

IPv4 Inter-RIR Legacy Resource Transfers

IPv4 Inter-RIR Resource Transfers (Comprehensive Scope)

AFPUB-2019-v4-001-DRAFT01

AFPUB-2019-v4-002-DRAFT01



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Summary of the problem

- This proposal allows establishing the mechanism to allow transfers of **legacy** IPv4 resources to/from other regions and to align AFRINIC with a market that already exists and in which we are lagging behind, which is negative for the region.

Addressing the problem (I)

- All the other 4 regions have solved this problem: APNIC, ARIN, LACNIC & RIPE. **This allows to facilitate a dynamic in the market and by increasing the offer, reducing prices.**
- This **avoids new businesses can be established in the region.**
- The fact that there is no inter-RIR policy **does not prevent transfers "under the table"** and, therefore, assumes that there are resources from which the history of their **registration is lost**, which is one of the main functions of AFRINIC.
- The **deployment of IPv6 requires small blocks of IPv4 for transition mechanisms**, or significantly increase the costs thereof, and many AfriNIC entities could, therefore, be in serious disadvantage if they do not have access to a global market, as it is currently the case.

Addressing the problem (II)

- Two choices:

1) AFPUB-2019-v4-001-DRAFT01

Allows transfers only for **legacy resources**, as a result only with LACNIC and RIPE and with legacy resources from APNIC.

2) AFPUB-2019-v4-002-DRAFT01

Allows transfers with all the other RIRs.

- If both proposals reach consensus, 2 supersedes 1.

Proposed Text (I)

5.7 IPv4 Resources transfer within the AFRINIC Region

Like the other Regional Internet Registries, AFRINIC will soon exhaust its IPv4 pool. In order to meet the needs of late resource requestors, a transfer policy for IPv4 resources within the region is needed. The goal of this policy is to define conditions under which transfers must occur. The policy solves the issue of an African organization needing IPv4 number resources after the exhaustion of the AFRINIC IPv4 pool or when AFRINIC can no longer satisfy the needs of such an organization.

5.7.1 Summary of the policy

This policy applies to an organization with justified need for IPv4 resources that cannot be satisfied by AFRINIC.

5.7.2 IPv4 resources to be transferred - must be from an existing AFRINIC member's account or from a Legacy Resource Holder in the AFRINIC service region.

5.7 IPv4 Resources transfers

This policy applies to an organization with justified need, for IPv4 resources that cannot be satisfied by AFRINIC.

5.7.1 Recognized transfer types

Two types of transfers are recognized:

- a. Intra-RIR. Both parties are within the AFRINIC service region.
- b. Inter-RIR. One of the parties is within the AFRINIC service region, while the other is in another RIR service region.

In the Inter-RIR case, if the source of the resources is located in AFRINIC and the destination is another RIR, only legacy resources can be transferred.

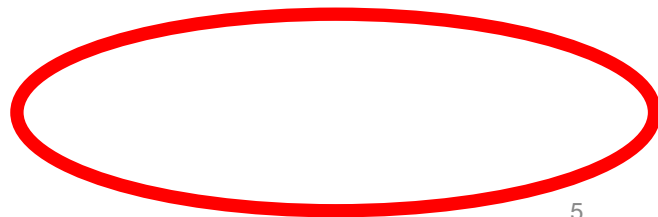
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Proposed Text (II)

5.7.3. Conditions on the source of the transfer

5.7.3.1 The source must be the current rightful holder of the IPv4 address resources recognized by AFRINIC, and not be involved in any dispute as to the status of those resources.

5.7.3.2 Source entities will not be eligible to receive any further IPv4 address allocations or assignments from AFRINIC for a period of 12 months after a transfer approval.

5.7.3.3 Source entities must not have received a transfer, allocation, or assignment of IPv4 number resources from AFRINIC for the 12 months prior to the approval of transfer request. This restriction excludes mergers and acquisitions transfers.

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Proposed Text (III)

5.7.4. Conditions on the recipient of the transfer

5.7.4.1 AFRINIC must approve the recipient's need for the IPv4 number resources. In order for an organization to qualify for receiving a transfer, it must first go through the process of justifying its IPv4 resource needs before AFRINIC. That is to say, the organization must justify and demonstrate before AFRINIC its initial/additional allocation/assignment usage, as applicable, according to the policies in force.

5.7.4.2 The recipient must be an AFRINIC member, subject to current AFRINIC policies and must sign the Registration Services Agreement for resources being received.

5.7.3 Conditions on the recipient of the transfer

5.7.3.1 For an organization within the AFRINIC service region, AFRINIC must approve the recipient's need for the IPv4 number resources, following existing relevant policies.

5.7.3.2 For an organization in another RIR service region the relevant criterion will depend on the relevant policies in the destination RIR.

5.7.3.3 The recipient must be a member of the relevant RIR, subjected to its policies and legal documents/service agreements.

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Proposed Text (IV)

5.7.4.3 Transferred IPv4 legacy resources will no longer be regarded as legacy resources.

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- **In the case of intra-RIR transfers.**
- **In the case of inter-RIR, when incoming to AFRINIC service region.**

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References

- There are equivalent Inter-RIR policies in APNIC, ARIN, LACNIC and RIPE, which have widely demonstrated their effectiveness and have not presented problems to the respective communities, quite the contrary.
- According to **evidence**, ARIN is the origin of the transfer of the **largest** number of addresses to the other regions.
 - <https://www.nro.net/wp-content/uploads/NRO-Statistics-2019-Q1.pdf>
 - <https://www.lacnic.net/innovaportal/file/3277/1/2-john-sweeting-arin.pdf>

IANA Registered Legacy

Number of Legacy /8's

- AFRINIC: 2
- APNIC: 6
- ARIN: 75
- LACNIC: 1
- RIPE: 8

Source:

<https://www.iana.org/assignments/ipv4-address-space/ipv4-address-space.xhtml>

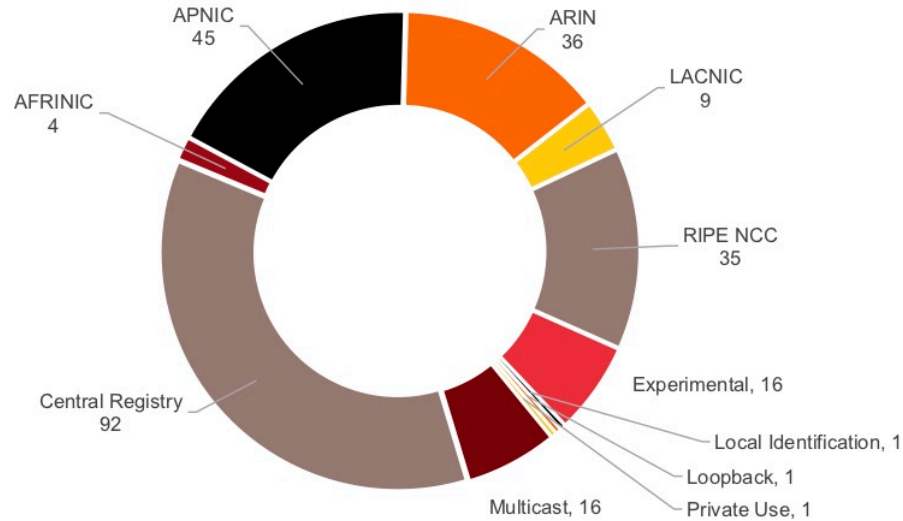
Actual Stats (I)

Internet number resource status report

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All IPv4 Address Space

Distribution of the 256 /8s



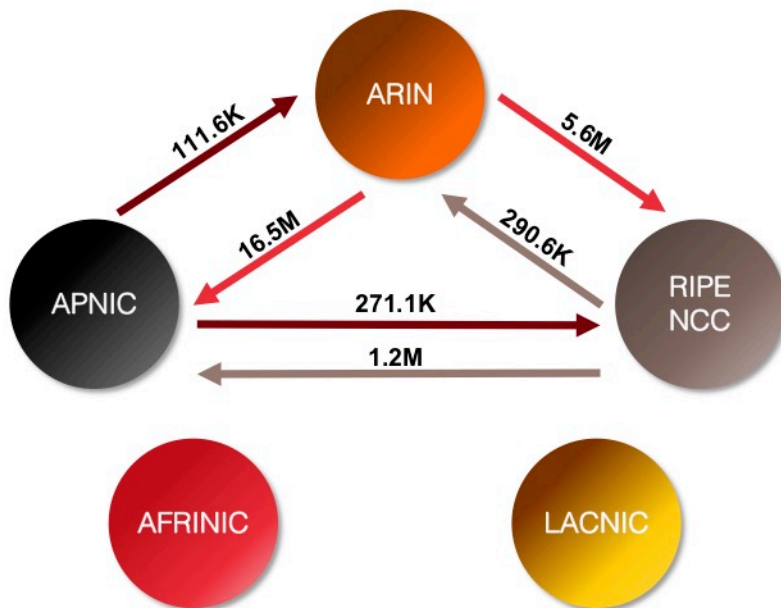
Actual Stats (II)

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Inter-RIR IPv4 Transfers

Total number of IPv4 addresses transferred between RIRs



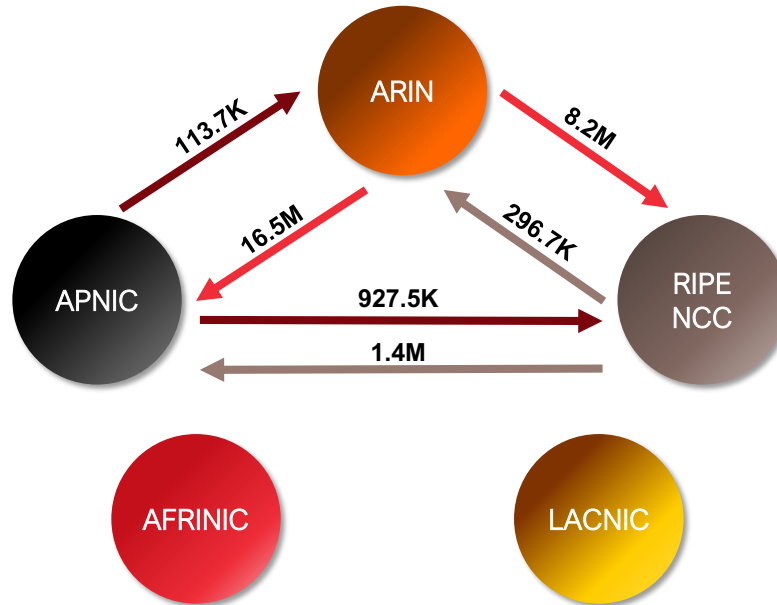
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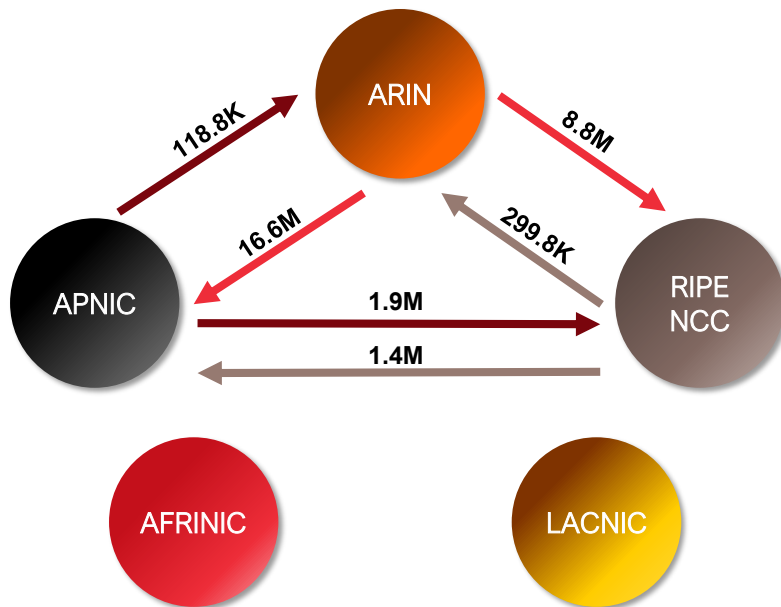
Actual Stats (II)

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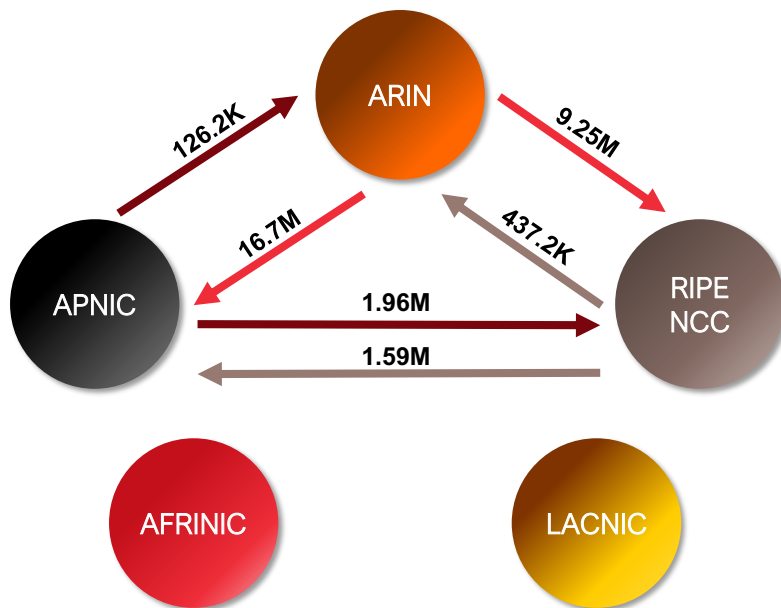
Actual Stats (II)

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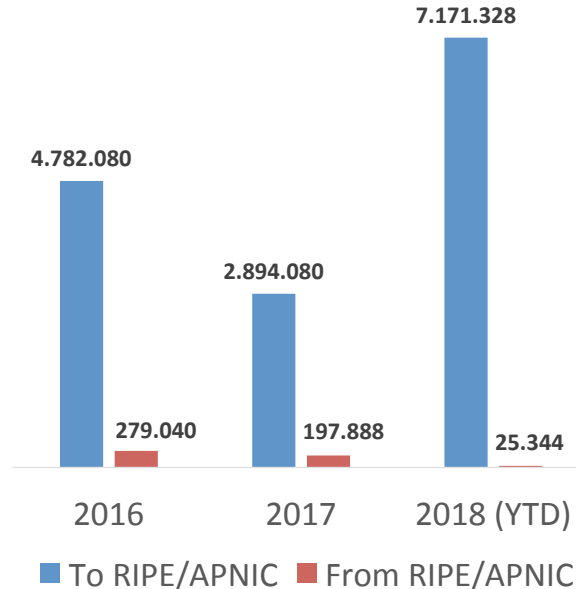
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Actual Stats (III)

Inter-RIR Transfer Volume



- From ARIN: 14,847,488
- To ARIN: 502,272
- ~30 times more space transferred from ARIN
- Expectation is that this will continue since ARIN has the majority of legacy space

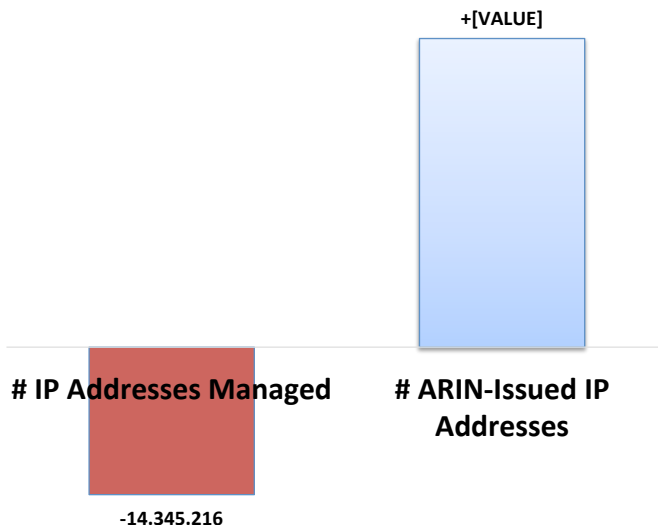
Actual Stats (IV)



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Transfers Benefit Everyone

Net Change 2016-2018 (IP Addresses)



- Overall space managed by ARIN **decreased by ~14 million IPv4 addresses** from 2016 to present due to inter-RIR transfers
- Overall ARIN issued space **increased by ~30 million IPv4 addresses** due primarily to conversion of legacy space via in-region transfers
- Win-win!