

Draft Policy ARIN-2025-1:

Clarify ISP and LIR Definitions and References to Address Ambiguity in NRPM Text

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Problem Statement

Current Text (12 September 2025)

Section 2.4 of the NRPM defines an LIR but does not explicitly define an ISP. An ISP is defined in the context of an LIR, but the explicit definition is otherwise assumed.

Through implication and in common business practice, all ISPs are LIRs, but not all LIRs are ISPs.

This proposal adds clarity by creating an explicit definition for ISP, clarifying the historical and out-of-region usage for the term LIR, and replaces LIR with ISP throughout the NRPM as appropriate.

Policy Statement



Add Internet Service Provider definition:

Remove the word “primarily” from the definition of LIR and add usage clarification:

FROM:

2.4. Local Internet Registry (LIR)

A Local Internet Registry (LIR) is **primarily** an IR that 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.

TO:

2.4. Local Internet Registry (LIR)

A Local Internet Registry (LIR) is an IR that 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. While LIR has been historically referenced in policies for ease of comparing other region’s policies, LIR is not used in the ARIN service region; ISP is the equivalent term.

Policy Statement (cont.)



Replace Section 6.5.1a

Original Text: "The terms ISP and LIR are used interchangeably in this document and any use of either term shall be construed to include both meanings."

New Text: "[Retired]"

Policy Statement (cont.)



Remove all references in section 6.5 of LIR where appropriate:

Amend Section 6.5.2 to replace LIR with ISP, 12 in total

6.5.2. Initial Allocation to **ISPs**

Policy Statement (cont.)



6.5.2.1. Size

1. All allocations shall be made on nibble boundaries.
2. In no case shall an **ISPs** receive smaller than a /32 unless they specifically request a /36 or /40. In order to be eligible for a /40, an ISPs must meet the following requirements:
 1. Hold IPv4 direct allocations totaling a /24 or less (to include zero)
 2. Hold IPv4 reassignments/reallocations totaling a /22 or less (to include zero)In no case shall an ISPs receive more than a /16 initial allocation.
3. The maximum allowable allocation shall be the smallest nibble-boundary aligned block that can provide an equally sized nibble-boundary aligned block to each of the requesters serving sites large enough to satisfy the needs of the requesters largest single serving site using no more than 75% of the available addresses. This calculation can be summarized as $/N$ where $N = P - (X + Y)$ and P is the organization's Provider Allocation Unit X is a multiple of 4 greater than $4/3^*$ serving sites and Y is a multiple of 4 greater than $4/3^*$ end sites served by largest serving site.

Policy Statement (cont.)



4. For purposes of the calculation in (c), an end site which can justify more than a /48 under the end-user assignment criteria in 6.5.8 shall count as the appropriate number of /48s that would be assigned under that policy.
5. For purposes of the calculation in (c), an **ISP** which has subordinate **ISPs** shall make such reallocations according to the same policies and criteria as ARIN. In such a case, the prefixes necessary for such a reallocation should be treated as fully utilized in determining the block sizing for the parent **ISP**. **ISPs** which do not receive resources directly from ARIN will not be able to make such reallocations to subordinate **ISPs** and subordinate **ISPs** which need more than a /32 shall apply directly to ARIN.
6. An **ISP** is not required to design or deploy their network according to this structure. It is strictly a mechanism to determine the largest IP address block to which the **ISPs** is entitled.
7. An **ISP** 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 **ISP'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's current or former IPv4 address holdings.

Policy Statement (cont.)



Amend Section 6.5.3 to replace LIR with ISP in 4 locations:

6.5.3. Subsequent Allocations to **ISPs**

Where possible ARIN will make subsequent allocations by expanding the existing allocation.

An **ISP** qualifies for a subsequent allocation if they meet any of the following criteria:

- Shows utilization of 75% or more of their total address space
- Shows utilization of more than 90% of any serving site
- Has allocated more than 90% of their total address space to serving sites, with the block size allocated to each serving site being justified based on the criteria specified in section 6.5.2

If ARIN can not expand one or more existing allocations, ARIN shall make a new allocation based on the initial allocation criteria above. The **ISP** is encouraged, but not required to renumber into the new allocation over time and return any allocations no longer in use.

If an **ISP** has already reached a /12 or more, ARIN will allocate a single additional /12 rather than continue expanding nibble boundaries.

Policy Statement (cont.)



Amend Section 6.5.4.1 to replace LIR with ISP in 1 location:

6.5.4.1. Reassignment to Operator's Infrastructure

An **ISP** may reassign up to a /48 per PoP as well as up to an additional /48 globally for its own infrastructure.

Amend Section 6.5.7 to replace LIR with ISP in 1 location:

6.5.7. Existing IPv6 Address Space Holders

ISPs which received an allocation under previous policies which is smaller than what they are entitled to under this policy may receive a new initial allocation under this policy. If possible, ARIN will expand their existing allocation.

Policy Statement (cont.)



Amend Section 6.5.8 to remove “or other LIR” in 2 locations

6.5.8.1. Initial Assignment Criteria

FROM:

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

TO:

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

Policy Statement (cont.)



FROM:

Examples of justifications for why addresses from an ISP or other LIR may be unsuitable include, but are not limited to:

TO:

Examples of justifications for why addresses from an ISP may be unsuitable include, but are not limited to:

Timetable for Implementation: Immediate.

History



Action	Date
Proposal	8 January 2025
Draft Policy	29 January 2025
Revised	19 March 2025
Revised	27 March 2025
Revised	12 September 2025

Policy Impact

- Changing LIR to ISP
 - Impacts sections 2 and 6
 - 22 instances of "LIR"
 - Aligns with existing practices and external materials
- Changing ISP to LIR
 - Impacts sections 2, 3, 4, and 6
 - 58 instances of "ISP"
 - Requires training, external-material updates
 - Potential for a submitted ARIN Suggestion (via ACSP) to align internal business with new policy

Community Feedback



- Current proposal is based on feedback received during ARIN 55 to not use "LIR/ISP" as a conjoined term.
- Public Policy Mailing List comments appear to be split between LIR and ISP, with those folk participating more in the global RIR community leaning toward LIR.
- Majority of ARIN internal documentation, workflow, and educational material uses ISP.
- ARIN IP request workflow uses LIR/ISP as an equivalent term.
- NRPM Section 6 also notes LIR and ISP as equivalent

Definition Comparison



- **ARIN Online IP Request Workflow Definition:**

- An LIR/ISP (Local Internet Registry or Internet Service Provider) is an 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 hosting services, colocation, dedicated servers, virtual private servers, and virtual private networks.

- **NRPM (2025.1) Definition:**

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.

- **Current Policy Definition:**

A Local Internet Registry (LIR) is an IR that 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. While LIR has been historically referenced in policies for ease of comparing other region's policies, LIR is not used in the ARIN service region; ISP is the equivalent term.

Questions for the Community

Do you support continued work on this policy?



- Whether as currently written
- ...or with different definitions for LIR and ISP
- ...or with other minor changes

Questions for the Community



**Do you support continued
work on Draft Policy ARIN 2025-1?**