IETF#83

Mobility API for DMM

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draft-korhonen-dmm-prefix-properties-01.txt

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Background-RFC5014

- RFC 5014 defines socket API extension used for source address selection. Application can use this API to override the default source address selection mechanism for IPv6.
- Currently, RFC 5014 defines the following type of source address selection preference:
  - IPV6_PREFER_SRC_HOME /* Prefer Home address as source */
  - IPV6_PREFER_SRC_COA /* Prefer Care-of address as source */
  - IPV6_PREFER_SRC_TMP /* Prefer Temporary address as source */
  - IPV6_PREFER_SRC_PUBLIC /* Prefer Public address as source */
  - IPV6_PREFER_SRC_CGA /* Prefer CGA address as source */
  - IPV6_PREFER_SRC_NONCGA /* Prefer a non-CGA address as source */
Problem

• In DMM scenario, applications on the MN need to select the proper IP address based on the prefix type

• RFC5014 need to be extended to allow MN in DMM scenario select source address
New extensions of RFC5014

- **IPV6_PREFER_SRC_LOCAL_HNP:**
  - Prefer to use locally allocated home network prefix.

- **IPV6_PREFER_SRC_REMOTE_HNP:**
  - Prefer to use the home network prefix that is allocated by other access router instead of the one that the MN currently attach.
Usage example

• In DMM scenario, the application on the mobile node can always select the IPV6_PREFER_SRC_LOCAL_HNP as the most preferred sourced address.

• The mobile node's operating system need to guarantee that for the on-going session, it will not interrupt the on-going session even there is a new prefix available.
Implementation example

- [I-D.ietf-6man-rfc3484bis] document indicates possible implementation strategies for getaddrinfo().

- The address selection hint flags for the getaddrinfo() specified in this document extend the 'int ai_eflags' field in the struct addrinfo [RFC5014].

- The IPV6 source address preference values (IPV6_PREFER_SRC_HNP and IPV6_PREFER_SRC_HNP_TMP) defined for the IPV6_ADDR_PREFERENCES socket option are also defined as address selection preference flags in <netdb.h> header for the "ai_eflags" extended flag-set field of the addrinfo data structure.

- **Corresponding extensions can be done for mobility address selection.**
• Q&A