

Home Network Prefix Renumbering in PMIPv6

draft-yan-dmm-hnprenum-00.txt

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Motivations (1/2)

- IPv6 prefix MAYBE renumbered if it is not PI type¹
- For the HNP in PMIPv6, renumbering is also possible:
 - PMIPv6 service provider switches to a different ISP.
 - Current serving LMA switches to another LMA but without inheriting the assigned HNP.
 - PMIPv6 service provider may reorganize its network topology change.

¹S. Jiang, B. Liu, and B. Carpenter, “IPv6 Enterprise Network Renumbering Scenarios and Guidelines”, RFC 6879, February 2013.

Motivations (2/2)

- Although this issue was also discussed in the RFC 5213 (Section 6.12), a related solution was not specified.
- RFC 7077 specifies a scheme to support a asynchronously update from the LMA to the MAG about changes related to a mobility session.
 - In this way, the HNP renumbering can be easily supported based on RFC 7077.

Proposed Solution (1/2)

- 1. A new HNP should be allocated when renumbering happens.
- 2. The LMA sends the Update Notification (UPN) message to the MAG.
 - Notification reason is set to 2 (UPDATE-SESSION-PARAMETERS)
 - HNP option including the new HNP and the Mobile Node Identifier option are contained as Mobility Options of UPN

Proposed Solution (2/2)

- 3. The MAG sends the old HNP in the RA with zero-valued lifetime to the MN and sends the new HNP in the RA with lifetime larger than zero.
- 4. The MAG sends back the Update Notification Acknowledgement (UNA).
- 5. MN deletes the old HoA (due to the zero-valued lifetime) and configures a new HoA with the meaningful HNP.
- 6. DNS Update?

Next Step

- This issue will be considered by DMM?
- The solution makes sense?
- Next?