DHCPv6 Option for IPv4-Embedded Multicast and Unicast IPv6 Prefixes

draft-qin-softwire-multicast-prefix-option
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Goal

• This document defines DHCPv6 option to provision
  – Unicast PREFIX64
  – Multicast PREFIX64

• **Unicast PREFIX64** is used to synthesize unicast IPv4-embedded IPv6 address following RFC6052 specification

• **Multicast PREFIX64** is used to synthesize multicast IPv4-embedded IPv6 address as defined in I-D.ietf-mboned-64-multicast-address-format
  – It may belong to the ASM range (i.e., ffxx:8000/17) or SSM range (i.e., ff3x:0:8000/33)
Use Cases

• I-D.venaas-behave-mcast46
  – Stateless local synthesize of source/group addresses

• I-D.ietf-softwire-dslite-multicast: mB4 uses
  – Unicast PREFIX64 for *stateless synthesize of source IPv6 address* based on a discovered IPv4 source address
  – Multicast PREFIX64 for *stateless synthesize of group IPv6 address*
  – Unicast PREFIX64 and Multicast PREFIX64 for *stateless decapsulation of multicast IPv4-in-IPv6 packets*
  – The same Unicast PREFIX64 and Unicast PREFIX64 MUST be configured to the PIM6/4 Multicast Router
Comments (Thanks Stig)

• How would a client know what scopes to use, and can it modify the scope of the received prefixes?
  – Is there a valid use case?
  – Mitigation
    • Allow multiple instances of the DHCPv6 option, each conveying MPREFIX64 of distinct scope
    • The scope must be used to select the appropriate MPREFIX64 to use to synthesize an IPv4-embedded IPv6 address

• U_PREFIX64 is only for multicast?
  – It may be used for the unicast but …