LARUS Foundation Fellowship Programme

Education Package
For AFRINIC Number Resources Proposals

Internet Number Resources Review by AFRINIC (Draft 7)

I. Who proposed this?
1. Amelina A. A. Arnaud, AUF/TogoRER
2. Jean-Baptiste Millogo, Orange Burkina
3. Marcus ADOMEY, University of Ghana

II. What is the problem?
As Internet Number resources are finite, their allocation is based on the operational needs of end-users and Internet Services Providers. However, the author argues that due to the lack of investigation and regular control, this may lead to inefficient usage of the Internet Number resources, to stockpiling and other type of abuses.

III. How can this proposal address this problem?
In order to ensure efficient and appropriate use of resources, AFRINIC shall conduct regular reviews of resource utilization held by its members. This would allow recovery of any type of resource, where usage is not in compliance with the RSA. Those resources can be reallocated for better usage.

IV. What are the potential pros and cons?
[Below is a short summary of the pros and cons discussed by participants of the RPD list and on AFRINIC meetings. You can take a look at the RPD list and youtube if you want to know more about them.]

Pros
-Detect usage which is not in compliance with the RSA

Cons
-AFRINIC does not have enough funds to conduct reviews fairly and transparently without relying on external help. Hence, there is a potential risk that accusations may be made unjustly due to economic and political factors.

-This may lead to the possibility of end-users losing their network during the conduction of the review if their ISP is found to have violated the rules. However, shall end-users suffer this consequence even they have no idea what is going on with the whole thing? Shall end-user suffer the consequences for the ISP? How substantial can the impact be accordingly?

- The process should be documented which allows the community to be fully aware of the consequences of such an act.

- The policy and process is not well detailed.

- There have been continuous disagreements among the community regarding the policy. However, the authors of this policy have continued to avoid them.

- What is included in this proposal has already by and large been covered by the LIR agreement. There no necessity to have the current proposal accordingly.

- In a certain sense, the proposal doesn't treat every member fairly if they conduct review certain members. The fundamental value of fairness is ignored.

- There may be the potential problem regarding the abuse of the complaint process as a DOS attack on large corporations.

-The proposal is unnecessary as the useful portions are already enshrined in existing policy and the RSA.

- The term "annual meaningful report" is not clearly defined. The word "meaningful" carries a number of possible interpretations. It is misleading.

- Without a complete review by AFRINIC staff, there is no guarantee for a satisfactory outcome. It may thus just be a waste of resources and money for both AFRINIC and the community.

- AFRINIC staff cannot reject a review where the evidence supported does not justify one. Since the policy does not give the discretion to reject or ignore auspicious sworn complaint, and AFRINIC staff can insist upon a sworn submission of the complaint and evidence, there is a potential problem of abuse.

- The policy has a number of grammatical and structural mistakes. For example, the numbering the paragraph outside of the actual policy being coincident with the numbering of the paragraphs in the proposal should be eliminated. It should be clear and unambiguous which text is intended to be applied to the policy manual and which is metadata for the proposal.

- The term "priority is given" is undefined. This may cause problems for further discussion.

-The intended fraction of members to be reviewed in any given period in 13.3.1 is not defined. How many reviews do AFRINIC expect to conduct per year, 5, 50 or 500?

- What shall AFRINIC do if additional complaints appear when a company is already conducting a review on it?

-In 13.3.3, the "24-month exemption "is confusing given that the idea of "full review completed" is vague and this opens up the space for abuse.

- The policy does not define well what is a "full vs partial "review.

V. Reference link:
https://afrinic.net/policy/2016-gen-001-d7#proposal

AFRINIC Policy Development Process Bis (AFPUB-2017-GEN-002)

I. Who proposed this?
1. Komi Abel Elitcha
2. Arnaud A.A> Amelina
3. Honest Ornella Gankpa
4. Alain P. Aina

II. What is the problem?
Policies for managing IP number resources in the AFRINIC service region are created through a Policy Development Process which describes the steps through which policy proposals are submitted, considered, debated and adopted.

   a. The current consolidated policy manual 2016 does not have provision for proposal adoption, which induces duplication of proposals dealing with the same problem, lack of clarity of problem statements and proposal out of the scope of the PDP. It also does not define a clear method for moving proposals forward.
   b. The consensus process for decision making is not defined, opening doors for interpretations and inactions.
   c. The current PDP does not have provision for board adopting policies as per section 11.4 of the AFRINIC constitution in the varying of the process

III. What are the potential pros and cons?
[Below is a short summary of the discussion by participants of the RPD list and on AFRINIC meetings. You can take a look at the RPD list and youtube if you want to know more about them.]

1.
"The complexity of the suggested process will decrease participation.

The main problems that we are trying to solve, in my opinion is: lack of a good and comprehensive definition of consensuslack of a good definition of what is for (and not for) the last call lack of participation

lack of mailing list as part of the consensus, clearly defined simplify the PDP, make it shorter in terms of timing." – Jordi Palet Martinez

2.

"It's difficult to make it perfect the first round. What we have now it's good enough. "– Marcus K. G. Adomey

3.

"Other policies are simply way out and should be still-born - such as the PDP-BIS proposal, which destroys a number of the qualities of how the PDP currently runs. "— Mark Elkins

4.

"-Start with the current PDP- Incoporate the consensus section of your proposal (3.4.0)- Edit the current PDP to allow consensus to abandon a proposal - That will just require adding option to reject/support a proposal in section 3.4 ofthe CPM" - Seun Ojedeji

5.

"It should be withdrawn. The current process is fine. "— Noah

6.

"There should be more filtering on proposals as the current process seems encumbered with too many vague areas that in turn either stall the process or consequently end up discussing matters that aren't core to the function of AfRINIC or waste time. "- Ismail Settenda

7.

"The intent is to work withcommunity to design an updated PDP which takes into consideration the lessons learned from the past 7 years' experience with the current process.

In PDP-bis, proposals follow well defined steps, and mature, before getting to PPM for Rough Consensus. Rough consensus is achieved after major objections and/or minor objections are resolved/addressed by working group as proposals progress.

With PDP-bis, once a proposal is adopted by the working group, the initiators grant all rights to the community and the proposal becomes community document.

Unfortunately, the current PDP doesn't mandate co-chairs to moderate debate on the rpd list. "- Ornella GANKPA

8.

"It weakens our PDP and as a result our community. "- McTim

9.

"It's not needed for now. We are doing well so far with the current style (co-chairs) for so many reasons. This type of collaborative work has proved to work not only here but in so many other avenues where i am involved." - Arsène Tungali

10.

"Current PDP is not explicit about the administrative functions performed by the co-chairs and does not provide them with appropriate mechanisms to manage the PDWG and the policy proposals works,

efficiently." - Abel ELITCHA

11.

"The complexity of the suggested process will decrease participation.

The main problems:Lack of a good and comprehensive definition of consensus (Incomplete and Erroneous) Consensus determined only in the meeting (there is no timing for the discussion in the list) Contradictory, consensus is not unanimityComplex and unnecessary phases statedLack of a good definition of what is for (and not for) the last call in the Concluding phaseLack of participationLack of mailing list as part of the consensus, clearly definedEnd of discussion phase brings subjective documentation of the process, biasing the community

Opinions:Simplify the PDP, make it shorter in terms of timingThe distinction among minor and major objections doesn't make senseLeave the chairs to decide as community need to trust themThe PDP can't avoid having competing proposals,The WG should not decide against a policy proposal if is in scope of the PDP (so adoption phase doesn't apply)Impact analysis should include "more" and not bias the communityThe implementation timing is up to the staff and should be informed in the impact analysisDoesn't need 3 individuals' approval for an appeal

The PDP, to be able to work, needs a lot of proactivity from all the community members, and that include authors. "- Jordi Palet Martinez

12.

"This proposal addresses the issues by referring to best practices from IETF and the PDP of other RIRs. It's difficult to make it perfect the first round. What we have now it's good enough." - Marcus K. G. Adomey

13.

"we should also look into the capabilities of the candidates." - Badru Ntege

IV. Reference link:
https://afrinic.net/policy/2017-gen-002

Multihoming not required for ASN

I. Who proposed this?
1. Jordi Palet Martinez at the IPV6 Company

II. What is the problem?
The ASN assignment policy is considered by the author as outdated. There are two factors: 1. Reliability of networks. 2. The deployment of IPv6.

First of all, when the policy was first designed, the reliability of networks was not as good as today. However, as situation changed, it doesn't make sense any more to ensure that an ASN holder to be muiltihomed. For example, in some cases, some networks may require an ASN while not willing to be multihomed because of the cost of remote locations that have only one single upstream while their SLA requirements don't need that redundancy.

The second factor is the deployment of IPv6 also increased the need for organizations which are not ISPs, to obtain IPv6 PI in order to have stable addresses, and in that situation, ideally, they should announce their PI space with their own ASN. In most cases, they don't have to be multihomed.

III. How can this proposal address this problem?
In addition to tidying up the actual text, as there are some repetitions in the CPM Section 7 (ASN), the proposed text ensures that organizations which have their own routing policy and need to interconnect with other organizations, can actually do it.
[*"Interconnect" is used here with the commonly understood meaning of establishing a connection between two (administratively) separate networks.*]

IV. What are the potential pros and cons?
[*Below is a short summary of the pros and cons discussed by participants of the RPD list and on AFRINIC meetings. You can take a look at the RPD list and youtube if you want to know more about them.*]
Pros
-It can ensure that organization which have their own routing policy and need to interconnect with organization can actually do so accordingly.
- Peering will become easier if there are more end points given the condition that more ASNs can be distributed to small ISPs.

Cons
-This can lead to an increase in the consumption rate of ASNs given the new looser requirements

V. Reference link:
https://afrinic.net/policy/2019-asn-d1#proposal

Clarification on temporary resource usage

I. Who proposed this?

1. Manga Willy Ted

II. What is the problem?

With IPv4 exhaustion coming, IPv4 resource assignments need better management because of scarcity. For instance, what happens if some entities request a /20 worth of IPv4 for temporary usage during soft landing phase 2? With current IPv6 evolution, we think entities requesting temporary resources should deploy more IPv6 prefixes than IPv4 prefixes.

III. How can this proposal address this problem?

This proposal aims to restrict the size of IPv4 resource requests for temporary use such as conferences and meetings and in addition, encourages IPv6 usage for those purposes. We believe that IPv6 is now mature enough to be deployed for this kind of usage.

Any IPv4 space requested for temporary usage should not be more than /22 - especially for meetings and events. The requesting entity should use IPv6-only on their networks and deploy IPv4 at the edge of the network using an IPv6 transition mechanism.

Lastly, we believe the title of this section of the CPM should reflect exactly the fact that we are dealing with assignments only and not allocations too.

III. What are the potential pros and cons?

[Below is a short summary of the pros and cons discussed by participants of the RPD list and on AFRINIC meetings. You can take a look at the RPD list and youtube if you want to know more about them.]

Pros
-Encourages the use and promotion of IPv6

Cons
-The proposal is impractical when considering that the stipulated /22 is not even enough for some known events such as ICANN meetings, AFNOS/AIS. The operation of these events may be adversely affected.
-There is no guarantee that IPv4 requests for temporary will be satisfied after phase 2 of IPv4 exhaustion as there is no specific block reserved for this purpose.

IV. Reference link:

https://afrinic.net/policy/2018-gen-004-d1#proposal

Abuse Contact Policy Update

I. Who proposed this?

1. Jordi Palet Martinez at the IPV6 Company

II. What is the problem?

The current policy doesn't imply the obligation to register an abuse contact and specifics a format for personal communication and for "automatic reporting" which leads to inefficiency and confusion. For example, a single email will be more efficient if the reports get copied to both emails.

Some LIRs may not have this contact information registered and updated which makes it ineffective to report abuses and creates security issues.

III. How can this proposal address this problem?

This proposal creates a new section in the Policy Manual to solve this problem by means of a simple, periodic verification, and establishes the basic rules for performing such verification and thus avoids unnecessary costs to third parties that need to contact the persons responsible for solving the abuses of a specific network.

The proposal guarantees that the cost of processing the abuse falls on the LIR whose client is causing the abuse (and from whom they receive financial compensation for the service), instead of falling on the victim, as would be the case if they had to resort to the courts, thus avoiding costs (lawyers, solicitors, etc.) and saving time for both parties.

IV. What are the potential pros and cons?

[Below is a short summary of the pros and cons discussed by participants of the RPD list and on AFRINIC meetings. You can take a look at the RPD list and youtube if you want to know more about them.]

Pros
-Ensures the existence of a proper and up-to-date abuse-c contact
-Ensure AFRINIC abuse contact can be in line with that of other RIRs

Cons
-1 attribute (abuse-c or mnt-irt) may be quiet enough. Thea additional section may itself lead to further confusion.

V. Reference link:

https://afrinic.net/policy/2018-gen-001-d2#proposal

Clarification on IPv6 Sub-Assignments v3

I. Who proposed this?

1. Jordi Palet Martinez at the IPV6 Company

II. What is the problem?

The author argues that because of the difference between IPv4 and IPv6, the use of IPv4 sub-assignments rules may not be completely suitable for IPv6.

When the policy was drafted, the concept of assignments/sub-assignments did not consider a practice very common in IPv4 which is replicated and even amplified in IPv6: the use of IP addresses for point-to-point links or VPNs.

In IPv4, typically, this is not a problem because the usage of NAT.

In the case of IPv6, instead of unique addresses, the use of unique prefixes (/64) is increasingly common.

Likewise, the policy failed to consider the use of IP addresses in hotspots (when is not an ISP, for example, associations or community networks), or the use of IP addresses by guests or employees in Bring Your Own Device (BYOD) and many other similar cases.

III. How can this proposal address this problem?

Section 2.6 (General Definitions/Assignment), explicitly prohibits such assignments, stating that "Assignments... are not to be sub-assigned to other parties".

This proposal clarifies this situation in this regard and better define the concept, particularly considering new uses of IPv6 (RFC 8273), by means of new text at the end of whatever text is available at the IPv6 PI assignments policy.

It also clarifies that the usage of sub-assignments in ISPs, data centers and similar cases is not allowed.

IV. What are the potential pros and cons?

[Below is a short summary of the pros and cons discussed by participants of the RPD list and on AFRINIC meetings. You can take a look at the RPD list and youtube if you want to know more about them.]

1.
"Clarifies the assignment rules and usage of sub-assignment in ISP regarding the use of IPv6" – Jordi Palet Martinez

2.
"Giving a single network interface a /64 is fair." – TheTunnelix

V. Reference link:

https://afrinic.net/policy/2018-v6-002-d3#proposal

About Proposal "Inter-RIR Resource Transfers"

I. Who proposed this?
1. Jordi Palet Martinez at the IPV6 Company

II. What is the problem?
Currently, the transfer of resources (IPv4, IPv6 and ASNs) is not entirely allowed in AFRINIC region to or from other regions.

III. How can this proposal address this problem?
This proposal allows establishing the mechanism to allow transfers of resources (IPv4, IPv6, ASNs) between 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.

IV. What are the potential pros and cons?
[Below is a short summary of the pros and cons discussed by participants of the RPD list and on AFRINIC meetings. You can take a look at the RPD list and youtube if you want to know more about them.]

Pros
-Improves the efficiency of transfer resources, which allow the growth of the Internet in AFRINIC region
-Allows AFRINIC to line up with other regions as inter-RIR resource transfer is generally possible in other regions
-Encourages the growth of small enterprises
-Can promote business with LIRs and the deployment of IPv6
-Potentially making a substantial profit within AFRINIC regions

Cons
-This policy has a number of limitations when comparing to the Inter RIR transfer policies of RIPE and ARIN. For example, it doesn't include any details regarding the criteria of the transfer (e.g. Does the transfer follow AFRINIC or the receiving region's policy? Or vice versa?). Its incomprehensiveness may lead to potential problems and disputes.

V. Reference link:
https://afrinic.net/policy/proposals/2018-gen-003

About Proposal "SL-Update"

I. Who proposed this?
1. Gregoire O. Ehoumi
2. Arnaud A. A. AMELINA
3. Adeola Alain Patrick AINA

II. What is the problem?
Section 5.4.7.1 of the soft landing policy reserved a /12 from the last /8 for some unforeseen future uses.

The following section(5.4.7.2) allows Board at its discretion and considering the demand and other factors at the time when AFRINIC can no longer meet any more request for address space from the last /8 or any other available address space, replenish the exhaustion pool with whatever address space (or part thereof), that may be available at the time and do this in a manner that is in the best interest of the community. Section 5.4.7.2 gives board sole authority to decide on how to use the reserved block to eventually replenish the exhaustion pool and determine the allocation/assignment rules.

Two problems arose from this:

- If no community-driven policy is adopted to determine how to use the reserved space before the exhaustion of the pool, board may act at its discretion with or without community involvement and consent.
- The community is in better position to determine what is in its best interest and this is better discussed through PDP.

III. What are the potential pros and cons?

[Below is a short summary of the discussion by participants of the RPD list and on AFRINIC meetings. You can take a look at the RPD list and youtube if you want to know more about them.]

1.
"There seems no policy under which in can be used." – Frank Habicht

2.

"The proposal seeks to address the usability conditions of the "unforseen future reserve". – Gregoire EHOUMI

IV. Reference link:
https://afrinic.net/policy/proposals/2018-v4-001