

Router Advertisement Extensions for On-Demand Mobility

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Motivation

- Router Advertisement / Router Solicitation is one of the ways an IPv6 node can configure their routing address
- In some cases, there may be a need to do something specific to a particular technology (e.g., 3GPP or IoT) where the traditional RA may need to be extended to express a meaning with an associated prefix

Motivation

- 3GPP / IETF
 - 3GPP has issued a LS on RA meta-data related work
 - System Architecture (SA2) has defined three SSC (Session and Service Continuity) modes in 3GPP TS 23.501
 - SA2 is looking for a mechanism to deliver information regarding SSC usage associated with a new IPv6 prefix to the UE via the 5G System user plane

3GPP will most likely create a non-standard way of specifying it if we do not create a standard way of specifying it.

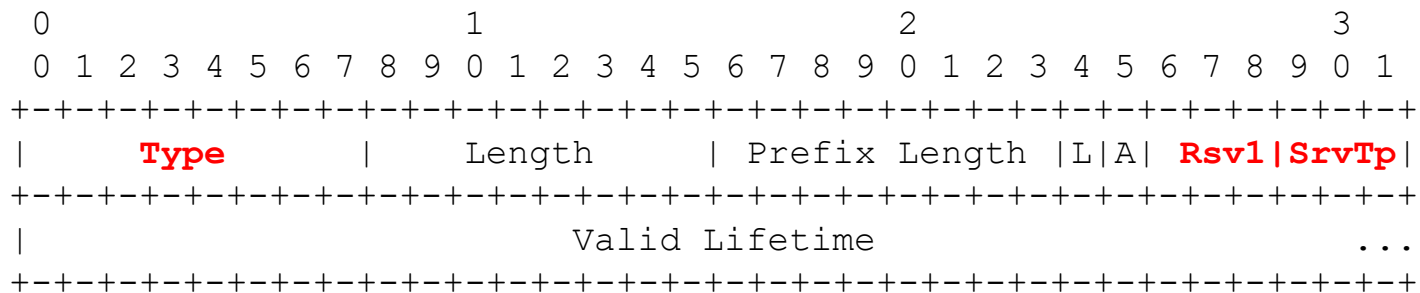
General Requirements

- What is needed
 - Ability to express the type of continuity service that is associated with a prefix
 - *Session-lasting IP address – network supports continued service until the end of the session
 - Fixed IP address – where the IP address is fixed for a “very long time”
 - *Graceful-replacement – network will provide a graceful period of time for the mobile host to transition to the new IP prefix
 - *Non-persistent – no guarantees of service continuity
 - Ability for mobile host to select the appropriate IP prefix from an RA

* = SSC mode need for 3GPP

Extending RA

- Two realistic possibilities
 - Modify Prefix information option in RA slightly to convey meaning (service continuity type) of prefix
 - Add a new option format (parallel to the prefix information option - 3)



What next?

- Comments?
- Who would like to join?
- Can it be adopted as a working group item?

- Draft

Draft-feng-ra-prefixtype-02.xml

<https://datatracker.ietf.org/doc/draft-feng-dmm-ra-prefixtype/>