

IANA Addressing & DNS Update



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IANA

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Overview

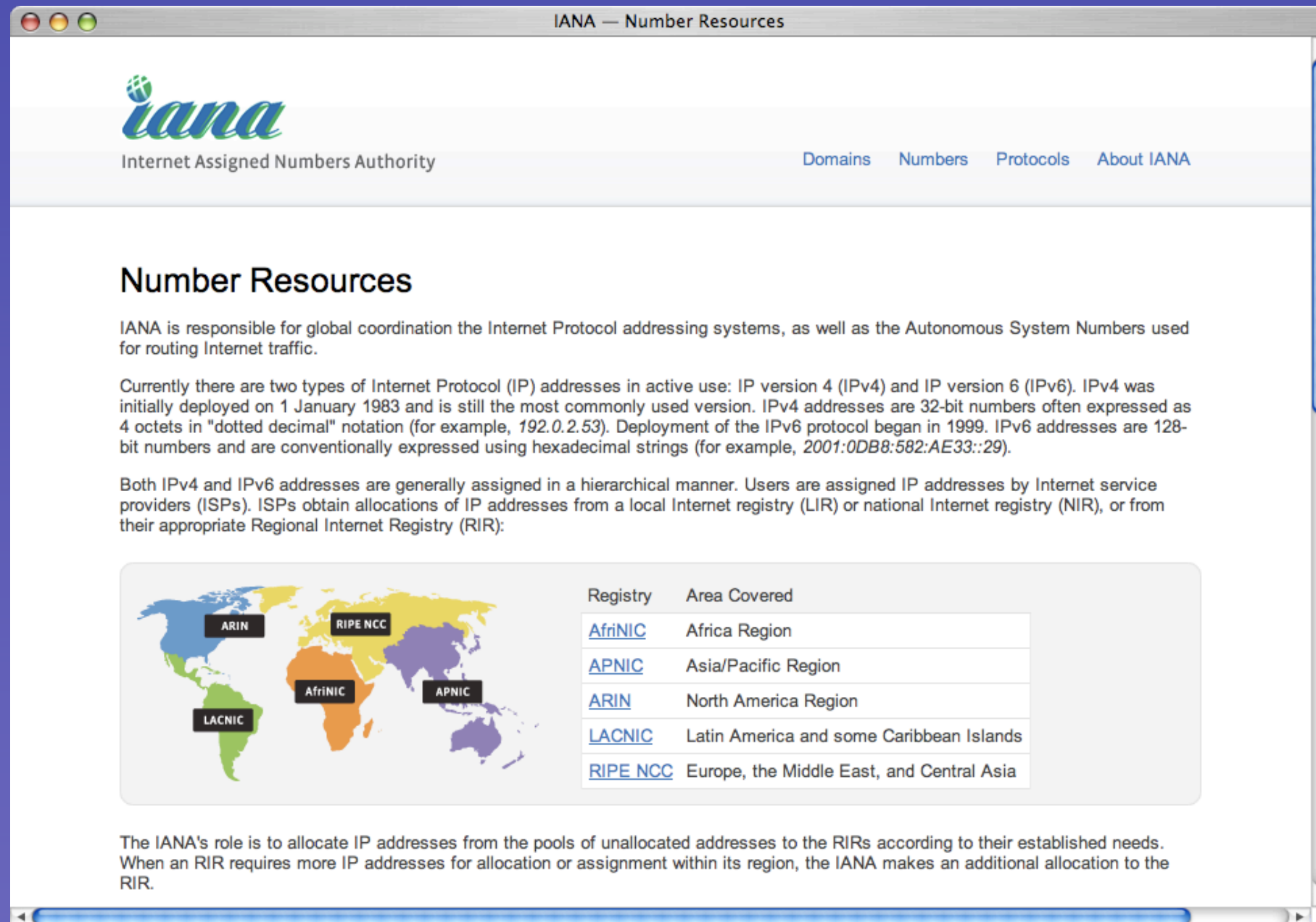
- Our New Web Site
- Recent Number Allocations
 - Allocations to RIRs
 - Returned to IANA
- DNS Work
 - In-addr.arpa
 - DNSSEC
- New IPv4 Registry Format
- 14.0.0.0/8 coming home



UKNOF 8, September 2007, London

New Web Site

<http://beta.iana.org>



The screenshot shows a web browser window titled "IANA — Number Resources". The page features the IANA logo and navigation links for Domains, Numbers, Protocols, and About IANA. The main heading is "Number Resources". Below this, a paragraph states: "IANA is responsible for global coordination the Internet Protocol addressing systems, as well as the Autonomous System Numbers used for routing Internet traffic." Another paragraph explains: "Currently there are two types of Internet Protocol (IP) addresses in active use: IP version 4 (IPv4) and IP version 6 (IPv6). IPv4 was initially deployed on 1 January 1983 and is still the most commonly used version. IPv4 addresses are 32-bit numbers often expressed as 4 octets in 'dotted decimal' notation (for example, 192.0.2.53). Deployment of the IPv6 protocol began in 1999. IPv6 addresses are 128-bit numbers and are conventionally expressed using hexadecimal strings (for example, 2001:0DB8:582:AE33::29)." A third paragraph notes: "Both IPv4 and IPv6 addresses are generally assigned in a hierarchical manner. Users are assigned IP addresses by Internet service providers (ISPs). ISPs obtain allocations of IP addresses from a local Internet registry (LIR) or national Internet registry (NIR), or from their appropriate Regional Internet Registry (RIR):". Below this text is a world map with colored regions and labels for ARIN, RIPE NCC, LACNIC, AfriNIC, and APNIC. To the right of the map is a table with two columns: "Registry" and "Area Covered".

Registry	Area Covered
AfriNIC	Africa Region
APNIC	Asia/Pacific Region
ARIN	North America Region
LACNIC	Latin America and some Caribbean Islands
RIPE NCC	Europe, the Middle East, and Central Asia

The IANA's role is to allocate IP addresses from the pools of unallocated addresses to the RIRs according to their established needs. When an RIR requires more IP addresses for allocation or assignment within its region, the IANA makes an additional allocation to the RIR.

IPv4 so far in 2007

- Coming home...



2



1



1 (almost)

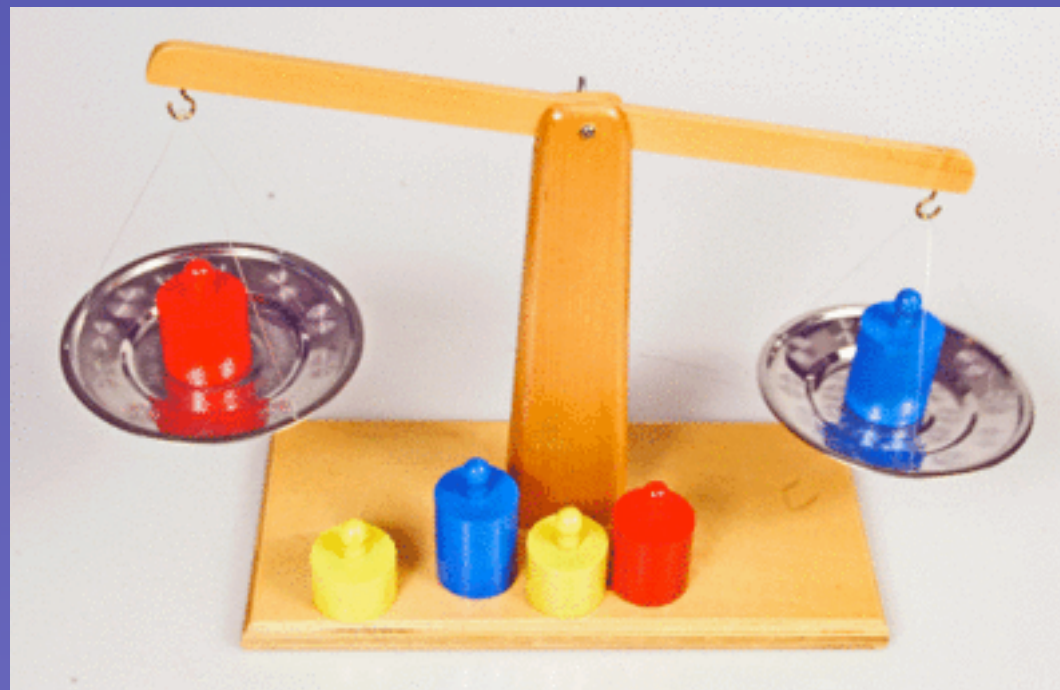
- Leaving home...



5



4



DNS Services

- IANA will take administrative and technical control of in-addr.arpa from ARIN
- IANA will take administrative and technical control of the new mcast.arpa zone
- Will be managed in house
- Will be DNSSEC signed

DNSSEC

- DNSSEC deployment is continuing
- Richard Lamb has developed our systems
- Details available in his recent IEPG presentation
 - http://www.iepg.org/2007-07-ietf69/DNSSEC_at_IANA_IETF.pdf

New IPv4 Registry Format

- No more “Various Registries”
- RIR listed for every unicast assignment
- Whois server for every unicast assignment

What was 14.0.0.0/8 used for?



An X-25 Gyrocopter

What is/was 14.0.0.0/8 used for?

- 14.0.0.0/8 — “One of the Internet Class A Networks is the international system of Public Data Networks. This section lists the mapping between the Internet Addresses and the Public Data Network Addresses (X.121)”
- “X.121 is the ITU-T address format of the X.25 protocol suite used as part of call setup to establish a switched virtual circuit between Public Data Networks (PDNs), connecting two network user addresses (NUAs). It consists of a maximum of fourteen binary-coded decimal digits and is sent over the Packet Layer Protocol (PLP) after the packet type identifier (PTI).”

About these addresses

- Mostly one or two addresses assigned
- Mostly not in use
- Low value to keep
- Low cost to return

How much work was there?



Count von Count

How many registrations were there?

- 984 addresses
- 29 contacts
 - 19 with e-mail addresses
 - 6 without e-mail addresses
 - 3 mystery contacts

So how long did it take?



A candle clock

How long did it take me?

- About 100 hours
 - Research
 - E-mail
 - IM
 - Phone
 - Face-to-face meetings

How long did it take the registrants?

- It varied from network to network
- But they...
 - Audited their networks
 - Scheduled maintenance slots
 - Renumbered devices
 - Had meetings and helped me investigate
- 5 minutes to 5 days work

How long did it take 3rd parties?

- 5 minutes to a few hours spread over a few days

Summary

- Registry cost was about 6 mins per address
- 3½ hours per registration
- Low value addresses
 - Prefixes longer than /24
 - Not aggregated
 - Former Class A space

DOES
NOT
SCALE

Questions

