



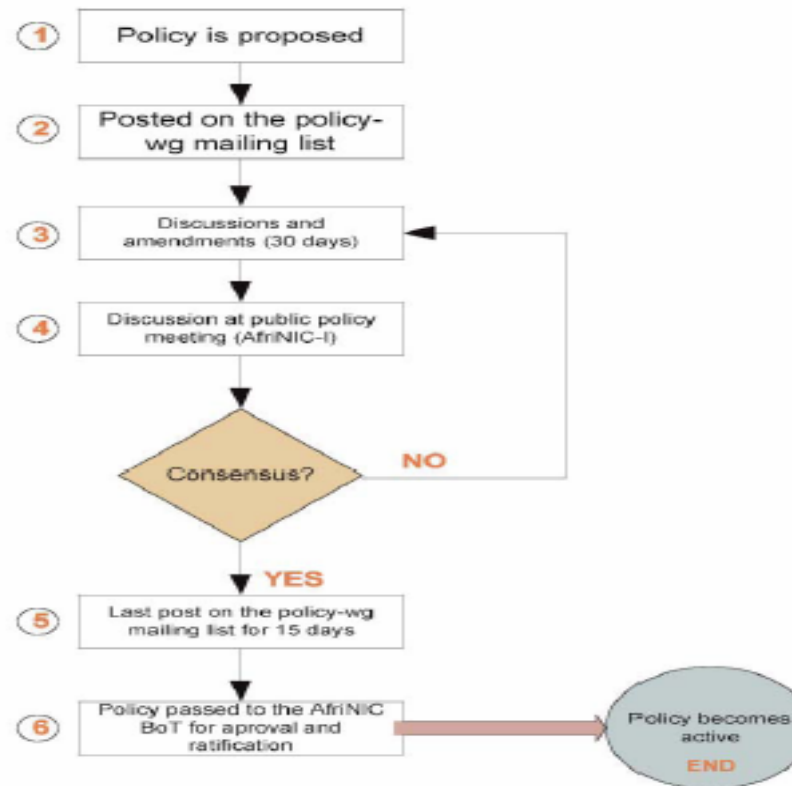
# AfriNIC

Africa  
Network  
Information  
Center

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## Proposed IPv4 Allocation Policies in the AfriNIC Region

## AfriNIC Policy development Process



## When posted?

- proposed by the AfrinIC Policy WG and posted to the policy-wg mailing list on 13/02/2004. (See <http://archives.afrinic.org/policy-wg/msg00021.html>)
- All comments received are available on the Policy Working Group Archive. see <http://archives.afrinic.org/policy-wg>
- Comments (mostly typos and style) were received from the community on the original proposal at <http://archives.afrinic.org/policy-wg/msg00021.html> .
- Input (mostly technical) was also received from other RIRs (RIPE NCC, APNIC, ARIN, LACNIC – based on their experience).
- Draft was then was then reworked based on most of these comments to the most current version, and posted to the policy-wg, see <http://archives.afrinic.org/policy-wg/msg00039.html> and the online draft of this document, also at:

<http://www.afrinic.net/policies/afpol-v4200401-draft01c.htm>

- (AfrinIC Policy Working Group list is open to the community – to join, send an email to [policy-wg-request@afrinic.org](mailto:policy-wg-request@afrinic.org) with “subscribe” in the subject line (without the quotes)).

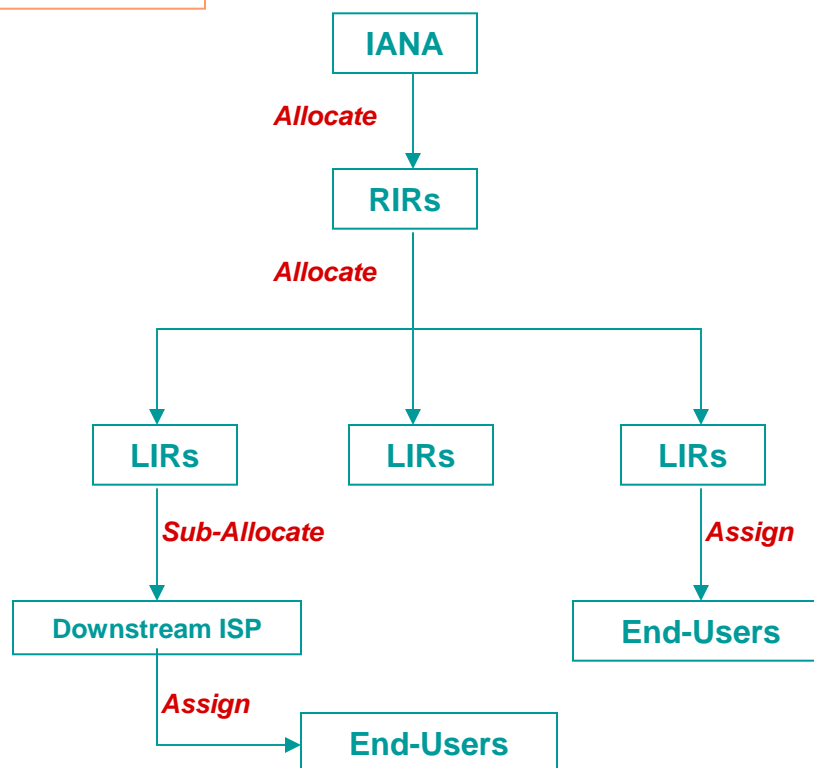
## A. Hierarchy of Address Space Distribution:

### Allocation/Assignment Procedure:

- AfriNIC allocates ranges of IPv4 addresses to LIRs.
- LIRs reassign or sub-allocate that space to end-users & downstream ISPs.

### Legend:

IANA – Internet Assigned Numbers' Authority  
RIR – Regional Internet Registry, e.g., ARIN  
LIR – Local Internet Registry, e.g., sn.sonatel



## Definitions of some concepts used in IPv4 address distribution in Africa Region:

- **Allocation:** Range of IPv4 addresses from which sub-allocations and assignments are made.
- **Assignment:** IP block given by an LIR to the end-users for their own usage.
- **Sub-Allocate:** Distributing IP address space by LIRs to ISPs for subsequent distribution by them. (the ISPs).
- **Sub-Allocation Window:** The max. number of IP addresses that LIR may sub-allocate to downstream ISPs without seeking approval from AfrinIC.
- **Provider Aggregetable (PA):** PA address space is assigned/sub-allocated by LIR to end-users/downstream ISPs.
- **Provider-Independent (PI):** assigned by AfrinIC (through LIRs) to end-users that, under particular circumstances, cannot renumber their networks if they decide to change upstream providers, eg,IXPs.

## Ipv4 Address Space Allocations

- **Allocations:** AfrinIC's minimum allocation to LIRs is /22 or 1024 IPv4 addresses.
  - requesting LIR must show an existing efficient utilization of IP addresses from their upstream provider.
  - Verification also based on current RIRs valid assignments.
- **Additional Allocation:** approved if LIR shows utilisation of at least 80% of the currently allocated IP blocks.
- Before additional alloc. is approved, checks will be done to ensure that previous assignments and sub allocs/assignments have been properly registered in whois db.

## Ipv4 Address Space Sub-Allocations

**Sub-Allocations:** To allow for a reasonable number of small assignments to be made by a downstream ISP, AfrinIC will set **the minimum size of a sub-allocation to /24** (256 IPs).

- ◆ LIR can sub-allocate to downstream ISPs without seeking approval from AfrinIC (if their SAW != 0).
- ◆ LIR cannot sub-allocate above its sub-allocation window (slide 3 for definition)
- ◆ LIRs may make sub-allocations to multiple downstream ISP's
- ◆ Sub-allocations form part of an LIR's aggregatable space. (LIR should ensure that IP space is not retained by the downstream ISP if connectivity ceases – that is, ***sub-allocations are 'non-portable'*** – (slide 2: PA address space)).
- ◆ **Assignments: LIRs** to make assignments directly and register them in whois db.

## Other allocation / assignment Considerations

- IP used to link end-users to ISPs (e.g., PPP links) are considered part of ISP infra.
- Immediate utilization to be  $\geq 25\%$  of the assigned space and after 1 yr,  $\geq 50\%$ .
- ISPs/end-users are not permitted to reserve address space (based on long term plans).
- **Renumbering:** replacement of IP addresses on a one-to-one basis. AfrinIC considers a period of three months as sufficient (in the AfrinIC region) for migrating a network from old to new IP space.
- **Assignments/Sub-Allocations** are invalid if it is not registered in the whois database (for public accessibility) and if the purpose for which they were registered has changed or no longer holds.

## The Sub-Allocation Window: (SAW)

- **SAW** : Max number of IPs LIR may sub-allocate to downstream ISPs without RIR approval.
  - ◆ Will be expressed in CIDR notation.
  - ◆ For all new LIRs, SAW == 0.
- The LIR may not make sub-allocations above the SAW to one end-user/downstream ISP in a 12 months period.
- AfrinIC may review the LIRs' SAW from day-to-day.
  - ◆ LIR may also seek a second opinion from AfrinIC even for a sub-allocation that could be made with their SAW if they chose.
- Before a SAW is raised:
  - ◆ All required documentation is normally presented.
  - ◆ Previous sub-allocation assignments from this sub-allocation are all registered in the database correctly.
  - ◆ Current SAW has not been misused/abused.

# Questions

