Problem Statement

Current Text (23 April 2024)

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. Growth and use of Internet Exchanges has 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 assigned prefixes as required.

Policy Statement

ARIN 4.4 CI Assignments

The intent of this policy is not to unreasonably preclude the use of an allocated or assigned prefix in servicing the needs of critical infrastructure of the Internet.

ARIN will reserve a /15 equivalent of IPv4 address space for Critical Infrastructure (CI) of the Internet within the ARIN RIR service area. Assignments from this pool will be no smaller than a /24. Sparse allocation will be used whenever practical. CI includes Internet Exchanges, IANA authorized root servers, ccTLD operators, ARIN, and IANA. Addresses assigned from this pool may be revoked if no longer in use or not used for approved purposes. Only Section 8.2 transfers are allowed. Use of this policy for CI is voluntary. ARIN will publish all 4.4 allocated addresses for research purposes.

Policy Statement

4.4.1 Internet Exchange Assignments

Internet Exchange operators must justify their need by providing the following:

A minimum of three initial participants connected to a physically present ethernet switch fabric to be used for the purpose of Internet Exchange facilitated peering

Justification must include:

Three unique participant names and ASNs not under common control

Direct contact information for each participant

Staff can reasonably validate hardware existence and participants intent

Applicant Internet Exchange affiliated ASNs are not eligible to be included in meeting the participant requirement

Assigned addresses may be publicly reachable at the operators discretion and be used to operate all of the Internet Exchange's infrastructure

Policy Statement

4.4.2 Root and ccTLD Assignments

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

Timetable for Implementation: Immediate.

Proposed Changes

Current Text

4.4. Micro-allocation

ARIN will make IPv4 micro-allocations to critical infrastructure providers of the Internet, including public exchange points, core DNS service providers (e.g. ICANN-sanctioned root and ccTLD operators) as well as the RIRs and IANA. These allocations will be no smaller than a /24. Multiple allocations may be granted in certain situations.

Exchange point allocations MUST be allocated from specific blocks reserved only for this purpose. All other micro-allocations WILL be allocated out of other blocks reserved for micro-allocation purposes. ARIN will make a list of these blocks publicly available.

Exchange point operators must provide justification for the allocation, including: connection policy, location, other participants (minimum of three total), ASN, and contact information. This policy does not preclude exchange point operators from requesting address space under other policies.

ARIN will place an equivalent of a /15 of IPv4 address space in a reserve for Critical Infrastructure, as defined in section 4.4.

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.

Proposed Changes

Proposed Text

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Proposed Changes

Proposed Text Con't

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

Proposed Changes

Proposed Text

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

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

Action	Date
Proposal	23 April 2024
Draft Policy	21 May 2024

Community Feedback

Proposed Changes

Change:

Critical Infrastructure (CI)

To:

Critical Internet Infrastructure (CII)

Change:

A minimum of three initial participants connected to a physically present ethernet switch fabric to be used for the purpose of Internet Exchange facilitated peering

To:

Must meet the minimum requirements of an Internet Exchange Point as outlined in section 2.18

Community Feedback

- "I'd use Critical Internet Infrastructure (CII) as the official term for this section; Critical Infrastructure seems a bit too vague."

- "ARIN should not be specifying network technologies. 'A physically present ethernet switch' is way too specific for NRPM IMHO. I would propose, instead, that we specify 'connected to a shared peering fabric via physical infrastructure (e.g. a shared ethernet switch).'"

  "This should be pointing out the obvious, but we need _either_ 2024-4 _or_ 2024-5, but _definitely not both_. That would be bad, having two different definitions that had to be kept synchronized."

- "I support having a stand-alone definition as in 2024-4, and removing all descriptive language from other uses of the phrase 'Internet exchange' or 'IX.'"

Policy Impact

This Draft Policy seeks to clarify the requirements needed to qualify for 4.4 allocations.

The Draft Policy changes "ICANN-sanctioned root and ccTLD operators" to "IANA authorized root servers."

Regional Internet Registries, outside of ARIN, are not included within the text when they previously were included.

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

Questions for the Community

Do you support the policy as written?

Do you support the policy with the changes recommended by Public Policy Mailing List (PPML) feedback?

Should other Regional Internet Registries be able to request 4.4 allocations?