

Removing aggregation criteria for IPv6 initial allocations

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Introduction

- Current IPv6 address allocation policy from APNIC to LIRs:
 - Initial IPv6 block for APNIC members with existing IPv4 space
 - Initial allocation
 - Subsequent allocation

Current criteria

	Initial IPv6 block for APNIC members with existing IPv4 space	Initial allocation	subsequent allocation
Target	APNIC members that have received an IPv4 address block from APNIC	For organizations firstly request IPv6 address	For organizations who need additional IPv6 address
Criteria	APNIC members that have received an IPv4 address block from APNIC but have no IPv6 space can qualify for an appropriately sized IPv6 block under the matching IPv6 policy.	<ul style="list-style-type: none"> a) be an LIR b) not be an end site c) plan to provide IPv6 connectivity to organizations to which it will make assignments, by advertising that connectivity through its single aggregated address allocation d) meet one of the two following criteria: - have a plan for making at least 200 assignments to other organizations within two years OR - be an existing LIR with IPv4 allocations from APNIC or an NIR that will make IPv6 assignments or sub-allocations to other organizations and announce the allocation in the inter-domain routing system within two years 	Subsequent allocation will be provided when an organization (ISP/LIR) satisfies the evaluation threshold of past address utilization in terms of the number of sites in units of /56 assignments. The HD- Ratio [RFC 3194] is used to determine the utilization thresholds that justify the allocation of additional address as described below.

Aggregation requirement

	Initial IPv6 block for APNIC members with existing IPv4 space	Initial allocation	subsequent allocation
Target	APNIC members that have received an IPv4 address block from APNIC	For organizations firstly request IPv6 address	For organizations who need additional IPv6 address
Criteria	APNIC members that have received an IPv4 address block from APNIC but have no IPv6 space can qualify for an appropriately sized IPv6 block under the matching IPv6 policy.	<ul style="list-style-type: none"> a) be an LIR b) not be an end site c) plan to provide IPv6 connectivity to organizations to which it will make assignments, by advertising that connectivity through its single aggregated address allocation d) meet one of the two following criteria: - have a plan for making at least 200 assignments to other organizations within two years OR - be an existing LIR with IPv4 allocations from APNIC or an NIR that will make IPv6 assignments or sub-allocations to other organizations and announce the allocation in the inter-domain routing system within two years 	Subsequent allocation will be provided when an organization (ISP/LIR) satisfies the evaluation threshold of past address utilization in terms of the number of sites in units of /56 assignments. The HD- Ratio [RFC 3194] is used to determine the utilization thresholds that justify the allocation of additional address as described below.

Current problem

- Including the aggregation requirement is problematic for following reasons:
 1. Inconsistent the criteria for IPv6 allocations under two other APNIC policies
 - Current policy can be interpreted other two cases permit de-aggregated announcement.
 2. Registry policy should not concern itself strongly with routing issues.

Proposal

- Remove the requirement under the initial IPv6 allocation criteria
- Include a stronger recommendation about the importance of aggregation to the IPv6 policy document.
 - Example text:

“Recipients of IPv6 allocations SHOULD attempt to minimize the de-aggregated route announcement of the allocated unit as much as is technically feasible.”

Other RIRs

- LACNIC:
 - The LACNIC community is currently discussing the following proposal to remove the requirement to announce an initial allocation as a single prefix in favor of announcing the prefix with the minimum possible level of disaggregation:
 - 2007-01: Modifications to the IPv6 Prefix Initial Allocation Policy
 - <http://www.lacnic.net/documentos/politicas/LAC-2007-01v3-propuesta-en.pdf>
- RIPE:
 - The RIPE community has recently removed routing requirements from IPv6 policy:
 - 2009-06: Removing Routing Requirements from the IPv6 Address Allocation Policy
 - <http://www.ripe.net/ripe/policies/proposals/2009-06.html>
- AfriNIC and ARIN initial IPv6 allocation criteria require a plan to aggregate

Benefits/disadvantages

- Advantages
 - Reduces the number of requirements to obtain IPv6 address.
 - Make allocation criteria consistent and possible to avoid misunderstanding that route de-aggregation is permitted.
- Disadvantages
 - By removing the aggregation requirement in the policy, de-aggregated routes may begin to be announced more frequently.

Summary

- Propose to remove the aggregation requirement under the initial IPv6 allocation criteria
 - Make allocation criteria consistent
 - possible to avoid misunderstanding that route de-aggregation is permitted.