

Adapting Mobile IPv6 Fast Handovers for IPv4

`draft-koodli-fmipv4-00.txt`

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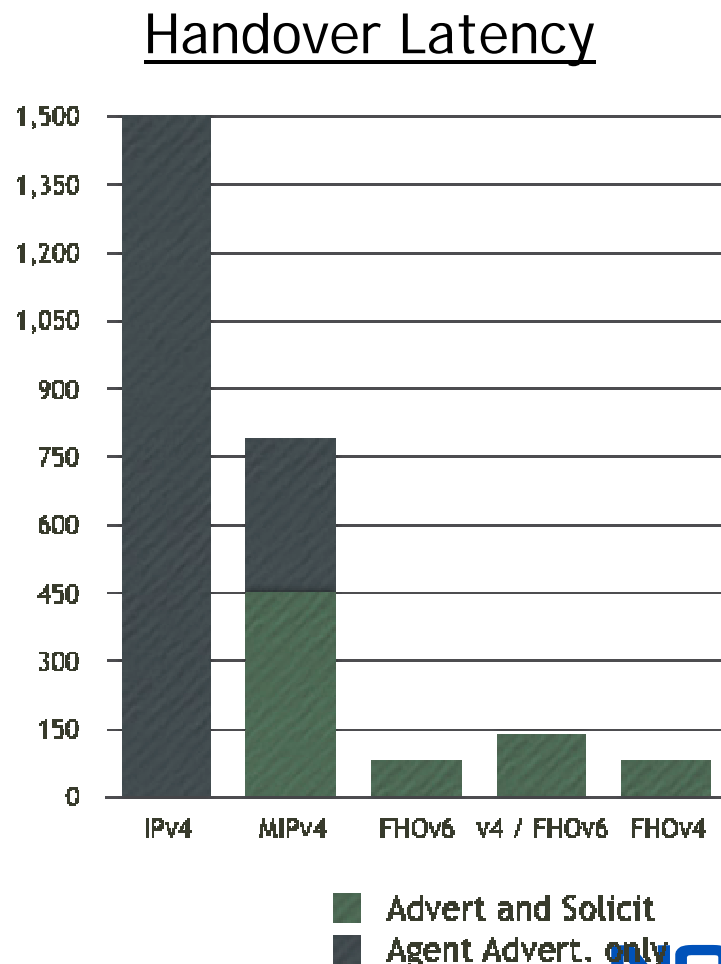
FMIPv4 – motivation and design ideas

- Intended to be as close as possible to FMIPv6
- Does not *require* foreign agents, but works with them if available
- Address allocation by:
 - NAR assignment
 - MN choice
 - FA care-of address
- Minimize latencies due to:
 - movement detection (proxy router messages)
 - IP address acquisition (HI/HACK)
 - location update (FBU)
- If foreign agent (FA) is used, it should be NAR or PAR
 - Or, both could be foreign agents
 - FA as NAR offers mobile node its usual care-of address

Implementation Benchmarks

Tests carried out with Prism chipset on Linux Host AP driver

- Case 1: IPv4 only: many seconds, have to tear down/rebuild with new IP address
- Case 2: Mobile IPv4 only, tuned best case scenario: 650ms
- Case 3: FMIPv6: 75ms(?)
- Case 4: Mobile IPv6, FH0v6, Tunneled IPv4 inside (untuned) 125ms
- Case 5: Mobile IPv4, FH0v4 native solution: 80ms



Packet Formats

- Packet format for FBU exactly like Registration Request (i.e., *not* like Mobile IPv6 Binding Update)
 - except there is a new type number
 - Mobile IPv4 does not use an IP-level mobility option
- Likewise, packet format for FBck designed like Registration Reply (i.e., *not* like Mobile IPv6 Binding Acknowledgement)
- Proxy Router Solicitation/Advertisement are ICMPv4 messages