Multiple Interface Support with PMIPv6

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Multiple Interface Support in PMIPv6

• Base PMIPv6 specification allows a MN with multiple interfaces to attach to the PMIPv6 domain
  – But not completely specified
    • Some of the steps are out of scope
    • Some of the multiple interface handover scenarios may need MN involvement
      – Part of the problem comes from the charter requiring no host changes – but it is an out of date charter
  – Some of the multiple interface scenarios are not covered

• draft-devarapalli-netlmm-multihoming-01.txt
  – Analyzes multiple interface scenarios in more detail
  – Proposes solutions for the scenarios
Multiple Interface Scenarios

- **Unique Prefix per Interface**
  - Unique prefix assigned per interface
  - Same prefix assigned if it is an inter-access technology handover
  - Inter-access technology handovers
  - MN with three or more interfaces, including handovers between the interfaces
  - Details missing in the base PMIPv6 specification described here

- **Shared Prefix with unique IP address per interface**
  - Classical multi-homing
  - MN able to use multiple interfaces simultaneously
  - Separate binding cache entry per address
    - If only one BCE is created, separate host route entries in the LMA routing table per address

- **Shared address across interfaces**
  - Same IP address used across all interfaces
  - Each flow can be directed to a particular interface
    - Service identifier option exchanged in PBU/PB Ack
    - Flow filters exchanged in PBU/PB Ack
  - Multiple links can be aggregated resulting in a high bandwidth link with one IP address