Control and Data Plane Separation for PMIPv6

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Motivation

- ☐ Some deployments of PMIPv6 are planning to separate the control and data plane end points for the MAG
  - ■ Authentication and authorization anchored at one MAG, whereas the data tunneling is with the MAG to which the MN is currently attached to
  - ■ Load balancing scenarios
- ☐ According to RFC 3775 and 5213, only one address is stored in the binding cache entry – Proxy CoA
  - ■ Proxy CoA is used for signaling messages as well as for tunneling data traffic
- ☐ Requires a new extension to convey the control and data plane end points addresses

Data Plane Address Option

- New mobility option defined to carry the tunnel end point for data traffic
  - Sent in the Proxy Binding Update by the MAG
- The LMA stores the data plane address in the binding cache
- Proxy CoA used for all signaling, including LMA initiated signaling messages like binding revocation and LMA switch message
- Data plane address used for tunneling MN traffic
- Can also be used for separation of control and data plane for the LMA

Message exchange between the Control and Data plane end points

- ☐ Separation of the control and data end points might require some interaction between the two
  - ■ For example, for creating forwarding entries on the data plane end point
- ☐ Out-of-scope for now
  - ■ Could use SDO specific interfaces
  - ■ IETF-based mechanism using new mobility header messages is possible

The Use of AltCoA option

- Currently, the LMA does not store the address in the AltCoA option <u>and</u> the source address of the PBU

    - If the AltCoA option is present, the address in the AltCoA option is stored as the Proxy CoA

- The LMA-initiated signaling messages might not reach the MAG control plane