Draft Policy 2025-1: Clarify ISP and LIR Definitions and References to Address Ambiguity in NRPM Text

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2.4. Local Internet Registry (LIR)

A Local Internet Registry (LIR) is an IR that ~~primarily assigns IP addresses to the users of the network services that it provides. LIRs are generally Internet Service Providers (ISPs) whose customers are primarily end users and possibly other ISPs.~~ is a member of an RIR, receives allocations of internet numbers from that RIR, for allocation to its customers, end-users, and infrastructure, at a local level. LIRs include Internet Service Providers (ISPs) whose customers are primarily end users and possibly other ISPs. Historically in the ARIN service region "ISP" was used as an equivalent, albeit incomplete, term.

2.15. Provider Assignment Unit (IPv6)

When applied to IPv6 policies, the term "provider assignment unit" shall mean the prefix of the smallest block a given ~~ISP~~LIR assigns to end sites (recommended /48).

2.18 Internet Service Provider (ISP)   **NEW**

An Internet Service Provider (ISP) is a type of organization that provides Internet services to other organizations, its customers, and/or individuals other than its employees. Internet services include, but are not limited to, connectivity services, web services, colocation, dedicated servers, virtual private servers, and virtual private networks.

3.6.3. Organizations Covered by this Policy

This policy applies to every Organization that has Internet number resources issued by ARIN (or one of its predecessor registries) or a reallocation from an upstream ~~ISP~~LIR. This includes but is not limited to upstream ISPs and their downstream ISP customers (as defined by NRPM 2.5 and 2.6), but not reassignments made to their downstream end user customers.

4.2. Allocations to ~~ISP~~LIRs (Requirements for Requesting Initial Address Space)

4.2.1.1. Purpose

ARIN allocates blocks of IP addresses to ~~ISP~~LIRs for the purpose of reassigning and reallocating that space to their customers.

4.2.1.5. Minimum Allocation

In general, ARIN allocates /24 and larger IP address prefixes to ~~ISP~~LIRs. If allocations smaller than /24 are needed, ~~ISP~~LIRs should request address space from their upstream provider.

4.2.2. Initial Allocation to ~~ISP~~LIRs

All ~~ISP~~LIR organizations without any IPv4 addresses from ARIN automatically qualify for an initial allocation of a /24. ~~ISP~~LIRs providing a 24-month utilization plan for the request size specified may receive up to a /22. ~~ISP~~LIRs holding reallocations and/or reassignments must show the efficient utilization of their resources consistent with the requirements in sections 4.2.3 and 4.2.4.

4.2.3.1. Efficient Utilization

~~ISP~~LIRs are required to apply a utilization efficiency criterion in providing address space to their customers. To this end, ~~ISP~~LIRs should have documented justification available for each reassignment and reallocation. ARIN may request this justification at any time. If justification is not provided, future receipt of allocations may be impacted.

4.2.3.2. VLSM

To increase utilization efficiency of IPv4 address space, ~~ISP~~LIRs reassigning IP address space to their customers should require their customers to use variable length subnet mask (VLSM) and classless technologies (CIDR) within their networks. ~~ISP~~LIRs should issue blocks smaller than /24 wherever feasible.

4.2.3.3. Contiguous Blocks

IP addresses are allocated to ~~ISP~~LIRs in contiguous blocks, which should remain intact. Fragmentation of blocks is discouraged. To avoid fragmentation, ~~ISP~~LIRs are encouraged to require their customers to return address space if they change ~~ISP~~LIRs. Therefore, if a customer moves to another service provider or otherwise terminates a contract with an ~~ISP~~LIR, it is recommended that the customer return the network addresses to the ~~ISP~~LIR and renumber into the new provider's address space. The original ~~ISP~~LIR should allow sufficient time for the renumbering process to be completed before requiring the address space to be returned.

4.2.3.4. Downstream Customer Adherence

~~ISP~~LIRs must require their downstream customers to adhere to the following criteria:

4.2.3.4.1. Utilization

A downstream customer requesting address space from an upstream ~~ISP~~LIR must document a plan to the allocating ~~ISP~~LIR for their utilization to conform to Section 4.3.3. Reassignment and reallocation information for prior allocations must show that each customer meets the 80% utilization criteria and must be available via SWIP / a distributed service which meets the standards set forth in section 3.2 prior to issuing them additional space.

4.2.3.4.2. Downstream ~~ISP~~LIRs

Customers must follow ARIN policy for ~~ISP~~LIRs.

4.2.3.6. Reassignments to Multihomed Downstream Customers

If a downstream customer has a requirement to multihome, that requirement alone will serve as justification for a /24 allocation. Downstream customers must provide contact information for all of their upstream providers to the ~~ISP~~LIR from whom they are requesting a /24, and utilize a border routing protocol between the customer and the ISP. Customers may receive a /24 from only one of their upstream providers under this policy without providing additional justification. ~~ISP~~LIRs may demonstrate they have made an assignment to a downstream customer under this policy by supplying ARIN with the information they collected from the customer, as described above, or by identifying the AS number of the customer.

4.2.3.7. Registration

~~ISP~~LIRs are required to demonstrate efficient use of IP address space allocations by providing appropriate documentation, including but not limited to assignment histories, showing their efficient use.

4.2.3.8. Reassignments for Third Party Internet Access (TPIA) over Cable

IP addresses reassigned by an ~~ISP~~LIR to an incumbent cable operator for use with Third Party Internet Access (TPIA) will be counted as fully used once they are assigned to equipment by the underlying cable carrier provided they meet the following requirements:

4.2.4. ~~ISP~~LIR Additional Requests

4.2.4.1. Utilization Percentage (80%)

~~ISP~~LIRs must have efficiently utilized all allocations, in aggregate, to at least 80% and at least 50% of every allocation in order to receive additional space. This includes all space reassigned or reallocated to their customers.

4.2.4.3. Request Size

~~ISP~~LIRs may request up to a 24-month supply of IPv4 addresses.

6.5.1. Terminology

   a. The terms ISP and LIR ~~are used interchangeably in this document and any use of either term shall be construed to include both meanings.~~were previously used interchangeably in this section. Unless otherwise noted, the term ISP is treated as a subset of LIR.

6.5.2.1 Size

a. All allocations shall be made on nibble boundaries.

b. In no case shall an LIR receive smaller than a /32 unless theyspecifically request a /36 or /40. In order to be eligible for a /40, an ~~ISP~~LIR must meet the following requirements:

   - Hold IPv4 direct allocations totaling a /24 or less (to include zero)
- Hold IPv4 reassignments/reallocations totaling a /22 or less (to include zero)

   In no case shall an ~~ISP~~LIR receive more than a /16 initial allocation.

   g. An LIR that requests a smaller /36 or /40 allocation is entitled to

expand the allocation to any nibble aligned size up to /32 at any time without renumbering or additional justification. /40 allocations shall be automatically upgraded to /36 if at any time said LIR's IPv4 direct allocations exceed a /24. Expansions up to and including a /32 are not considered subsequent allocations, however any expansions beyond /32 are considered subsequent allocations and must conform to section 6.5.3. Partial returns of any IPv6 allocation that results in less than a /36 of holding are not permitted regardless of the ~~ISP~~LIR's current or former IPv4 address holdings.

6.5.2.2. Qualifications

An organization qualifies for an allocation under this policy if they meet any of the following criteria:

   a. Have a previously justified IPv4 ~~ISP~~ allocation from ARIN or one of its predecessor registries or can qualify for an IPv4 ~~ISP~~ allocation under current criteria.

6.5.4. Reassignments from LIRs~~/ISPs~~

6.5.5. Registration

~~ISP~~LIRs are required to demonstrate efficient use of IP address space allocations by providing appropriate documentation, including but not limited to reassignment and reallocation histories, showing their efficient use.

6.5.5.4. Registration Requested by Recipient

If the downstream recipient of a static assignment of /64 or more addresses requests publishing of that assignment in ARIN's registration database, the ~~ISP~~LIR shall register that assignment as described in section 6.5.5.1.

6.5.8.1. Initial Assignment Criteria

   f. By providing a reasonable technical justification indicating why IPv6 addresses from an ~~ISP or other~~ LIR are unsuitable.