

ICANN IPv6 Update

Baher Esmat
Manager, Regional Relations, Middle East
baher.esmat@icann.org

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Channeling...

Leo Vegoda
Manager, Number Resources - IANA
leo.vegoda@icann.org



Overview

- ▶ ICANN's IPv6 Commitments
- ▶ Our Responsibilities
- ▶ Managing the Transition

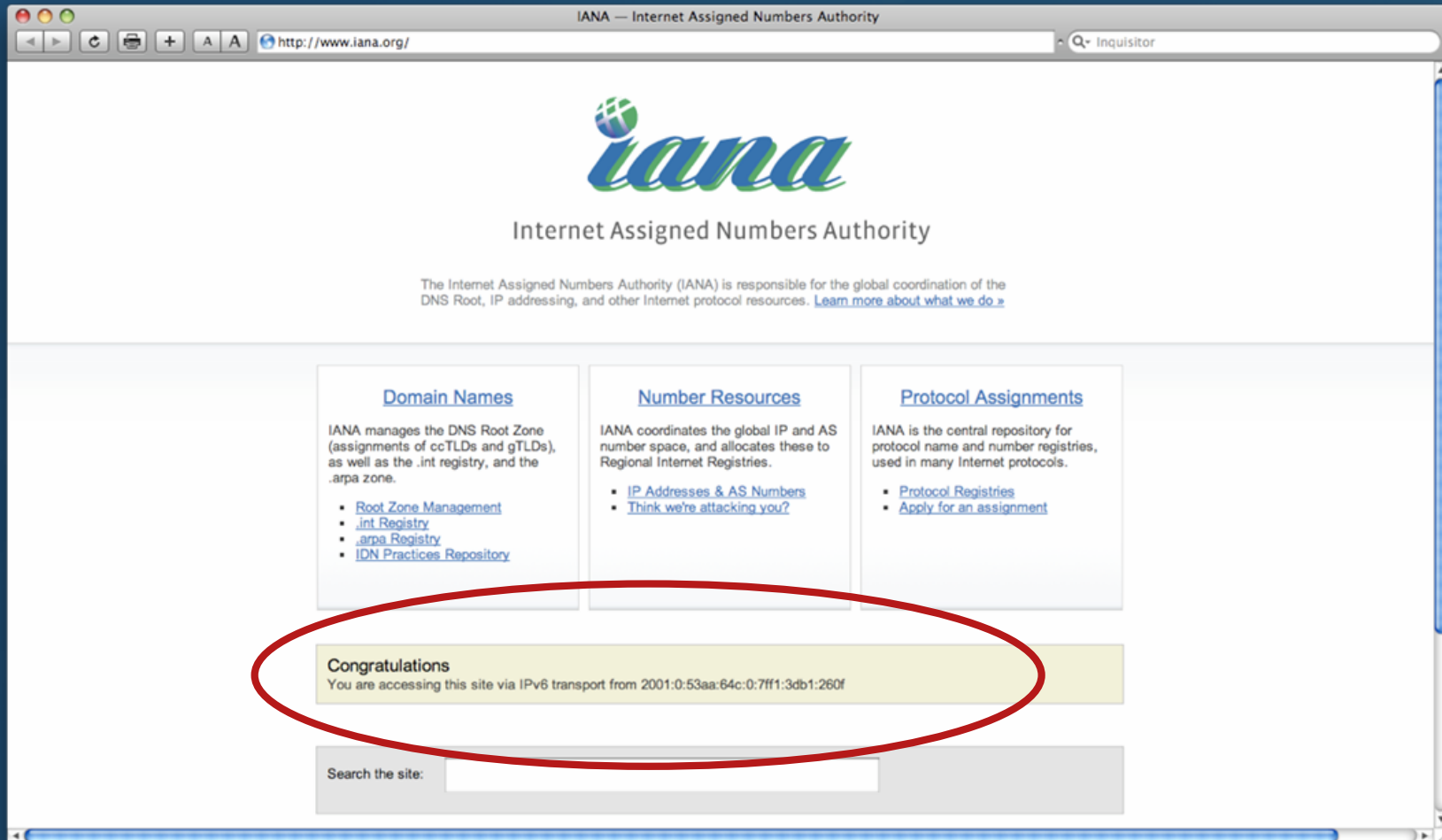
Commitments

Formal Board Commitment

- ▶ “Resolved (2008.02.15.13), the Board requests that ICANN staff produce a plan to implement IPv6-capable services, and deploy IPv6 across ICANN’s infrastructure as part of the 2008-09 operating plan and budget. The Board further requests that ICANN staff provide regular feedback to the community on progress and lessons learned.”

▶ <http://www.icann.org/minutes/resolutions-15feb08.htm>

Visible IPv6 Deployment



The screenshot shows a web browser window with the URL <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. Links include: [Root Zone Management](#), [.int Registry](#), [.arpa Registry](#), and [IDN Practices Repository](#).
- Number Resources:** IANA coordinates the global IP and AS number space, and allocates these to Regional Internet Registries. Links include: [IP Addresses & AS Numbers](#) and [Think we're attacking you?](#)
- Protocol Assignments:** IANA is the central repository for protocol name and number registries, used in many Internet protocols. Links include: [Protocol Registries](#) and [Apply for an assignment](#).

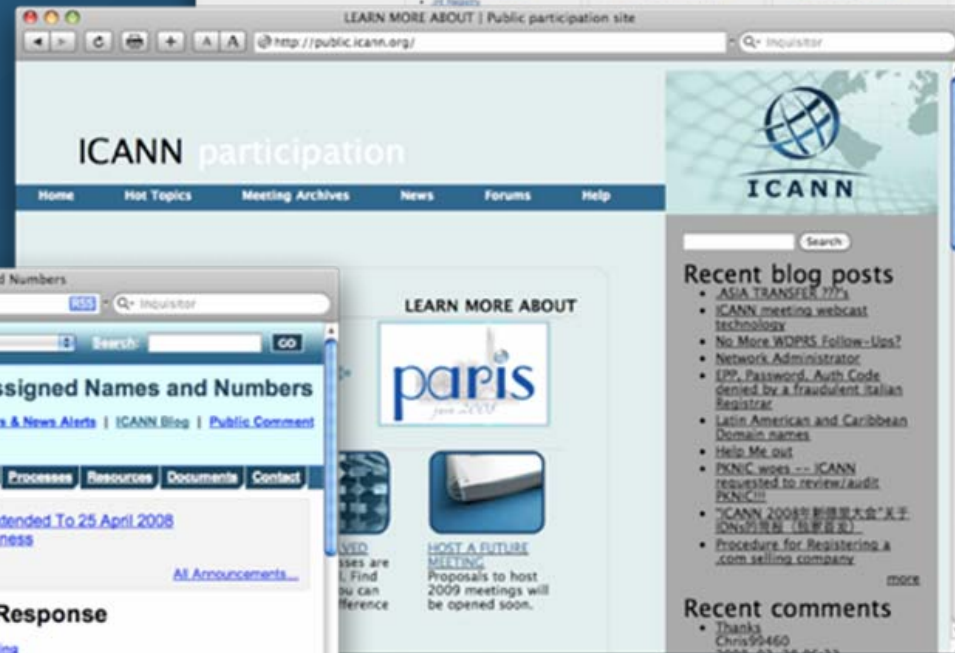
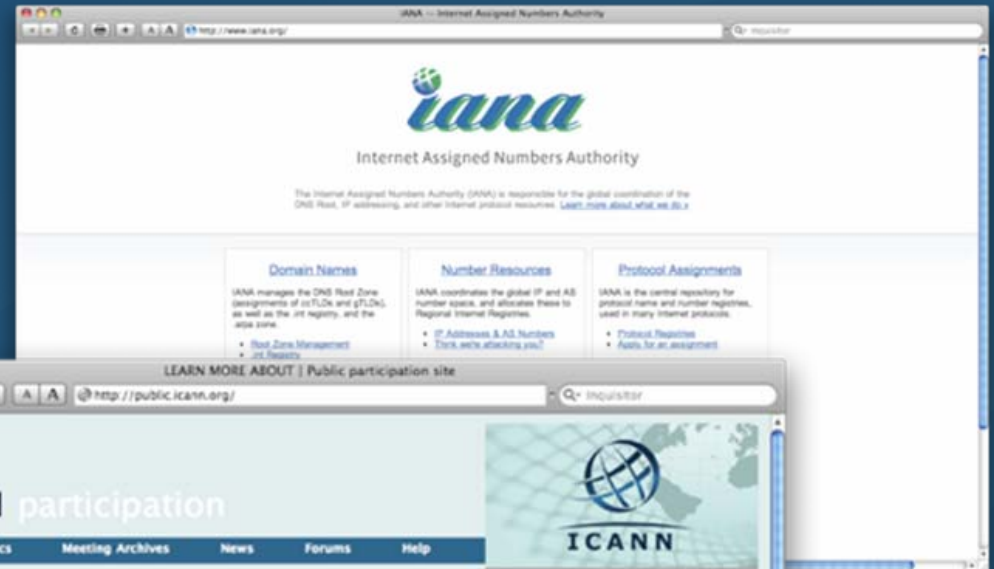
A red oval highlights a green box containing the following text:

Congratulations
You are accessing this site via IPv6 transport from 2001:0:53aa:64c:0:7ff1:3db1:260f

At the bottom of the page, there is a search bar with the text "Search the site:" and an input field.

Other IPv6 Services

- ▶ 3 web sites
- ▶ Some DNS servers
- ▶ Some mail servers

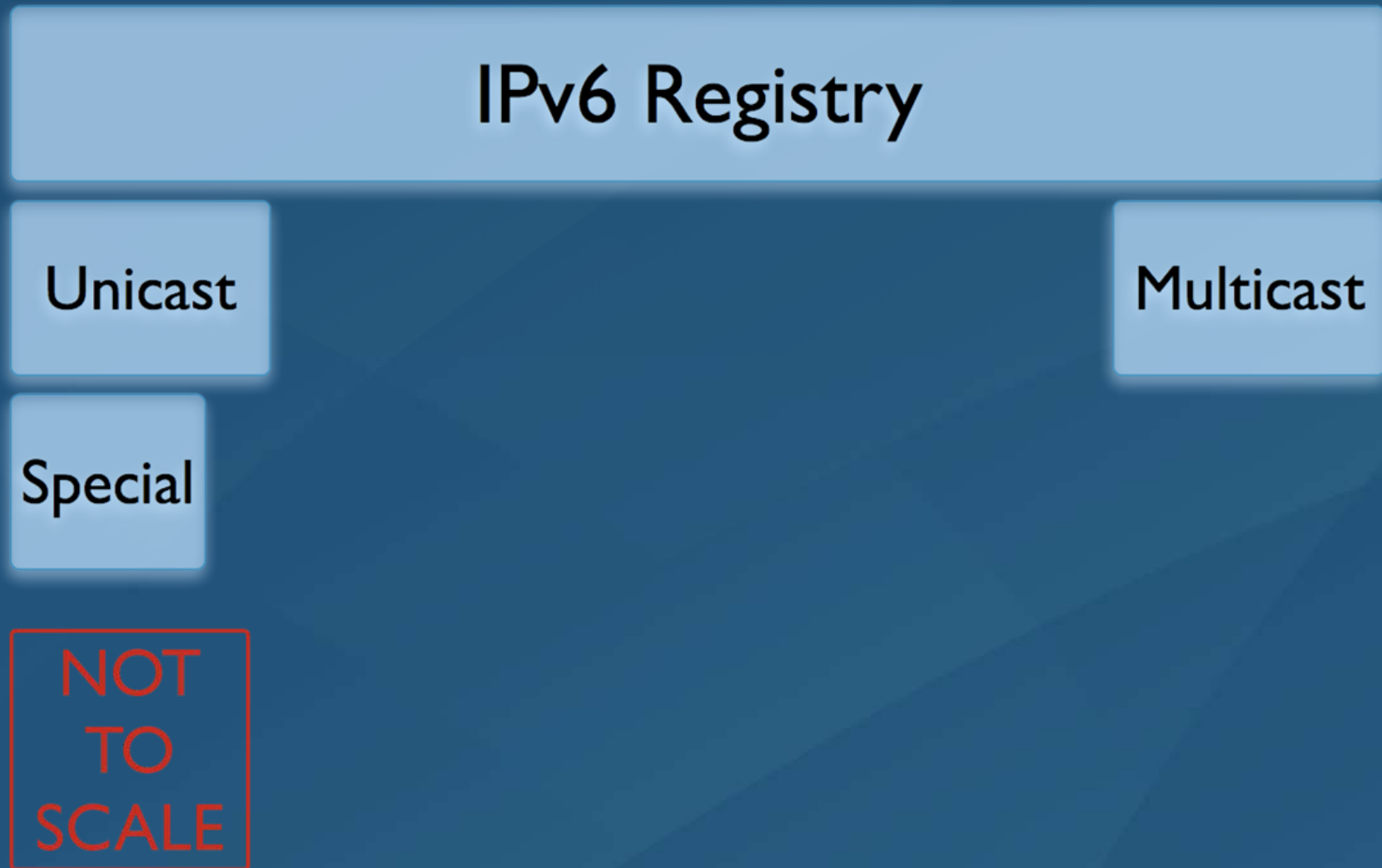


Root DNS Services

- ▶ 6 root DNS servers' IPv6 addresses added in February
- ▶ L-root's IPv6 transport in place. Address to be added to root.hints soon.

Responsibilities

IANA's IPv6 Registries



Plans for improvement

- ▶ XML for registries
 - ▶ IPv4 Address Space Registry now available
 - ▶ All IANA registries available in June
- ▶ Better interfaces and documentation
 - ▶ New IPv6 multicast request form
 - ▶ Improved IPv4 multicast request form
 - ▶ Better guidance for applicants

Domain registration

- ▶ Domain registry and registrar IPv6 support
 - ▶ Both need to support IPv6 in glue
 - ▶ Update interface support
 - ▶ DNS, web, Whois interfaces over IPv6 transport
- ▶ ICANN provides a forum for the discussion
- ▶ ICANN encourages IPv6 deployment

Transition

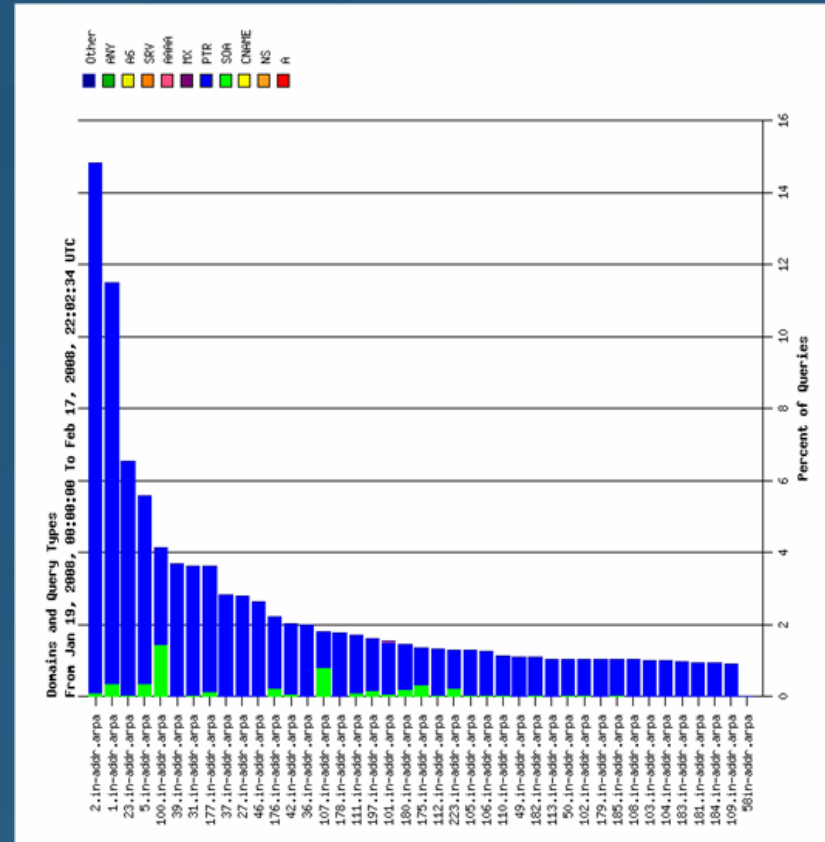
Reclamation activities

- ▶ 14/8 reclaimed in January
- ▶ 3 other /8s returned last year
- ▶ but 13 /8s allocated



Transition Period

- ▶ 41 IPv4 /8s left
 - ▶ Some used despite being unallocated
 - ▶ Possible to measure DNS queries for unallocated addresses
 - ▶ Commissioned research into the problem using DITL data



More Measurement

- ▶ Participated in CAIDA and OARC's "Day in the Life of the Internet" project
- ▶ <http://www.caida.org/projects/ditl/>
 - ▶ Measuring DNS query transport type
 - ▶ Among many other things

Thank you

