

DHCPv6 Option for IPv4- Embedded Multicast and Unicast IPv6 Prefixes

draft-qin-softwire-multicast-prefix-option

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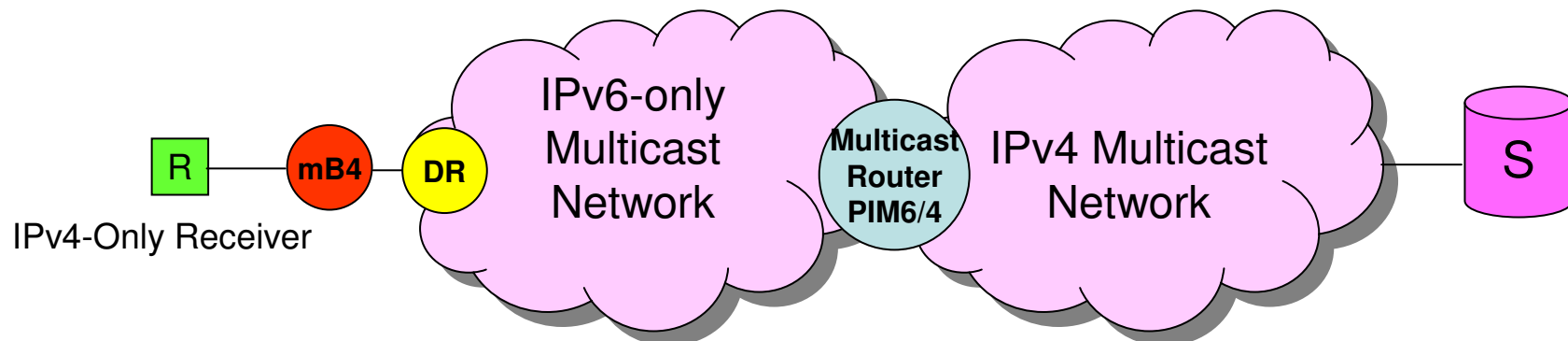
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Goal

- 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., ffx: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-embeddd IPv6 address
- U_PREFIX64 is only for multicast?
 - It may be used for the unicast but ...