Explanation of Numbering Resources Policies

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Purpose

Provide an overview of ARIN number resource policy for:

* **IPv4 (Internet Protocol version 4)**
* **IPv6 (Internet Protocol version 6)**
* **ASN (Autonomous System Number)**

Terms

- Allocate – to ISPs (LIRs)
- Assign – to end-users
- Multi-homed – connectivity to more than one ISP and a prefix announced by at least two upstreams.

IPv4

1. Initial allocations to ISPs
2. Additional allocations to ISPs
3. Assignments to end-users
4. Policy for the African portion of the ARIN region

IPv4 – Initial Allocation to ISPs

	Minimum (3 month supply)	Criteria
Standard (not multi-homed)	/20	Use /20 from upstream(s)
Multi-homed	/22	Use /23 from upstream(s)

IPv4 – Additional Allocations to ISPs

✴ Basic Criteria

► **80% efficient use of most recent allocation**

► **Return space**

► **Three month supply (6 months if subscriber has been an ARIN member for longer than a year)**

IPv4 – Assignments to End-users

✴ **Criteria**

> ► **Utilization rate - 25% now and 50% within a year**

Minimum Assignment

Standard (not multi-homed)

/20

Multi-homed

/22

IPv4 – Policy for the African Portion of the ARIN Region

✴ ARIN to ISPs in Africa

▶ **Minimum allocation is a /22**

Criteria

Standard ISP (not multi-homed)	**Use /22 from upstream(s)**
Multi-homed ISP	**Use /23 from upstream(s)**

IPv6 – Initial Allocation

* **Minimum allocation is a /32**
* **Criteria**
  * ▶ **Be an LIR (an ISP)**
  * ▶ **Can not be an end-site**
  * ▶ **Plan to provide IPv6 connectivity to organizations and route the aggregate**
  * ▶ **Plan to make at least 200 /48 assignments to customers within two years**

IPv6 – Additional Allocation

✳ **Criteria - Uses the HD Ratio with .8 as the utilization threshold**

✳ **Example**

➤ **One /32 has 65,536 /48s**

➤ **7,132 /48s would have to be assigned in order to request more IP address space**

ASN

ASN (Autonomous System Number)

✸ **Issued based on current need**

✸ **Criteria**

► Be a multi-homed site, or

► Have a unique routing policy

Critical Infrastructure

Critical infrastructure (micro-allocations)

►Allows for /24s or /48s to critical infrastructure including exchange points and core DNS service providers.

►http://www.arin.net/policy/ipv4.html#microalloc

Links

* ARIN Policy
  http://www.arin.net/policy/index.html

* ARIN Registration Services
  http://www.arin.net/registration/index.html

Thank You