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Use Cases and API Extension for Source IP Address Selection

draft-sijeon-dmm-use-cases-api-source-00.txt

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Scope and Objective

- Based on the I-D,
 - “On Demand Mobility Management”
 - <http://tools.ietf.org/html/draft-yegin-dmm-ondemand-mobility-03>
 - as agreed to use it as baseline (from the audio conf.)
- This draft contributes to the specification and analysis of the expected cases regarding the selection of a proper source IP address and address type

In case of “no specific request”

- When an application does not need to request (or express) a specific IP address type and requirement
 - Option 1: Nomadic IP address used by default
 - Option 2: Following an address type based on the address allocation policy by mobile network the host is connected to

In case of “specific request”

- When an application needs to request specific IP address type and requirement
 - This case is divided by three sub-cases with regard to IP address type availability and/or address selection

In case of “specific request”

- Case 1: there is no available IP address in the IP stack based on requested type
 - Follow suggested ways described in the On-Demand I-D.
- Case 2: there are one or more IP addresses in the IP stack based on requested type, and no selection preference by the application
 - Follow the default address selection in RFC6724

In case of “specific request”

- Case 3: there are one or more IP addresses based on a requested type in the IP stack but there is a selection preference by the application
- **Motivation:** By following the default address selection algorithm, the best- matching IP address will be selected
- Current selection criteria does not take into account optimal routing and spent network resources.
- Indicating the host's preference will be required for “enabling per-flow anchoring”

Proposed flag

- “IPV6_PREFER_SRC_NEW” for Case 3
- /* Prefer a new IP address based on a requested IP address type as source */

Next Step

- More cases to be considered?
- It is a checkpoint before/while going for extension of the existing address configuration protocols for “Mobility Exposure and Selection”
- Your comments and contributions are welcomed

Q & A