IPv4 Support for Proxy Mobile IPv6
draft-ietf-netlmm-pmip6-ipv4-support-02.txt

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Updates

- DHCP Configurations
  - Adding two scenarios as bases
  - Adding more scenarios in Appendix

- Catching up to the latest PMIPv6
  - support multihomed mobile node
  - support inter-access handoff

- Several editorial updates
Various DHCP Configurations

1) DHCP-S is at each MAG

- LMA
- MAG (DHCP Server)
- MN (DHCP Client)

*No Address Pool

DHCP-S is in PMIP6 domain

2) DHCP-S is at LMA

- LMA (DHCP Server)
- MAG (DHCP Relay)
- MN (DHCP Client)

DHCP-S is in PMIP6 domain
**DHCP-S is located at MAG**

- MAG is DHCP Server without Address Pool
- MAG retrieves IPv4 address for MN from LMA by PBU/PBA (IPv4 HoA: 0.0.0.0)
- After successful PBA, MAG sends DHCP offer
- Handover Consideration
  - IPv4 HoA assignment info is always retrieved by MAG from proxy binding registration or from policy profile

- DHCP Server ID Change
  - Assigning the same DHCP server ID
  - Changing MN's DHCP client state to REBINDING state

- DHCP message is unicast to previous MAG
  - MAG intercepts all the unicast DHCP messages and rejected these

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<thead>
<tr>
<th>MN</th>
<th>MAG(DHCP-S)</th>
<th>LMA</th>
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* Tunnel/Route Setup (no.4) and DHCP offer/request/ack (no.5-7) are processed in parallel.*
DHCP-S is located at LMA

- LMA is DHCP Server and MAG is DHCP Relay
- After DHCP ack, MAG sends PBU for the assigned IPv4 HoA
- Handover Consideration
  - IPv4 HoA assignment info is always retrieved by MAG from the policy profile
- DHCP relay intercepts packets sent only to broadcast address
- DHCP relay (MAG) must analyzes all the DHCP related packets at the MN-AR link, intercepted and forwarded them to LMA if needed

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<tr>
<th>MN</th>
<th>MAG(DHCP-R)</th>
<th>LMA(DHCP-S)</th>
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<td>1. DHCP discovery to DHCP-S through DHCP-R</td>
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<td>2. DHCP offer (IPv4 HoA)</td>
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<td>3. DHCP request (IPv4 HoA)</td>
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<td>4. DHCP acknowledgement</td>
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<td>5. Proxy Binding Update</td>
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<td>6. Proxy Binding Acknowledgement</td>
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<td>7. Tunnel/Route Setup</td>
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<td>8. DHCP acknowledgement</td>
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