M and O Flags of IPv6 RA

(63rd IETF, IPv6 WG)

Soohong Daniel Park
soohong.park@samsung.com

Background & History

- December 1998
  - RFC2461 defined M and O flags
    - Just said *administered (stateful) protocol*
  - RFC2462 described the use of these flags
    - M flag for both address information and other information
    - O flag for information excluding address
    - DHCPv6 was the subject of future work
    - Router Advertisements include flags specifying which mechanisms a host should use.
- July 2003
  - RFC3315 was published
- February 2004
  - RFC2462bis was published
    - 01 used *can* instead of should and RFC3736 was included
    - 06 used *can be used to indicate which mechanisms are available.*
    - 07 removed M/O flags
- April 2004
  - RFC3736 was published
- June 2004
  - RFC2461bis was published
    - DHCPv6 instead of administered (stateful) protocol
- July 2004
  - M/O flag as an individual submission
- November 2004
  - Adding *ietf*
- April 2005
  - IPv6 WGLC as a Proposed Standard

Current status

- draft-ietf-ipv6-ra-mo-flaga-01
- Defining HCB and ICB
  - HCB (Host Configuration Behavior) is for RFC3315
  - ICB (Information Configuration Behavior) is for RFC3736
- Defining new host variables
  - M-Flag and O-Flag
- Introducing DHCPv6 policy variables
  - M-Policy and O-Policy
  - Default policy
- Several clarifications on these flags

Meta-thread and approach

- What we need to do…
  - Clarifying ambiguous M/O flags
  - Elaborating 3315/3736 operations triggered by M/O flags and avoiding complex combination
  - Addressing requirements along with M/O flags
    - Then, documenting to match with them

Requirement for DHCPv6 along with M/O flag

- Req1: Avoiding complexity and timeout delay
  - Ability for a host to get all desired and available DHCP configuration with a single DHCP message exchange
  - Ability for a host to admit M/O flags as a strong trigger
- Req2: Considering limited resources
  - Ability for a host not to send DHCP messages
  - Ability for a host to invoke ICB (excluding address)
  - Ability to do HCB and/or ICB with a limited counter
- Req3: Invoking DHCP regardless of RA
  - Ability for a host to invoke HCB and/or ICB by itself
- Req4: Avoiding rogue behavior triggered by RA
  - Ability for a host not to send DHCP messages
  - Ability to do HCB and/or ICB with a limited counter
- Others…

To Do

- Addressing shape requirements first
  - Then, move M/O flags document on
- Separating DHC issues/requirements from the requirements and remaining them to be resolved by DHC WG

Moving forward…

- Comments !