

IPv6 Assignment Guidelines

ARIN Policy Proposal 2007-24

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Current Issues

- Proposal 2005-8, implemented 30 Aug 2006
 - Introduced language allowing /64, /56, and /48 for end sites.

“Many references to “/48” will need to be replaced by “End Site assignment”.”

- There is no criteria for ARIN’s review if a site needs more than a /48, but the current policy requires ARIN to do a review.

Old and New

6.5.4.1. Assignment address space size

End-users are assigned an end site assignment from their LIR or ISP. The exact size of the assignment is a local decision for the LIR or ISP to make, using a minimum value of a /64 (when only one subnet is anticipated for the end site) up to the normal maximum of /48, except in cases of extra large end sites where a larger assignment can be justified.

The following guidelines may be useful (but they are only guidelines):

- * /64 when it is known that one and only one subnet is needed
- * /56 for small sites, those expected to need only a few subnets over the next 5 years.
- * /48 for larger sites

For end sites to whom reverse DNS will be delegated, the LIR/ISP should consider making an assignment on a nibble (4-bit) boundary to simplify reverse lookup delegation.

RIRs/NIRs are not concerned about which address size an LIR/ISP actually assigns. Accordingly, RIRs/NIRs will not request the detailed information on IPv6 user networks as they did in IPv4, except for the cases described in Section 6.4.4 and for the purposes of measuring utilization as defined in this document.

6.5.4.2. Assignment of multiple /48s to a single end site

When a single end site requires an additional /48 address block, it must request the assignment with documentation or materials that justify the request. Requests for multiple or additional /48s will be processed and reviewed (i.e., evaluation of justification) at the RIR/NIR level.

Note: There is no experience at the present time with the assignment of multiple /48s to the same end site. Having the RIR review all such assignments is intended to be a temporary measure until some experience has been gained and some common policies can be developed. In addition, additional work at defining policies in this space will likely be carried out in the near future.

6.5.4.1. Assignment address space size

Assignments by LIRs /48 or smaller will not be reviewed by ARIN. Assignments greater than /48 will be reviewed to see if the additional space is warranted according to the 0.94 HD ratio policy. If the space is not warranted, ARIN will consider the excess space to be available for a different assignment, lowering the overall utilization score of the LIR.

Old and New

6.5.4.1. Assignment address space size

Assignments by LIRs /48 or smaller will not be reviewed by ARIN. Assignments greater than /48 will be reviewed to see if the additional space is warranted according to the 0.94 HD ratio policy. If the space is not warranted, ARIN will consider the excess space to be available for a different assignment, lowering the overall utilization score of the LIR.

Staff Assessment

1. Currently, there have been 54 IPv6 reassignments/reallocations larger than /48 made by ISPs to their customers. If staff is expected to review each and every one larger than /48, this could significantly increase workload and turnaround times.
2. If staff is expected to review all reassignments larger than /48, should this be done at the time the reassignment is made or at the time the organization is requesting additional IPv6 space from ARIN?

Staff Concern #1

- 6.5.4.2. Assignment of multiple /48s to a single end site
When a single end site requires an additional /48 address block, it must request the assignment with documentation or materials that justify the request. Requests for multiple or additional /48s will be processed and reviewed (i.e., evaluation of justification) at the RIR/NIR level.
- 58 assignments (SWIPs) larger than /48 in the database:

47 /40s, 9 /42s, 1 /44, 1/47.
- What criteria was used? Were they reviewed at the time of allocation, or will they be reviewed when the ISP returns for more space?

Staff Concern #2

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Staff Concern #2

6.5.4.1. Assignment address space size

Assignments by LIRs /48 or smaller will not be reviewed by ARIN. Assignments greater than /48 **can** be reviewed to see if the additional space is warranted according to the 0.94 HD ratio policy. If the space is not warranted, ARIN will consider the excess space to be available for a different assignment, lowering the overall utilization score of the LIR.

Goals of the Policy

- Provide a mechanism for ISP's to allocate blocks larger than a /48 to a single organization under the 0.94 policy.
- Clarify that staff should check larger than /48's in real time, but rather spot check them at appropriate times, much like is done for larger than /29 in IPv4.

Goals of the Policy

- Provide clarity that ARIN will not “second guess” allocations of prefixes longer than /48.
- Signal ISP’s that they may need to provide more detailed records for blocks larger than a /48.
- Remove vague “guideliens” from the NRPM.

PPML Discussion

- One post in support.
- The AC would like more input. Post on PPML, or come to the mike.

Updated Proposal

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