Policy Proposal 2005–1 Provider Independent IPv6 Assignments for End-sites

- Status
  - Introduced on PPML – February 15, 2005
  - Staff Impact Analysis – April 2005
  - Legal Review – April 2005
- Proposal Text
  - In Meeting Packet
  - http://www.arin.net/policy/2005_1.html

Staff Impact Analysis

- ARIN departments - no significant implementation impact
- Implementation - within 90 days following ratification by the ARIN Board of Trustees

Legal Review

- "…saw nothing that created concerns for liability related to ARIN or issues of compliance with law or regulation."

PPML Discussion

Posts	People
49	17

- “The universal benefit for 2005-1 allocations is "deployment“.”
- “…imho end-sites should not, by default, be able to get their own IPv6 PI block, yet, until we explore other options.”

Policy Proposal 2005–1

http://www.arin.net/policy/2005_1.html

Policy Proposal 2005-1

Provider Independent IPv6 Assignments for End-sites

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Simple ASN based criteria

- Provides direct IPv6 assignment to holder of an Autonomous System Number (ASN)
  - Of whatever prefix length would be justified under LIR guidelines (usually /48)
  - Only one prefix per ASN under this policy. If more space needed, new larger assignment requires commitment to return previous prefix.

Why?

- Multihoming
  - ASN is usually obtained so as to make use of connectivity from more than one provider.
- Relief from renumbering
  - IPv6 has yet to deliver “easy renumbering”
- Concern about ULA (unique local addrs)
  - Believe ULA prefixes will be used by some for public routing. An RIR-issued, publicly routable assignment would be better.

Multihoming

- Multi6 workgroup in IETF
  - No “running code” yet
  - Shim6 working group beginning
  - Time to deployment unclear
- Multiple provider connections
  - Why an end-site gets an ASN
  - With PI assignment, no “primary” provider

ULA (unique local addresses)

- Progressing to Proposed Standard
  - from IPv6 WG in IETF
- Random number based prefix
  - Not guaranteed unique (but likely)
  - Will be provider independent
    - Users will pressure($$) ISPs to route ULA prefixes
- Centrally registered ULA
  - Currently on hold (but internet draft exists)

Need for additional addresses

- Restricted to one assignment per ASN
- If more space required
  - Must meet normal usage criteria
  - New assignment made for total justified space
    - Must commit to return previous assignment within two years
    - suggest adding:
    - Must return previous before asking for another
      - Not more than two active at one time

Reclaimable

- Does not create a new permanent swamp
- Like any other ARIN resource
  - these assignments can recovered as per the ARIN Registration Services Agreement
- Should this policy no longer be needed
  - Assignments can be reclaimed at renewal time, unlike pre-ARIN IPv4 resources

Impact

- DFZ table impact
  - Conservative estimate < 20K RIB entries
  - Most would be RIB entries anyway
    - Separate origin AS implies specific prefix(es)
    - Primary ISP still needs to carry the more specific

Likely alternatives

- NATv6 with or without ULA
- ULA announced to DFZ

Summary

- No functional multi-homing available yet
  - This method is:
    - Simple
    - Proven
    - Well-understood
- Limited growth to DFZ
  - ASN assignment policy can constrain growth