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IPv4 Maintenance Policy

1. Introduction

On 3 February 2011, the Internet Assigned Numbers Authority (IANA) allocated the last five /8s from its free pool of IPv4 addresses equally to the five Regional Internet Registries (RIRs). At some point in the near future, the RIPE NCC's pool of available IPv4 addresses will also reach exhaustion. When this happens, there will still be a need to maintain IPv4 address space in the RIPE Registry, as IPv4 will still be used on the Internet for the foreseeable future.

The RIPE community has developed many IPv4 address space allocation and assignment policies in the RIPE NCC service region over the years. When the RIPE NCC no longer has IPv4 address space to allocate or assign, many of these existing policies will become outdated and/or irrelevant.

This document consolidates IPv4 address policies after the depletion of the RIPE NCC pool and defines how IPv4 address space will be maintained in the RIPE Registry. This policy will come into effect once the address pool depletion forces the RIPE NCC to make allocations from the final /8, 185/8.

2. Scope

This policy covers all IPv4 address space administered by the RIPE NCC, including legacy space. The RIPE NCC and all IPv4 Resource Holders must follow this policy.

IPv4 address maintenance is necessary to ensure that the RIPE Registry is kept up-do-date, accurate and correct. This is necessary to ensure uniqueness and to provide Internet troubleshooting support at all levels.

3. Contractual Relationships in the RIPE NCC Service Region

There are two types of contracts covering the maintenance of IPv4 address space registrations in the RIPE NCC service region:

- Standard Service Agreement (SSA): signed by RIPE NCC members
- End User contract with sponsoring LIR: signed between an End User and an existing LIR over Provider Independent (PI) resources

4. IPv4 Registration Maintenance

Resource Holders are required to keep their data in the Registry up-to-date, accurate and correct.

Only data registered in the RIPE Registry is considered valid. The registration of objects in the

Registry is the final step in registering resources with the RIPE NCC. Registration data must be correct at all times.

The RIPE Registry contains a set of registration data for all Internet number resources administered by the RIPE NCC. Information must include:

- The Internet number resource or range of Internet number resources
- Status of Internet number resource. This is one of:
  - Allocated
  - Legacy
  - Unallocated
  - Reserved
- Date of last update or check

In case the Status is either "Allocated" or "Legacy", the following information is also mandatory:

- Full legal name of Resource Holder
- Full address of Resource Holder
- Contact information for matters of an administrative nature, and for matters of a technical nature. This information consists of an email address and a telephone number.

If the status is "Reserved", the reason for the reservation must be noted in the RIPE Registry, for instance a reference to a RIPE policy document or RFC.

5. Transfers of Allocations

Any Resource Holder is allowed to transfer all or part of the address space they hold to another entity. The entity that receives any transferred resources must have a contractual relationship with either the RIPE NCC or a sponsoring LIR.

Any change to the full legal name that a resource is registered to is considered to be a transfer. This includes: a transfer of Internet number resources from one entity to another, one entity taking over another entity, and a name change of the Resource Holder.

The transfer will be documented in the RIPE Registry. A transfer can be permanent or temporary. The transferring Resource Holder is responsible for the transferred Internet number resources until the transfer to the receiving Resource Holder is completed. In the case that the registration data is incorrect, the transferring Resource Holder must provide documentation that proves that they legitimately hold the resources before the transfer can be completed.

Transferred Internet number resources must be used by the receiving Resource Holder according to the policies defined by the RIPE community in the RIPE NCC service region.

6. Allocations from the Last /8

When the RIPE NCC reaches its final /8, the following policies will come into effect in order to ensure that new members have the ability to obtain IPv4 address space:

Members applying for IPv4 address space will receive an available allocation according to the following:

a. Members may only receive one allocation from this /8. The size of the allocation made under this policy will be exactly one /22.

b. Allocations will only be made to Members if they have already received an IPv6 allocation from another Member or the RIPE NCC.

Any address space that is returned to the RIPE NCC will be covered by the same rules as the address space in the final /8 unless that address space is intended to be returned to IANA.

The minimum allocation sizes for the relevant /8 blocks will be updated if necessary.

In case an allocation of a single /22 can no longer be made, multiple allocations up to an equivalent of a /22 will be made to fulfil a request.

7. Unforeseen circumstances

A /16 will be held in reserve for some future uses, as yet unforeseen. The Internet is a dynamic technology and we cannot predict what might happen. Therefore, it is prudent to keep a /16 in reserve just in case some future requirement makes a demand of it.

8. Legacy space

Internet number resources distributed in the RIPE NCC service region by the Central Registry for the IANA before the RIPE NCC's was established as an RIR are known as "legacy space". After the RIPE NCC was established as an RIR, the IANA authorised it to take over the administrative responsibility of legacy space in the RIPE NCC service region.

Legacy Resource Holders have the following options available at any time:

- Become a RIPE NCC member and have access to all RIPE NCC member services.
- Bring legacy resources under a Sponsoring LIR
- Sign a contract with the RIPE NCC and receive the following Registration Services: the ability to update Resource Holder registration data, receive reverse delegation and certify their resources.
- Leave data as it is in the RIPE Registry. The Legacy Resource Holder will not be able to add to or alter their data and will not have access to any RIPE NCC services such as reverse delegation and certification.

When a range of legacy space is brought under contract and the Registry data has been brought up-to-date, the status of the block will be set to ALLOCATED.

9. Temporary Assignments

The RIPE NCC may reserve a pool of IPv4 address space for direct temporary assignments for requests that are short-term and based on specific and realistic expectations that are documented on the request form, such as: academic research and experimental purposes, conferences and other types of events which require network connectivity for short periods of time.

Academic research, experiments, deployment tests for new Internet services and technologies
The temporary assignment period will last for the duration of the project plus 14 calendar days and is not to exceed six months. The total utilisation rate should be no less than 25% within the first month of temporary assignment and no less than 50% following the first month.

Research projects may be assigned Internet number resources for up to one year under the following conditions:

- Research details are made public once the RIPE NCC assigns the Internet number resources
- Research results are available free-of-charge and free of disclosure restraints to the public

Conferences and events
The temporary assignment period will last for the duration of the event plus seven calendar days following the event and is not to exceed one month. The immediate IPv4 address utilisation rate should be no less than 50% of the total temporary assignment.

The End User must provide documentation or evidence supporting their request for a temporary assignment if requested by the RIPE NCC at any time.

IPv4 address space issued for temporary assignments must not be used for purposes other than those specified in the application and may be returned to the RIPE NCC at any time during the approved assignment period. The RIPE NCC will register the temporarily assigned Internet number resources, including the start and end dates of the assignment period, for each object in the RIPE Database.

The Internet number resources will be automatically de-registered and returned to the appropriate reservation pool at the end of the approved assignment period.

In exceptional circumstances, the RIPE NCC may extend a temporary assignment under its own discretion should the End User submit a detailed request for renewal. Should the RIPE NCC deny the request, the End User may file an appeal under the RIPE NCC Conflict Arbitration Procedure.

10. Terminology used in this document

Central Registry: The IPv4 address registry as it existed before the formation of the current RIR system.

Internet number resource: IPv4 addresses, IPv6 Addresses and Autonomous System Numbers.

Legacy space: Internet number resources distributed before the formation of the Regional Internet Registry (RIR) system.

Legacy Resource Holder: An organisation or individual that received an Internet number resource allocation or assignment from the IANA's Central Registry prior to the formation of the Regional Internet Registry (RIR) system.

Member: A RIPE NCC member that runs a Local Internet Registry (LIR) that distributes IP addresses and Autonomous System Numbers (ASNs) to End Users. In this document, a "member" also refers to Contributors.

Resource Holder: An organisation or individual that has been allocated Internet number resources in the RIPE NCC service region.

RIPE Registry: A comprehensive record of all Internet number resources registered within the RIPE NCC service region.

Sponsoring LIR: An LIR that registers legacy space and maintains it in the RIPE Registry on behalf of an End User.

11. References

[ripe-508] Blokzijl, R., "The RIPE Registry", January 2011

12. Further Reading

[ripe-495] Blokzijl, R., Karrenberg, D., "Principles for Number Resource Registration Policies", July 2010