

Recommended Draft Policy ARIN-2015-1 Modification to Criteria for IPv6 Initial End-User Assignments

Found here: https://www.arin.net/policy/proposals/2015_1.html

1. Policy Proposal 215 - February 2015
2. Draft Policy - 24 March 2015
3. Presented:
 - a. ARIN 35
 - b. ARIN PPC at NANOG 64
4. Recommended Draft Policy - 23 June 2015
5. Revised - 27 August 2015
6. Presented:
 - a. ARIN 36
7. Last Call – 14-28 October 2015
8. AC meeting to review last call on 19 November 2015
 - a. AC moved to Board unanimously with 10 in favor.

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Recommended Draft Policy ARIN-2015-1 Modification to Criteria for IPv6 Initial End-User Assignments

Date: 27 August 2015

AC's assessment of conformance with the Principles of Internet Number Resource Policy:

ARIN-2015-1 enables fair and impartial number resource administration by providing a concrete threshold (13 active sites) under which end-user organizations who have a large number of potentially geographically dispersed sites, or sites with low subnet and/or user counts, can be reasonably assured of receiving IPv6 address space from ARIN. This proposal is technically sound, in that it retains reasonable thresholds on obtaining IPv6 assignments from ARIN in order to support the aggregation of Internet number resources in a hierarchical manner to the extent feasible. It has been well supported by the community on PPML and at the ARIN PPC at NANOG in San Francisco, where nearly everyone agreed that this was a step in the right direction. To the extent that some in the community desire even more relaxed IPv6 assignment policy, the AC encourages those community members to discuss on PPML and/or submit as additional policy proposals any further changes they would like to see.

Problem Statement:

Current policy for assignment to end users excludes a class of users whose costs to renumber would far exceed what current policy is designed to mitigate.

Current measures designed to minimize the economic cost of renumbering per NRPM 6.5.8.1 (Initial Assignment Criteria) are:

- c. By having a network that makes active use of a minimum of 2000 IPv6 addresses within 12 months, or;
- d. By having a network that makes active use of a minimum of 200 /64 subnets within 12 months, or;

These two measures fail to take into account end users who have a large number of potentially

geographically dispersed sites, or sites with low subnet and/or user counts. The economic costs for this class of end user would likely far exceed the costs that 6.5.8.1 c. and d. are designed to mitigate.

While an end user could possibly apply (and receive an assignment) under 6.5.8.1 e. ("By providing a reasonable technical justification indicating why IPv6 addresses from an ISP or other LIR are unsuitable"), it fails to provide a concrete threshold under which this class of end-user can be reasonably assured of receiving address space.

Without having the reasonable assurance of IPv6 address number resource continuity that a direct assignment allows, many smaller enterprises are unlikely to adopt IPv6 (currently perceived as an already tenuous proposition for most users given current cost/benefit); or are likely to adopt technical measures (such as using ULA addressing + NAT66) that are widely held to be damaging to the IPv6 Internet.

Policy Statement:

Renumber NRPM 6.5.8.1 Initial Assignment Criteria subsection e. to f. and insert a new subsection e. with the following text:

By having a contiguous network that has a minimum of 13 active sites within 12 months, or;

Comments:

- a. Timetable for implementation: Immediate
- b. General Comments:

- The threshold of 13 sites was chosen based on NRPM 6.5.8.2, which specifies 13 sites as the minimum number of sites required to receive a /40 initial assignment, to attempt to provide a balance between the costs of carrying the prefix vs. the costs to the end-user in renumbering.

- Further constraints were added in that the sites must be in a contiguous network, to further attempt to reduce the costs of carrying the prefix

- By introducing this new threshold, we attempt to restore equivalency of number resources for those end-users whose economic costs to renumber are equal to that of other end-users who would qualify for a direct assignment under 6.5.8.1 c. and d.

c. Example:

Example of an end-user who would not qualify under 6.5.8.2 c. or d.:

- 50 locations (IPVPN) spread across the country/continent
- 10 staff per location (average; 500 total)
- 20 devices per location (average; 1000 total)
- 2 subnets (voice & data) per location (average, 100 total)
- Not multihomed
- Currently using RFC1918 IPv4 space + NAT

This end-user only benefits minimally from IPv6 multihoming as they are using an IPVPN, and multihoming provides benefit only for Internet transit, not within their IPVPN. As such requiring the end-user to multihome under NRPM 6.5.8.2 b. is wasteful.

This end user currently uses RFC1918 IPv4 address space + a relatively small amount of IPv4 GUA + NAT (currently accepted industry practice for IPv4). Changing providers involves only renumbering the small amount of IPv4 GUA. Forcing the end-user to acquire an IPv4 direct assignment under NRPM 6.5.8.2 a. in order to be able to get a direct IPv6 assignment is incredibly wasteful of a valuable and

limited number resource. It also forces the customer occupy more routing table space, as now an IPv4 PI prefix must be routed in addition to an IPv6 PI prefix, instead of using IPv4 PA + IPv6 PI (where only space for an IPv6 PI prefix is required).

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ARIN STAFF ASSESSMENT

Draft Policy ARIN-2015-1
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https://www.arin.net/policy/proposals/2015_1.html

Date of Assessment: June 11, 2015

1. Summary (Staff Understanding)

This proposal would add a criteria item to 6.5.8.1 (Initial Assignment Criteria). Because each of the existing criteria items in that section can independently qualify an organization for IPv6 address space from ARIN, this new criteria item adds an additional qualification criteria. It makes it easier for some organizations to qualify, and does not make it more difficult for anyone. In particular, it creates a new criteria point that allows any end-user organization large enough to have 13 sites to immediately qualify for IPv6 address space from ARIN.

2. Comments

A. ARIN Staff Comments

This proposal can be implemented as written. Minimal staff training and preparation would be needed to implement this if it were to become policy. We see no negative impacts.

B. ARIN General Counsel – Legal Assessment

Counsel sees no material legal issues in this policy.

3. Resource Impact

This policy would require minimal staff training and preparation. We see no negative impacts.