

Removing IPv6 PI

RIPE-2018-05

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~~Removing IPv6 PI~~ (=IPv6 Persistent Individual)

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Summary of Proposal

- In several occasions we discussed about removing the IPv6 Provider Independent, or said in a different way, merging the requirements for PI and PA in a single policy.
- However, it looks like it is difficult to achieve a successful discussion without a precise text that allows to have a clear idea of how that could actually be implemented.
- Actual IPv6 PI assignments are made from a different block. Even if it is an operational NCC issues, I believe it still makes sense for the NCC to keep that structure (a block for ISPs with /32 and bigger allocations) and another block for /48 and bigger allocations (may be up to /33 for organizations/end-sites). Also keep using sparse allocation for both, and allow, while possible that further allocations are made from an adjacent address block.
- This proposal aims to deliver that text, and evolve it as required by the WG

Online Diff

- <http://bit.ly/removeipv6pi>
- <https://www.diffchecker.com/xMFiz80A>

Proposed Changes (1)

2.6. Assign

To “assign” means to delegate address space to an ISP or End User for specific use within the Internet infrastructure they operate. Assignments must only be made for specific purposes documented by specific organisations and are not to be sub-assigned to other parties.

Providing another entity with separate addresses (not prefixes) from a subnet used on a link operated by the assignment holder is not considered a sub-assignment. This includes for example letting visitors connect to the assignment holder's network, connecting a server or appliance to an assignment holder's network and setting up point-to-point links with 3rd parties.

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Proposed Changes (2)

4.3. Minimum allocation

The minimum allocation size for IPv6 address space is /32.

5.1.1. Initial allocation criteria

To qualify for an initial allocation of IPv6 address space, an organisation must:

- a) be an LIR;
- b) have a plan for making sub-allocations to other organisations and/or End Site assignments within two years.

4.3. Minimum allocation

The minimum allocation size for IPv6 address space is /32 for ISPs and /48 for organizations/end-sites.

5.1.1. Initial allocation criteria

To qualify for an initial allocation of IPv6 address space, an LIR must have a plan, within two years, to either:

- make sub-allocations to other organisations and/or End Site assignments (for ISPs).
- deploy IPv6 with the allocation provided (for organizations/end-sites).

Proposed Changes (3)

5.1.2. Initial allocation size

Organisations that meet the initial allocation criteria are eligible to receive an initial allocation of /32. For allocations up to /29 no additional documentation is necessary.

Organisations may qualify for an initial allocation greater than /29 by submitting documentation that reasonably justifies the request. If so, the allocation size will be based on the number of users, the extent of the organisation's infrastructure, the hierarchical and geographical structuring of the organisation, the segmentation of infrastructure for security and the planned longevity of the allocation.

5.1.2. Initial allocation size

LIRs **which are ISPs**, that meet the initial allocation criteria are eligible to receive an initial allocation of /32 up to /29 without needing to supply any additional documentation. **The initial allocation for organizations/end-sites is a /48 (per each end-site).**

LIRs may qualify for a greater initial allocation by submitting documentation that reasonably justifies the request. If so, the allocation size will be based on the number of users, the extent of the LIR infrastructure, the hierarchical and geographical structuring of the LIR, the segmentation of infrastructure for security and the planned longevity of the allocation.

Proposed Changes (4)

5.7. Existing IPv6 address space holders

LIRs that hold one or more IPv6 allocations are able to request extension of each of these allocations up to a /29 without providing further documentation.

The RIPE NCC should allocate the new address space contiguously with the LIRs' existing allocations and avoid allocating non-contiguous space under this policy section.

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Proposed Changes (5)

6. Anycasting TLD and Tier 0/1 ENUM Nameservers

The organisations applicable under this policy are TLD managers, as recorded in the IANA's Root Zone Database and ENUM administrators, as assigned by the ITU. The organisation may receive up to four /48 prefixes per TLD and four /48 prefixes per ENUM. These prefixes must be used for the sole purpose of anycasting authoritative DNS servers for the stated TLD/ENUM, as described in BCP126/RFC 4786.

~~Assignments for authoritative TLD or ENUM Tier 0/1 DNS lookup services are subject to the policies described in the RIPE Document entitled "Contractual Requirements for Provider Independent Resource Holders in the RIPE NCC Service Region".~~

Anycasting assignments are registered with a status of 'ASSIGNED ANYCAST' in the RIPE Database and must be returned to the RIPE NCC if not in use for infrastructure providing authoritative TLD or ENUM Tier 0/1 DNS lookup services any longer.

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Proposed Changes (6)

~~7. IPv6 Provider Independent (PI)~~

(section deleted)

~~Assignments~~

~~To qualify for IPv6 PI address space, an organisation must meet the requirements of the policies described in the RIPE NCC document entitled “Contractual Requirements for Provider Independent Resources Holders in the RIPE NCC Service Region”.~~

~~The RIPE NCC will assign the prefix directly to the End User organisations upon a request properly submitted to the RIPE NCC, either directly or through a sponsoring LIR.~~

~~The minimum size of the assignment is a /48. Organisations requesting a larger assignment (shorter prefix) must provide documentation justifying the need for additional subnets.~~

~~Additional assignments may also be made when the need is demonstrated and documented based on address usage, or because different routing requirements exist for additional assignments. When possible, these further assignments will be made from an adjacent address block.~~

~~Assignments will be made from a separate 'designated block' to facilitate filtering practices.~~

~~The PI assignment cannot be further sub-assigned to other organisations.~~

Proposed Changes (7)

7.1 IPv6 Provider Independent (PI) Assignments for LIRs

LIRs can qualify for an IPv6 PI assignment for parts of their own infrastructure that are not used for customer end sites. Where an LIR has an IPv6 allocation, the LIR must demonstrate the unique routing requirements for the PI assignment.

The LIR should return the IPv6 PI assignment within a period of six months if the original criteria on which the assignment was based are no longer valid.

7. Additional IPv6 Allocation for ISPs

LIRs, **which are ISPs**, can qualify for a separated IPv6 allocation for parts of their own infrastructure that are not used for customer end sites. Where an LIR has an IPv6 allocation, the LIR must demonstrate the unique routing requirements **for that additional allocation**.

The LIR should return the additional IPv6 allocation within a period of six months if the original criteria on which the allocation was based are no longer valid.

Additional Information (“transition phase”)

- It will be necessary to have a transition phase, which I believe the NCC should decide how much extend. However, it seems that 15-18 months, since the policy is implemented, may be a coherent timing in order to correctly inform the actual IPv6 PI holders, before the yearly “license renewal” date, about the policy change and the correspondingly required contractual conditions change, the need to sign an alternative contract (LIR) and whatever other details are required, which may even mean a price increase if the membership agrees on that. In any case, those specific details don’t belong to the WG discussion.

Rationale

a. Arguments Supporting the Proposal

- Simplification of the policy and avoid discussions/inconsistencies related to sub-assignments.
- Contractual fairness among different type of IPv6 resource holders.

b. Arguments Opposing the Proposal

- One-time administrative overhead for each actual IPv6 PI holder. However, this overhead can be split by NCC in a period of 15-18 months, after the policy is implemented, considering the annual renewal period of each holder.