

AUTHORS DATA:

Name: Martin Hannigan - hannigan@gmail.com

Organization: ASO AC, On Behalf of the Authors

PROPOSAL DATA:

Policy Proposal Title: Global Policy for IPv4 Allocation by the IANA post exhaustion

Policy Proposal Type: Global

Id (if exists): LAC-2010-04

Version: 1.2

Proposal Summary:

This is a proposal to create a policy allowing for the allocation of IPv4 address space after the depletion of the IANA IPv4 address pool.

Rationale:

This policy defines the process for the allocation of IPv4 addresses post "Exhaustion Phase"[1]. A global policy is required in order for the IANA to be able to transparently continue to be able to allocate IPv4 addresses beyond exhaustion. In order to fulfill the requirements of this policy, the IANA must set up a reclamation pool to hold addresses in and distribute from in compliance with this policy. This policy establishes the process by which IPv4 addresses can be returned to and re-issued from the IANA post Exhaustion Phase.

This document does not stipulate performance requirements in the provision of services by the IANA to an RIR in accordance with this policy. Such requirements should be specified by appropriate agreements among the RIRs and ICANN.

The intent of this policy is as follows:

- To include all post Exhaustion Phase IPv4 address space returned to the IANA.
- Allows allocations by the IANA from the Reclamation Pool once the Exhaustion Phase has been completed.
- Defines "need" as the basis for further IPv4 allocations by the IANA.
- Does not differentiate any class of IPv4 address space unless otherwise defined by an RFC.
- Encourage the return of IPv4 address space by making this allocation process available.
- Disallow transfers of addresses sourced from the Reclamation Pool in the absence of an IPv4 Global Transfer Policy to neutralize transfer process inequities across RIR regions.
- Applies to legacy IPv4 Address Space initially allocated by the IANA to users including the allocations to RIRs.
- Includes any length of fragments currently held by the IANA now or in the future.

Proposal Text:

1. Reclamation Pool

Upon adoption of this IPv4 address policy by the ICANN Board of Directors, the IANA shall establish a Reclamation Pool to be utilized post RIR IPv4 exhaustion as defined in Section 4. The reclamation pool will initially contain any fragments that may be left over in IANA inventory. As soon as the first RIR exhausts its inventory of IP address space, this Reclamation Pool will be declared active. When the Reclamation Pool is declared active, the Global Policy for the Allocation of the Remaining IPv4 Address Space[3] and Policy for Allocation of IPv4 Blocks to Regional Internet Registries[4] will be formally deprecated.

2. Returning Address Space to the IANA

The IANA will accept into the Reclamation Pool all eligible IPv4 address space that are offered for return. Eligible address space includes addresses that are not designated as "special use" by an IETF RFC or addresses allocated to RIR's unless they are being returned by the RIR that they were originally allocated to. Legacy address holders may return address space directly to the IANA if they so choose.

3. Address Allocations from the Reclamation Pool by the IANA

Allocations from the Reclamation Pool may begin once the pool is declared active. Addresses in the Reclamation Pool must be allocated on a CIDR boundary. Allocations from the Reclamation Pool are subject to a minimum allocation unit equal to the minimum allocation unit of all RIRs and a maximum allocation unit of one /8. The Reclamation Pool will be divided on CIDR boundaries and distributed evenly to all eligible RIRs once each quarter. Any remainder not evenly divisible by the number of eligible RIRs will remain in the Reclamation Pool until such time sufficient address returns allow another round of allocations.

4. RIR Eligibility for Receiving Allocations from the Reclamation Pool

Upon the exhaustion of an RIR's free space pool and after receiving their final /8 from the IANA[3], an RIR will become eligible to request address space from the IANA Reclamation Pool when it publicly announces via its respective global announcements email list and by posting a notice on its website that it has exhausted its supply of IPv4 address space. An RIR is considered at exhaustion when the inventory is less than the equivalent of a single /8 and is unable to further allocate or assign address space to its customers in units equal to or shorter than the longest of that RIR's policy defined minimum allocation unit. Up to one /10 or equivalent of IPv4 address space specifically reserved for any special purpose by an RIR will not be counted against that RIR when determining eligibility unless that space was received from the IANA reclamation pool. Any RIR that is formed after the ICANN Board of Directors has ratified this policy is not eligible to utilize this policy to obtain IPv4 address space from the IANA.

5. Reporting Requirements

The IANA shall publish on at least a weekly basis a report that is publicly available which at a minimum details all address space that has been received and that has been allocated. The IANA shall publish a Returned Address Space Report which indicates what resources were

returned, by whom and when. The IANA shall publish an Allocations Report on at least a weekly basis which at a minimum indicates what IPv4 address space has been allocated, which RIR received the allocation and when. The IANA shall publish a public notice confirming RIR eligibility subsequent to Section 4.

6. No Transfer Rights

Address space assigned from the Reclamation Pool may be transferred if there is either an ICANN Board ratified global policy or globally coordinated RIR policy specifically written to deal with transfers whether inter-RIR or from one entity to another. Transfers must meet the requirements of such a policy. In the absence of such a policy, no transfers of any kind related to address space allocated or assigned from the reclamation pool is allowed.

7. Definitions

IANA - Internet Assigned Numbers Authority, or its successor

ICANN - Internet Corporation for Assigned Names and Numbers, or its successor

RIR - Regional Internet Registry as recognized by ICANN

MoU - Memorandum of Understanding between ICANN and the RIRs

IPv4 - Internet Protocol Version Four(4), the target protocol of this Global Policy

Free Space Pool - IPv4 Addresses that are in inventory at any RIR, and/or the IANA

8. References

[1] IANA, Global Policy for the Allocation of the Remaining IPv4 Address Space
<http://www.icann.org/en/general/allocation-remaining-ipv4-space.htm>

[2] ICANN Address Supporting Organization (ASO) MoU
<http://aso.icann.org/documents/memorandum-of-understanding/index.html>

[3] Global Policy for the Allocation of the Remaining IPv4 Address Space
<http://www.icann.org/en/general/allocation-remaining-ipv4-space.htm>

[4] Policy for Allocation of IPv4 Blocks to Regional Internet Registries <http://aso.icann.org/wp-content/uploads/2009/09/aso-001-2.pdf>

ADDITIONAL INFORMATION:

Timetable:

Immediate

Working Group:

Related Previous Proposals:

References:

Changelog:

The changes included are fairly minor and reflect requests made in various regions. Apologies if the formatting is off a tad.

The specific changes are all to one sentence in section 4 RIR Eligibility for Receiving Allocations from the Reclamation Pool:

"Exhaustion is defined as an inventory of less than the equivalent of a single /8 and the inability to further assign address space to its customers in units equal to or shorter than the longest of any RIR's policy defined minimum allocation unit."

Was changed to:

"An RIR is considered at exhaustion when the inventory is less than the equivalent of a single /8 and is unable to further allocate or assign address space to its customers in units equal to or shorter than the longest of that RIR's policy defined minimum allocation unit."

Again, the primary reason for this change is to align the text globally, to make the work of the ASO easier.