

# Router Advertisement Prefix Option Extension 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

# An example use case: 3GPP

- Mobile nodes often times change their mobile IP prefix due to node moving around network
  - Would like to be able to specify a way for the network to provide graceful replacement of an IP prefix

# 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

# Adding On Demand to RA

- A number of ways exist
  - Modify RA itself (e.g., creating a VSO to RA)
    - ) Really at the wrong level since it's about prefixes
    - ) Significant uphill battle to do
  - Creating a new Information prefix option
    - Add a new Information prefix option in the options field
    - ) Slightly wrong level (source LLA, target LLA, prefix info)
    - + ) Cleaner
  - Modify existing Prefix Information Option to support continuity type
    - Add information to prefix information option to specify connection type
    - ) Need to modify one of the “reserved” fields
    - + ) All prefix-related information will be retained in this option

# Is there interest here?

- Who would like to join this effort?

- Draft

Draft-feng-ra-prefixtype-00.xml

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

Next steps?