

# **Administering IPv6**

**Reston, Virginia, USA**

**10 December 2004**

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# Unique Identifiers on the Net

- **Behind every transaction on the net is a maze of technical identifiers to help the packets move around.**
  - **Domain Names (human readable names)**
  - **Autonomous System Numbers (routing)**
  - **IP addresses (Both IPv4 and IPv6)**

# Uniqueness

- For the Internet to function as we know it uniqueness of these identifiers is a prerequisite.
- Users want to know that an e-mail going to `crain@icann.org` goes to me and not to a different Crain at a different ICANN.

# Global Registry

- To enable uniqueness technical identifiers for the Internet are registered at ICANN via the IANA function.
- Internet Corporation for Assigned Names and Numbers
  - <http://www.icann.org>
- Internet Assigned Number Authority
  - <http://www.iana.org>

# Hierarchy

- To enable the registration system to work efficiently some Identifiers are distributed in an hierarchical manner:
  - Domain Names, have registries for the Top Level Domains. .com, .info, .names, .us, .jp etc.
  - IP addresses are distributed through Regional Internet Registries. ARIN, RIPE NCC, APNIC, LACNIC.

# IPv6 in the USA

- Distributed via the IANA to ARIN

- <http://www.arin.net>

ARIN distributes to its members who are mainly ISPs and academia.

Policy relating to getting IPv6 from them is listed at  
<http://www.arin.net/policy/index.html#six>

# Basic Qualification Rules

- To qualify for an initial allocation of IPv6 address space, an organization must:
- a) be an LIR;
- b) not be an end site;
- c) plan to provide IPv6 connectivity to organizations to which it will assign /48s, by advertising that connectivity through its single aggregated address allocation; and
- d) have a plan for making at least 200 /48 assignments to other organizations within two years.

# If you are an ARIN Member already?

## GOOD NEWS!

At its November 9, 2004, meeting, the ARIN Board of Trustees voted to extend the current waiver of IPv6 fees to all General Members in good standing for the period of January 1, 2005 until December 31, 2006.

- <http://www.arin.net/announcements/20041209.html>



# Policy making in IP Addressing

- Is Bottom up, meaning the ISPs and users get to define policy through the Regional Registry system.
- Regional Policy is ratified at regional level
- Global Policy is passed through the ICANN Address Supporting Organization (ASO) for approval by the board.

# How do people get involved in Policy Discussions.

- Currently various discussions are ongoing relating to IPv6 allocation policies including globally a discussion on the size of ranges to be given to each Regional Registry by the IANA.
- [http://www.arin.net/mailing\\_lists/index.html](http://www.arin.net/mailing_lists/index.html)

# AAAA's or v6 Glue

- IANA now allows registration of v6 addressed in the root zone.
  - The parent DNS zone for the Internet.
  - Next step is adding AAAA records for the root-servers themselves.
  - Study of impact is underway.
- v6 is here! It is today's technology as well as tomorrow

# Questions

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