

Discovering PREF64 in Router Advertisements

Draft-pref64folks-6man-ra-pref64-00

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Problem Statement

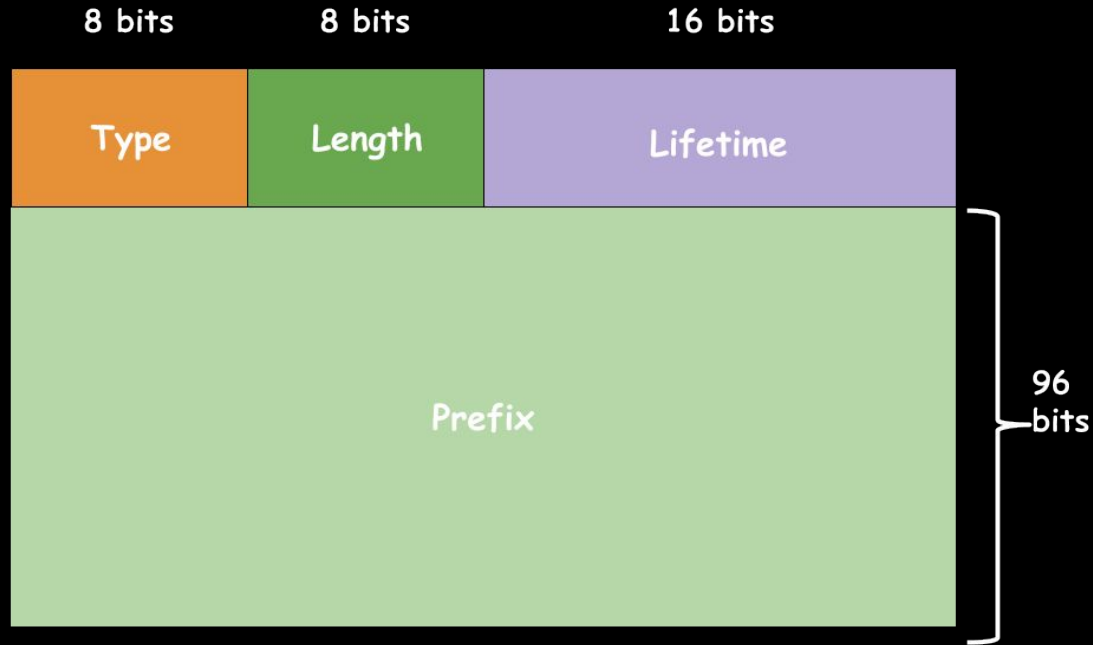
How to discover NAT64 prefix for address synthesis

- Validating stub resolvers
- IPv4 literals
- 464XLAT

Why RA Option?

- All L3 Network stack config on a host in a single packet
- Atomic: no state when config is incomplete
- Network **is** the authoritative source of information
- No additional services required
- No "trust DNS response to be able to use DNSSEC"
paradox

Option Format



Prefix Length

RFC6052 (IPv6 Addressing of IPv4/IPv6 Translators):

"The prefixes can only have one of the following lengths:
32, 40, 48, 56, 64, or 96"

Open Questions

- Do we need to support prefix length $\neq 96$?
 - Are there any real world deployments of this?
 - Support all use cases vs simplicity?
- Do we need to support per-destination PREF64s like RFC 7225?
 - Increases implementation complexity
 - Can be trivially implemented by routing more specifics in the network
 - Requires that network operators trust hosts to do the right thing