

Multiple Interface Support with PMIPv6

NETLMM WG, IETF 70

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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 - Part of the problem comes from the charter requiring no host changes – but it is an out of date charter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/PBAck
 - Flow filters exchanged in PBU/PBAck
 - Multiple links can be aggregated resulting in a high bandwidth link with one IP address