

Extended home link support for DSMIPv6

draft-premec-mext-extended-home-link

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Motivation

The work item to enable the single stack home network for DSMIPv6 is part of the next charter:

charter item A.9:

Extended DSMIPv6 Home Network Support: DSMIPv6 assumes the home network to be dual stack providing simultaneous IPv6 and IPv4 network access. It is proposed to extend DSMIPv6 to support home networks which provides IPv4, or IPv6 respectively, direct network access only, but where virtual IPv6 home network connectivity, or virtual IPv4 home network connectivity respectively, may be obtained by tunneling to the HA. The latter shall be obtained by DSMIPv6 operation using the v4HoA address as Care-of-address for the v6HoA address, and vice versa, the v6HoA address as care-of-address for the v4HoA address.

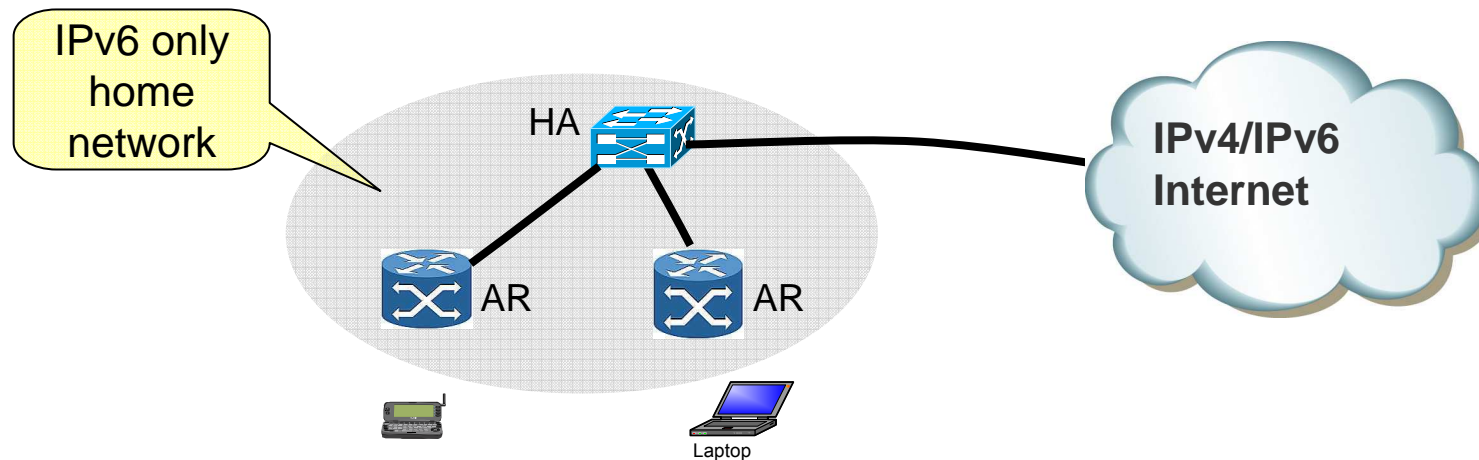
Support for the IPv4-only home link was added recently to the DSMIPv6 I-D.

IPv6-only home link

There could be deployments where:

- the home network is IPv6-only
- but it is connected to the dual stack internet
- this may be the case in some 3GPP deployments

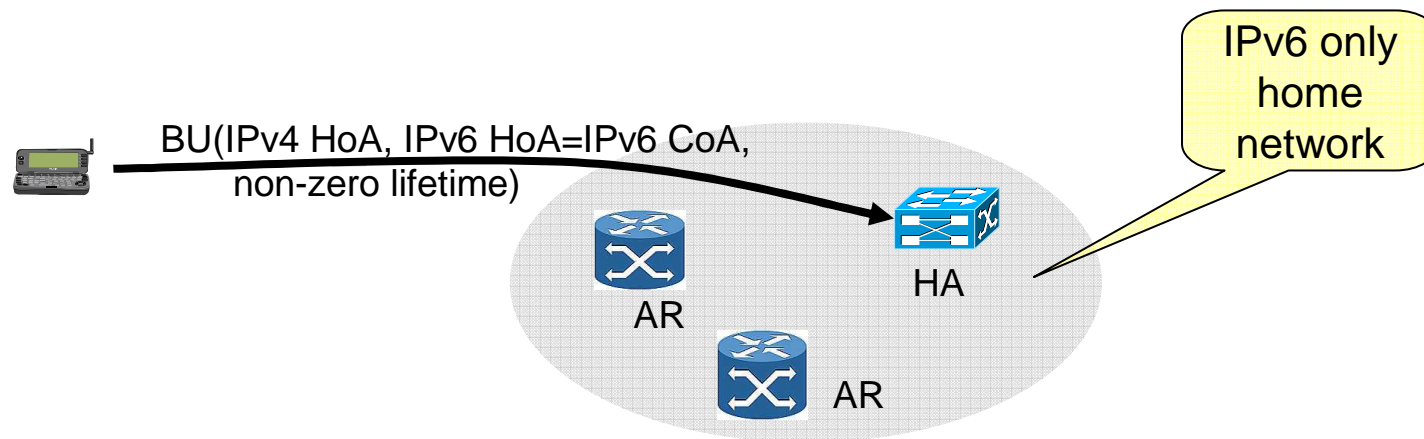
DSMIPv6 I-D is currently missing support for the IPv6-only home link.



Proposal

When the DSMIPv6 MN is attached to its IPv6-only home link:

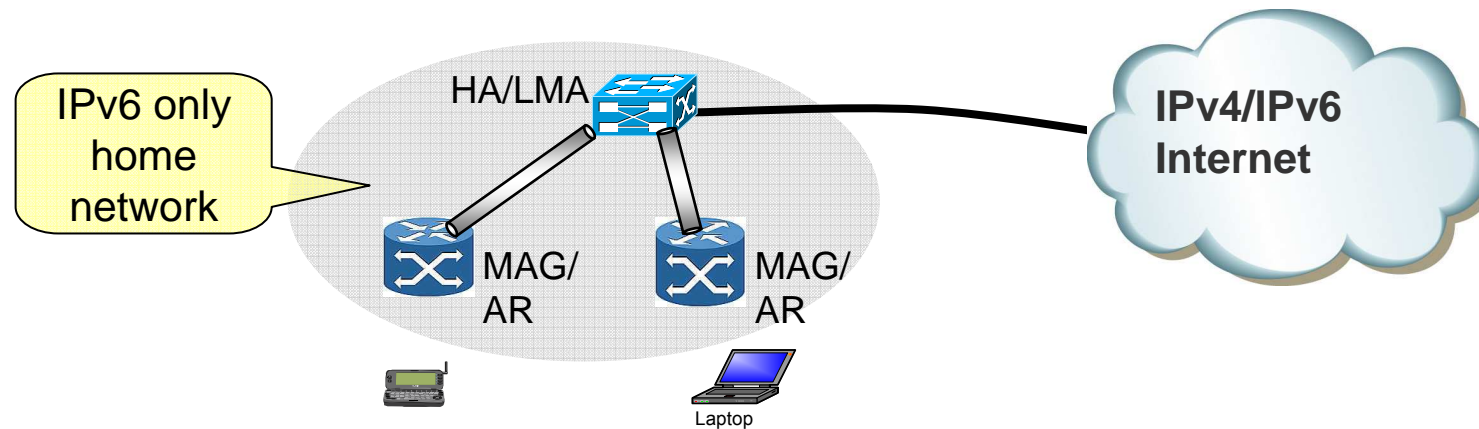
- the MN is allowed not to register with the HA
 - in this case the MN has only IPv6 connectivity and no IPv4 connectivity
- if the MN needs IPv4 connectivity, it may register its IPv6 HoA as the care-of address for the IPv4 HoA
 - virtual IPv4 home link



Interactions with PMIPv6

The IPv6-only home link may be emulated by PMIPv6:

- IPv6 HoA is managed by the MAG
- IPv4 HoA is managed by the MN



Any issues?

Next steps

- consider
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as a WG item?
 - WG call is ongoing

backup

Packet format

Binding update

```
IPv6 Header (src = v6HoA, dst = v6HA)
  ESP Header
  Mobility Header
    type = 5 (Binding Update)
    lifetime non-zero
    Alternate Care-of Address option (v6HoA)
    IPv4 Home Address option (v4HoA)
```

Binding acknowledgment

```
IPv6 Header (src = v6HA, dst = v6HoA)
  ESP Header
  Mobility Header
    type = 6 (Binding Acknowledgement)
    lifetime non-zero
    IPv4 Address Acknowledgement option (v4HoA)
```