

Hierarchical Mobile IPv4/v6 and Fast Handoffs

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HMIPv4v6 and Fast Handoffs

- ◆ Support of delay-sensitive (real-time) services in domain
- ◆ Achieve local mobility using Mobile IP with extensions (Regional Registrations : no new “local” protocol)

Two parts to the I-D:

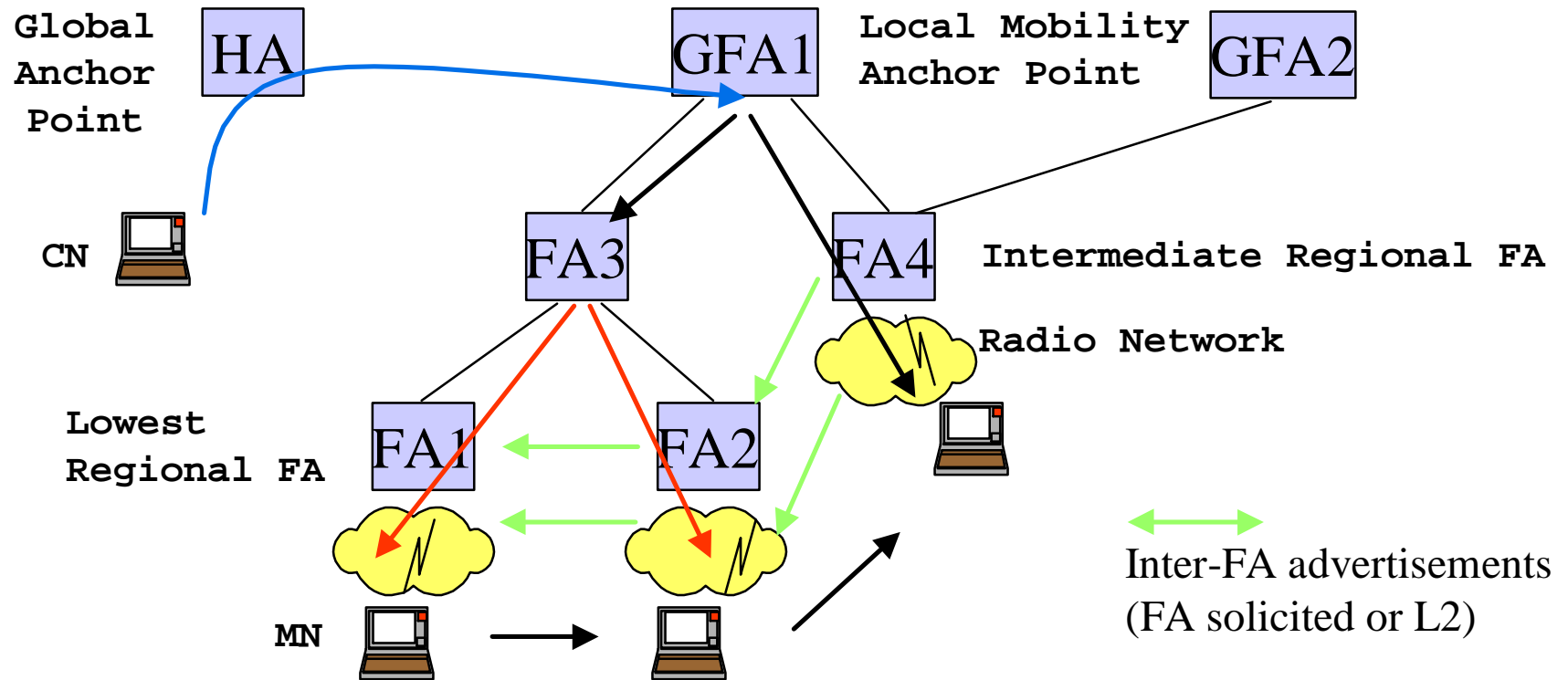
1) HMIPv4 (Regional) extensions

- Fast Handoffs
- Elimination of triangle routing within domain

2) HMIPv6

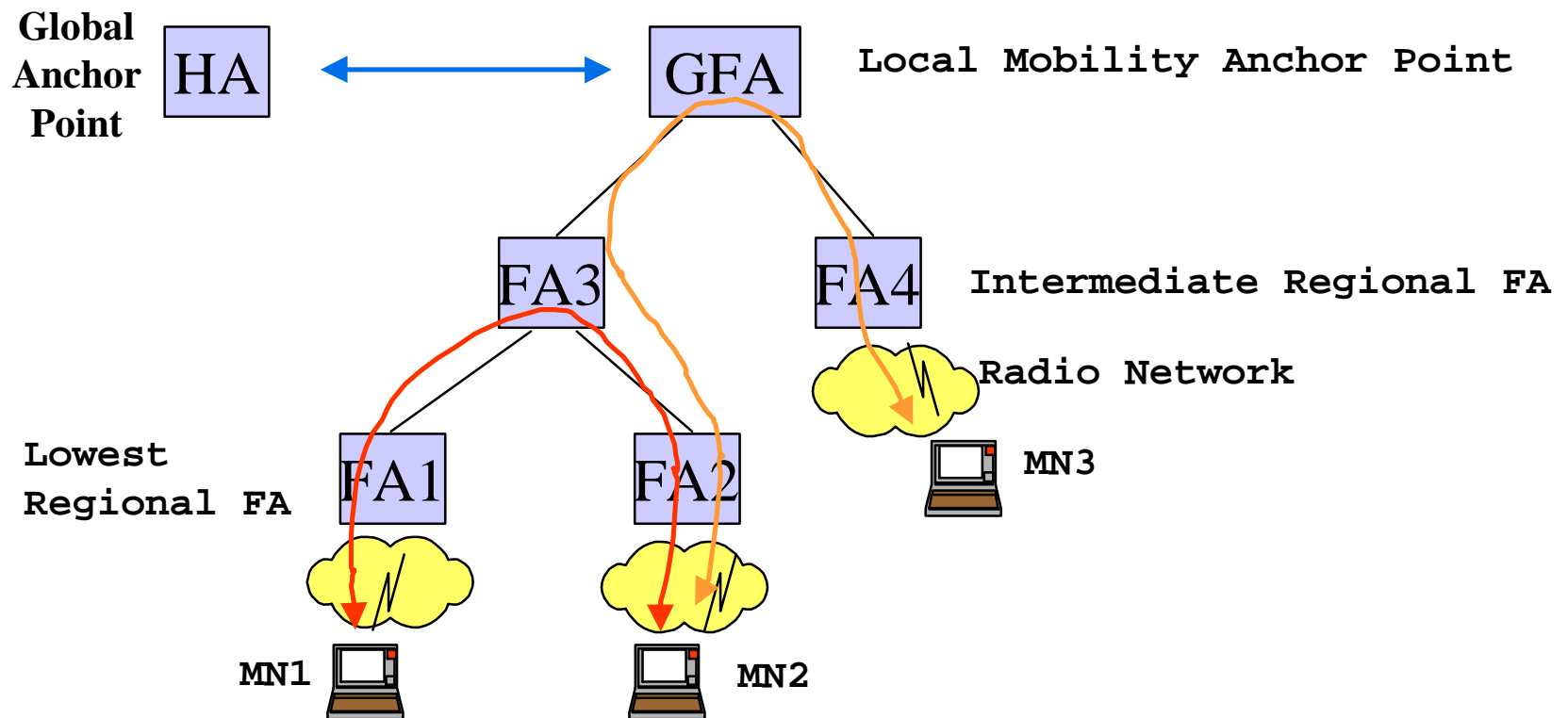
- New Mobility Anchor Point (MAP) node
- Fast Handoffs in HMIPv6

Fast Handoffs in HMIPv4 (Regional)



- ◆ Fast Handoffs to achieve (near) seamless mobility at the IP-level
- ◆ Use Regional Registrations with Simultaneous bindings (to GFA or Intermediate Regional FAs)
- ◆ MN connects to single radio access point: receive “new” advertisements through “old” APs/RANs (←) and “Eager” to Register, “Lazy” to abandon

Reduced Triangle Routing in HMIPv4

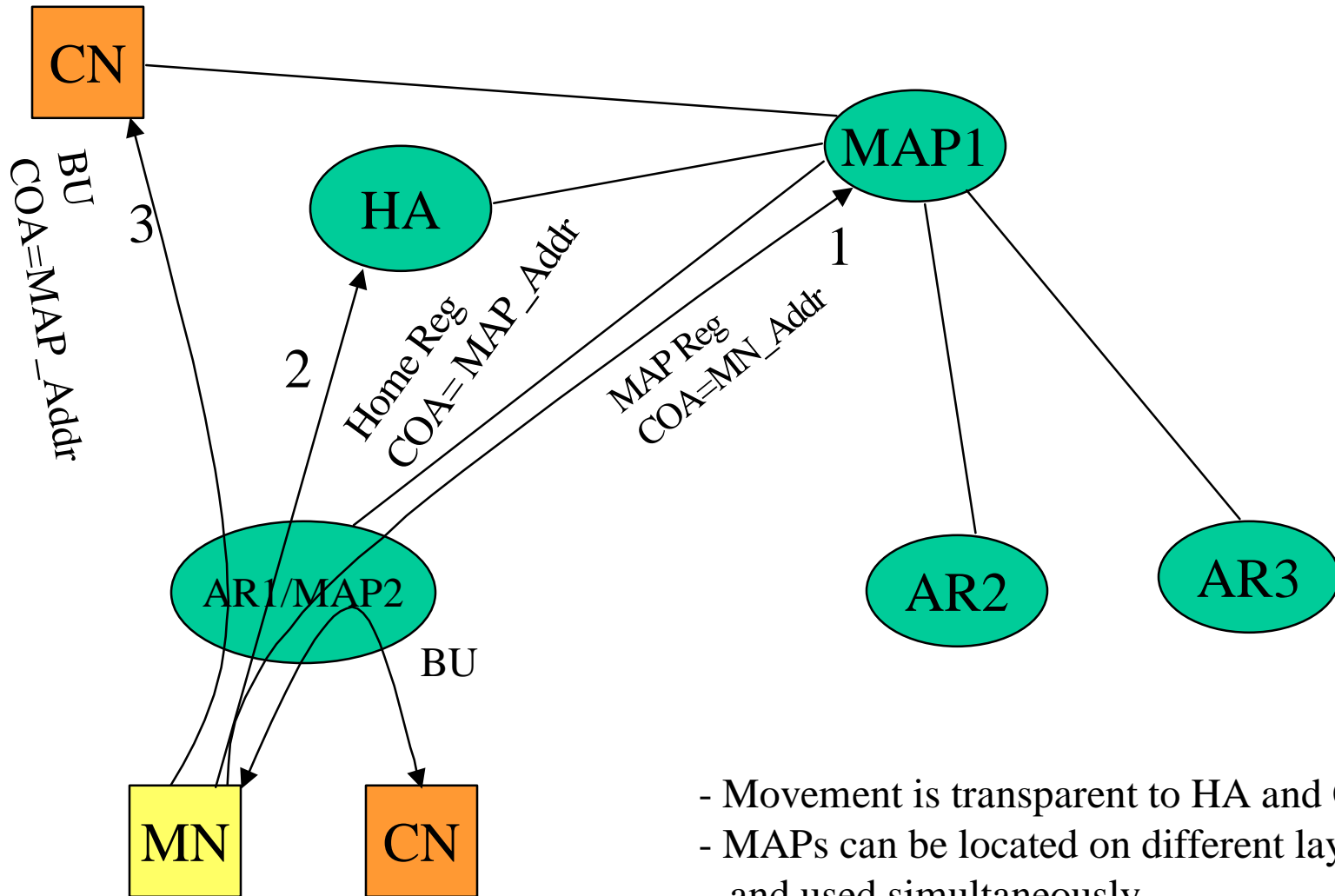


- ◆ Elimination of triangle routing within hierarchical domain
- ◆ Use of “shortest route” through Regional FAs or through GFA
- ◆ Deregistration (also needed for Fast Handoffs)

Why HMIPv6 ?

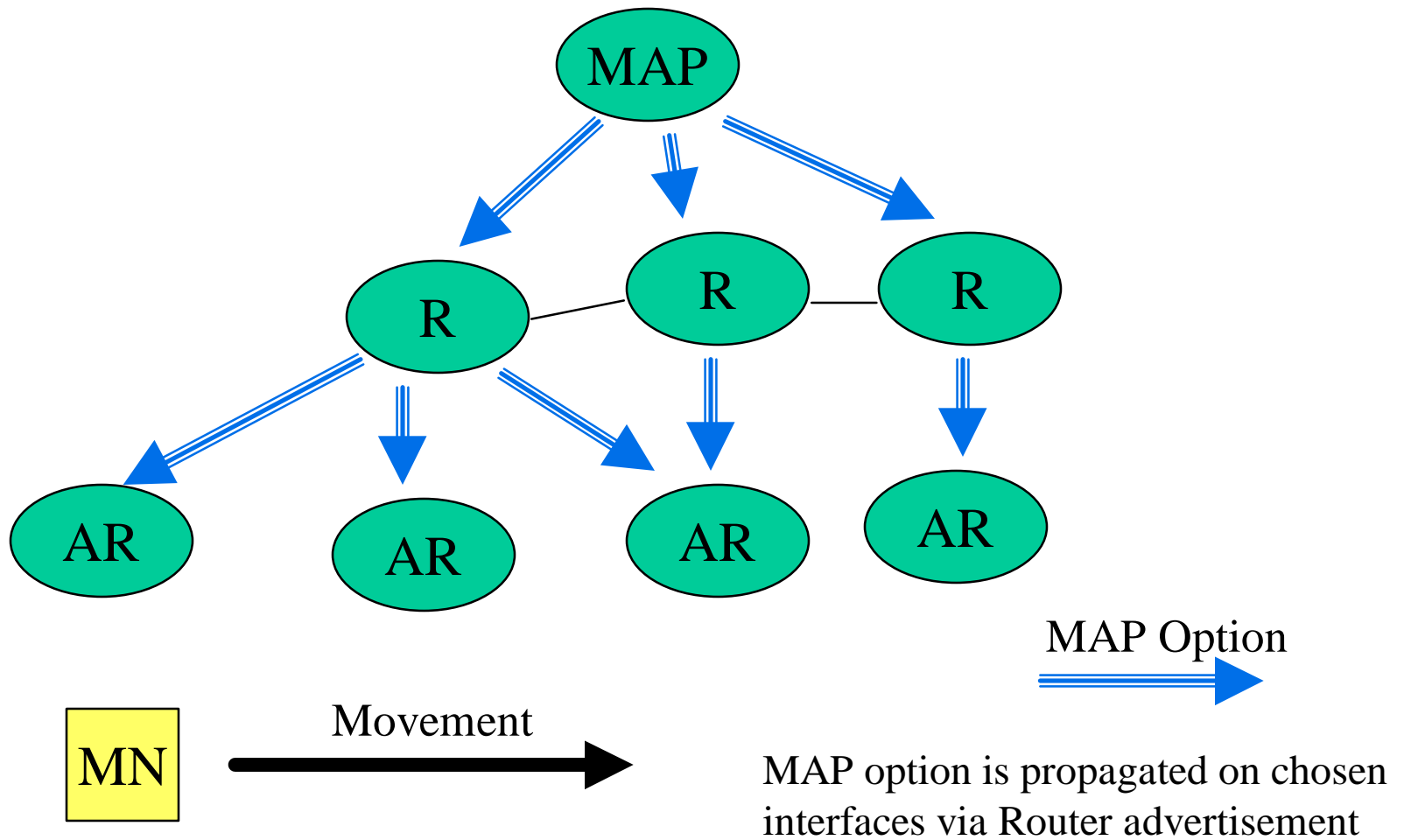
- Fast Handoffs between Access routers or Different Access Networks (Important for Real time services)
- Reduced signalling messages to HA and CNs
- No new Protocol for IPv6 Mobility Management (only minor extensions to MIPv6)
- May be used for AAA (“Hierarchical Attendant”)
- Smooth Architectural Migration from HMIPv4
- NOTE: This is not an introduction of an FA in MIPv6

HMIPv6 Overview

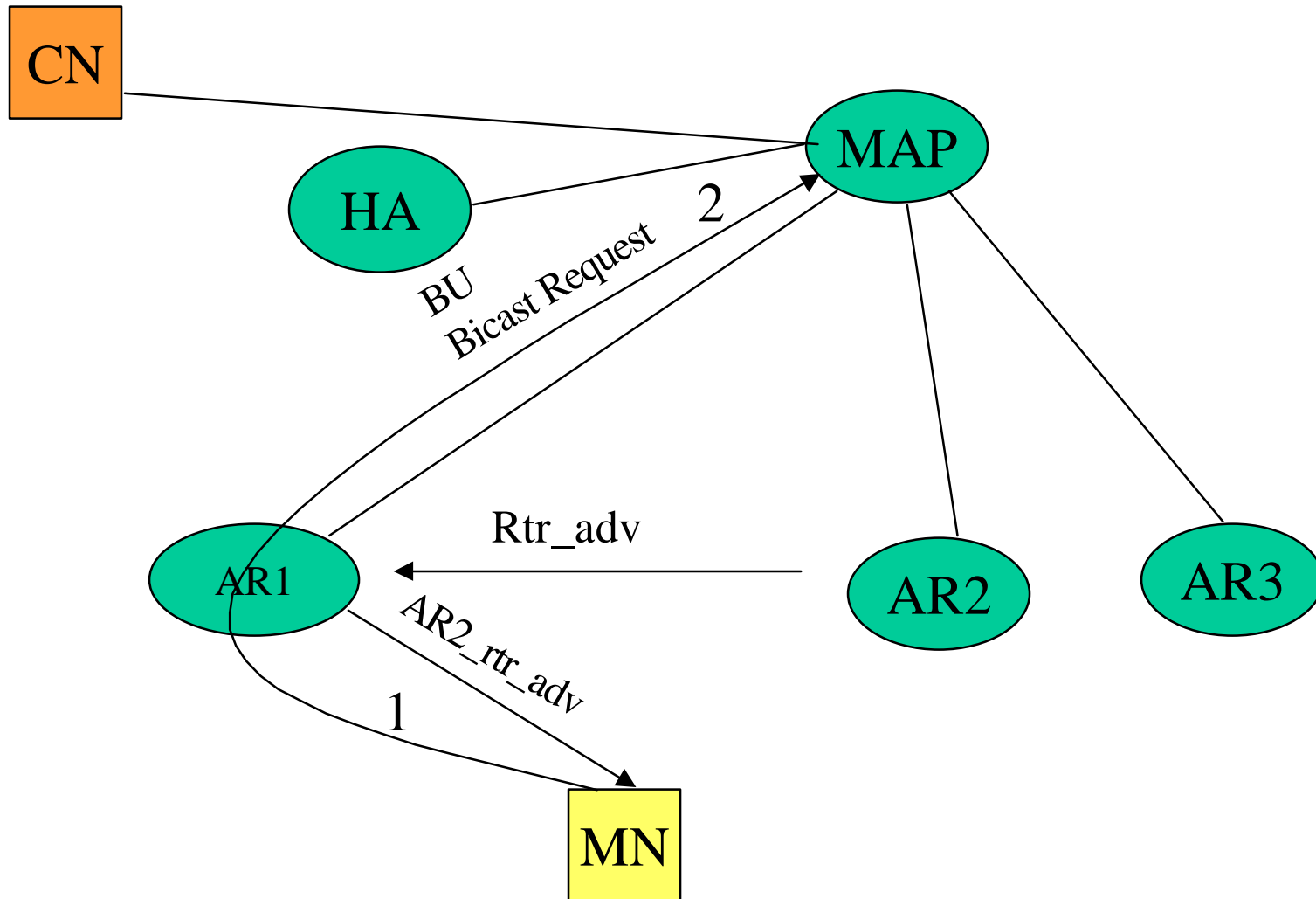


- Movement is transparent to HA and CN
- MAPs can be located on different layers and used simultaneously

MAP Discovery



Fast Handoff



Fast Handoff (cont.)

