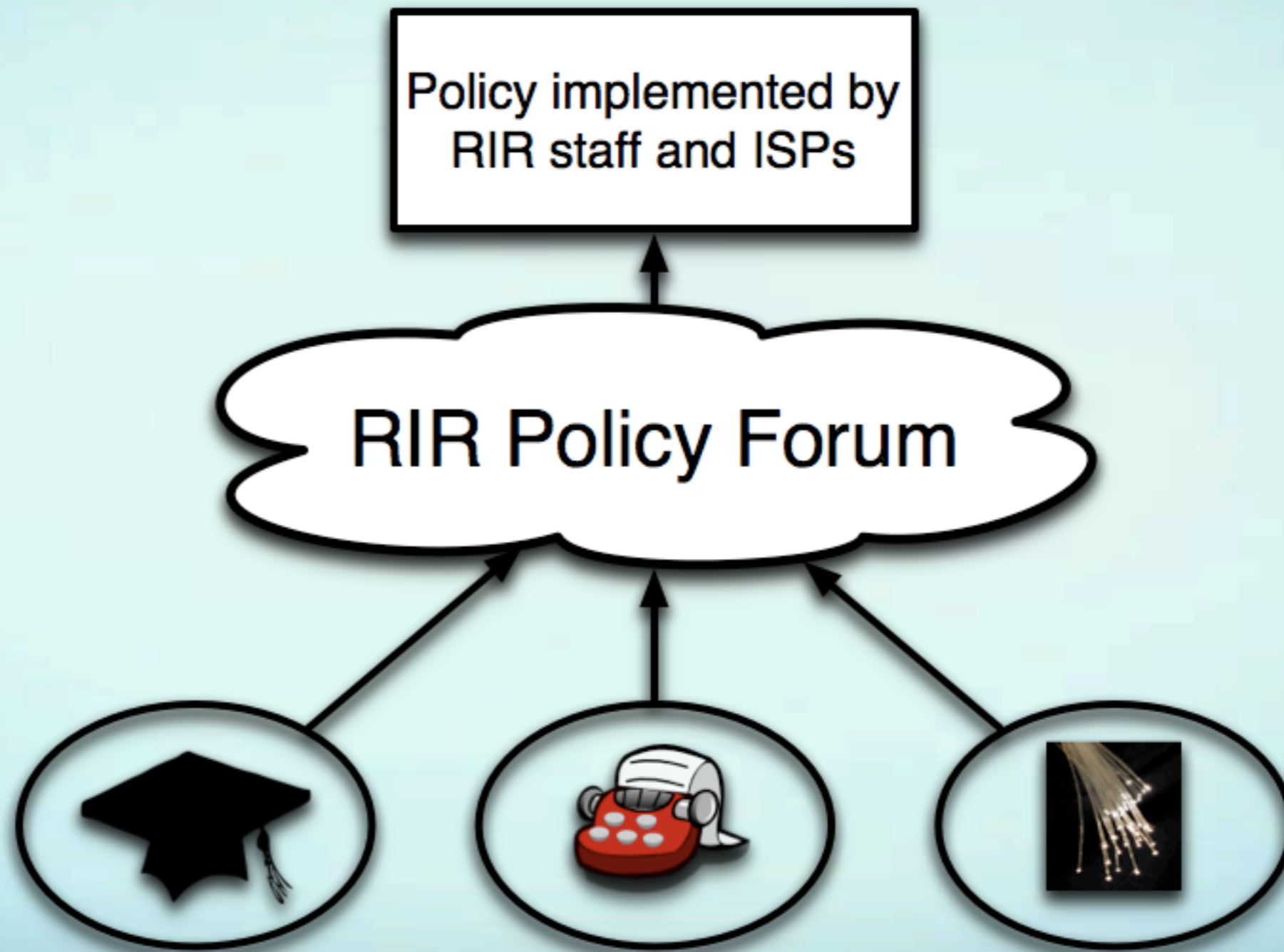
- Every network segment (LAN) gets 18,446,744,073,709,551,616 addresses
- Homes get 256 LANs
- Businesses get 65,536 LANs
- ISPs can make 6m assignments with their initial allocation

How was that decided?

- IP address assignment policy is decided in the RIRs' policy forums
- Everyone can take part



Who does take part?



When is IPv6 o'clock?

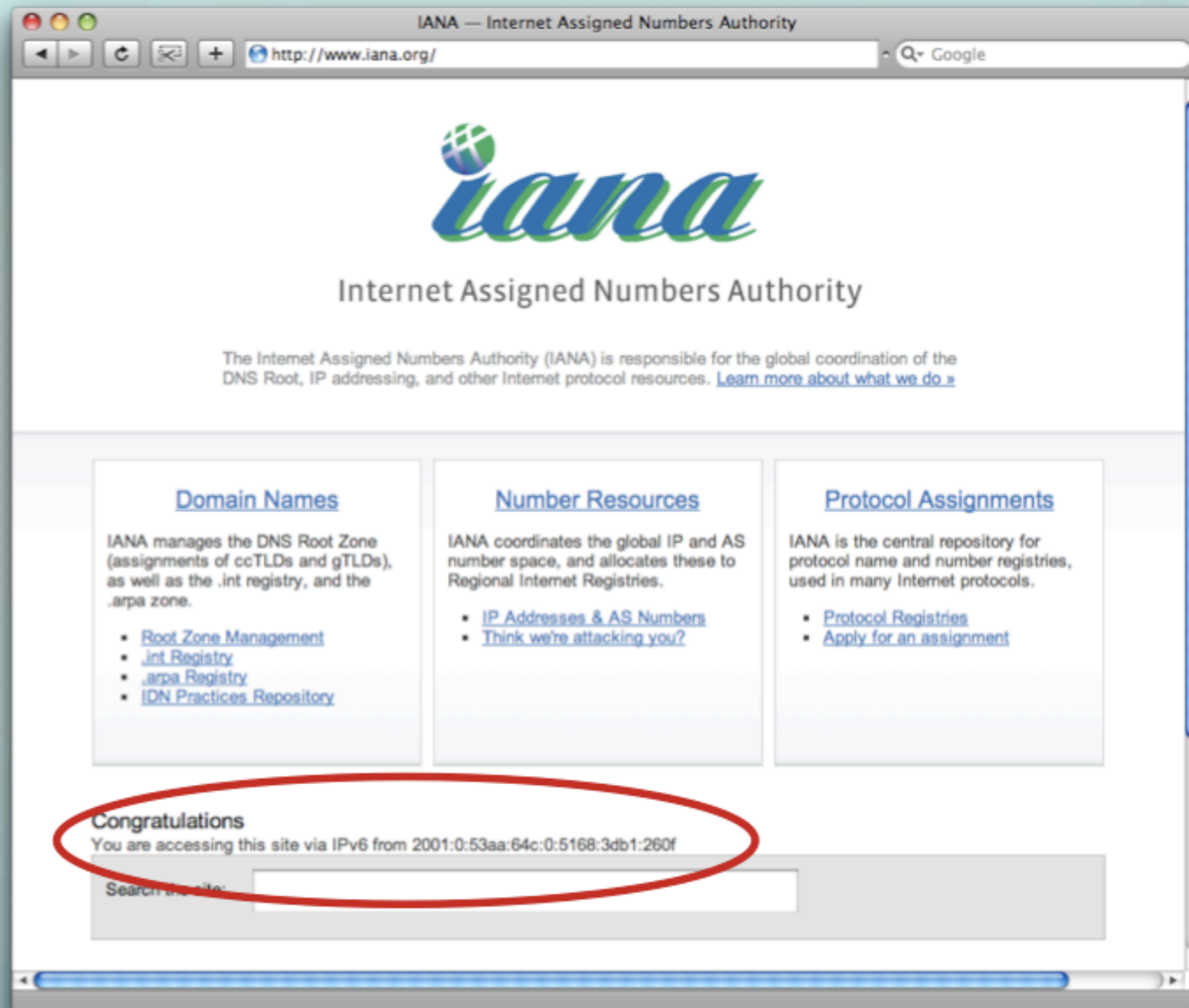
Q3 2011

*Last IANA
IPv4 allocation*

Q4 2012

*Last RIR IPv4
allocation*

Can we run IPv6 yet?



The screenshot shows the IANA website in a browser window. The browser's address bar displays `http://www.iana.org/`. The page features the IANA logo and the text "Internet Assigned Numbers Authority". Below this, a paragraph states: "The Internet Assigned Numbers Authority (IANA) is responsible for the global coordination of the DNS Root, IP addressing, and other Internet protocol resources. [Learn more about what we do »](#)".

The page is divided into three main sections:

- Domain Names**: IANA manages the DNS Root Zone (assignments of ccTLDs and gTLDs), as well as the .int registry, and the .arpa zone.
 - [Root Zone Management](#)
 - [.int Registry](#)
 - [.arpa Registry](#)
 - [IDN Practices Repository](#)
- Number Resources**: IANA coordinates the global IP and AS number space, and allocates these to Regional Internet Registries.
 - [IP Addresses & AS Numbers](#)
 - [Think we're attacking you?](#)
- Protocol Assignments**: IANA is the central repository for protocol name and number registries, used in many Internet protocols.
 - [Protocol Registries](#)
 - [Apply for an assignment](#)

At the bottom of the page, a red oval highlights a "Congratulations" message: "You are accessing this site via IPv6 from 2001:0:53aa:64c:0:5168:3db1:260f". Below this message is a search bar with the text "Search this site:" and an input field.

Where can I find out more?



<http://www.ipv6actnow.org/>