

Recommended Draft Policy ARIN-2024-5: Rewrite of NRPM Section 4.4 Micro-Allocation

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Problem Statement

Current Text (7 July 2025)

The current NRPM Section 4.4 language hasn't aged well. As the ARIN 53 policy experience report demonstrated, 4.4 has also become difficult to implement by ARIN staff. The growth and use of Internet Exchanges have also changed. The overhaul seeks to improve technical soundness, respect the privilege of a dedicated pool and to more closely observe conservation principles using clear, minimum and enforceable requirements and underscoring the value of routability of allocated prefixes as required.

Policy Statement



4.4 Critical Internet Infrastructure (CII) Allocations

ARIN will reserve a /15 equivalent of IPv4 address space for critical Internet infrastructure (CII) within the ARIN RIR service area. Allocations from this pool will be no smaller than a /24. Sparse allocation will be used whenever practical. CII includes Internet exchange points (IXPs), core DNS service providers (e.g. ICANN-sanctioned root and ccTLD operators) ARIN, and IANA.

ICANN-sanctioned gTLD operators may justify up to the equivalent of an IPv4 /23 block for each authorized gTLD, allocated from the free pool or received via transfer, but not from the above reservation. This limit of a /23 equivalent per gTLD does not apply to gTLD allocations made under previous policy.

Previous allocations under this policy must continue to meet the justification requirements of this policy.

Use of this policy for CII is voluntary; address holders that qualify for CII allocations may use allocations obtained via other means for CII resources. ARIN will publish a record of all addresses allocated under this section for research purposes.

Policy Statement (cont.)



4.4.1 Internet Exchange Allocations

Internet exchange operators must justify their need by providing a minimum of three initial participants not under common control connected to a shared, physical switching fabric to be used for the purpose of the exchange of data destined for and between the respective networks. This justification must include participant names, ASNs and contact information for each named participant. The applicant's Internet exchange-affiliated ASNs are not eligible to be included in meeting the participant requirement.

Allocated addresses may be publicly reachable at the operator's discretion but must be assigned only to resources directly related to the operation of the IXP.

Policy Statement (cont.)



4.4.2 TLD Allocations

TLD operators will provide justification of their need and certification of their status as currently active zone operators.

4.4.3 Additional Requests

A recipient may request up to a 24-month supply of IPv4 resources under this section. Requests for additional resources under this section will be evaluated using Section 4.2.4.1's usage requirements.

In cases where fulfilling the request by expanding the existing allocation is not possible, a single prefix sized to accommodate both the prior and additional requested allocation will be issued to facilitate renumbering. The original allocation must be returned to ARIN within 12 months of the new allocation.

History



Action	Date
Proposal	23 April 2024
Draft Policy	21 May 2024
Revised	10 December 2024
Revised	6 March 2025
Revised	18 March 2025
Revised	7 July 2025

Statement of Conformance



Following a review of community feedback, staff and legal recommendations, and AC discussions, Draft Policy ARIN-2024-5: Rewrite of NRPM Section 4.4 Micro-Allocation, was found to conform to the principles of the ARIN Policy Development Process. Based on being fair, impartial, and technically sound, this Draft Policy was moved to Recommended Draft state by the Advisory Council. If adopted by the ARIN Board Of Trustees, it would update the NRPM's terminology from "Micro-Allocation" to "Critical Internet Infrastructure" in order to better describe the usage for the resources described in Section 4.4, as well as clarify qualification and usage requirements for resources allocated under the section.

Staff and Legal Review (21 August 2025)



Staff Understanding: Staff understands that this draft policy seeks to address ambiguities in the current policy language and formalize existing ARIN practices.

Under current practice, Internet exchange points (IXPs) are allocated a /24. Requests for allocations larger than a /24 are evaluated based on other policies outlined in Section 4, including utilization requirements. This draft policy clarifies that IP addresses issued under Section 4.4 are intended exclusively for operational use directly related to the IXP and not for other purposes. This draft policy resolves any ambiguity regarding the routing of IXP space and specifies that IP addresses allocated under this policy may be made publicly reachable at the operator's discretion. The draft also establishes that a qualified recipient may request up to a 24-month supply of IPv4 addresses for the IXP. Any justifications for allocations beyond a /24 will be reviewed in accordance with the relevant policies in Section 4.

Staff and Legal Review (21 August 2025)



Staff Understanding continued:

Additionally, this draft policy clarifies ICANN-sanctioned gTLDs may not receive IPv4 allocations under section 4.4, however they may receive up to a /23 equivalent via the free pool or transfer for each gTLD.

Staff notes the change of “the RIRs” to “ARIN” in the list of examples of critical infrastructure providers of the Internet. This aligns with ARIN’s current business practice.

Staff and Legal Review (cont.)



Implementable as Written?: Yes

Impact on ARIN Registry Operations and Services: Allowing public announcement of section 4.4 IPv4 addresses will increase time and effort needed by ARIN staff to review and process section 4.4 requests. This impact is expected to be minimal.

Legal Review: No material legal issue

Implementation Timeframe Estimate: 3 Months

Implementation Requirements:

Staff Training

Updates to public documentation

Updates to internal procedures and guidelines

Proposal/Draft Policy Text Assessed: 7 July 2025

Community Feedback



- "Routed IXP space that's actually being used solely for the IXP itself... and not for some other purpose, is probably fine."
 - Comment followed by discussion on what specific uses would qualify and how ARIN might validate compliance.
- "The definition of 'CII' used here appears to be arbitrary"
- "We should make it clear that ARIN is not reserving a new /15, but rather continuing with what is left of the existing reservation."
- "(Re: DNS examples): This isn't terrible, but somewhere down the line the lack of clarity (or too much clarity) is going to be problematic for names infrastructure"

Policy Impact



- Clarifies documentation requirements for requesting IPv4 resources under this section.
- Resolves the routability question for 4.4 allocations to IXPs, an ambiguity that was brought up in the ARIN 53 Policy Implementation and Experience Report.
- Codifies the renumber-and-return procedure for additional IPv4 resources requested under this section.

Questions for the Community



Do you support this policy as written?