Background and Motivation

- The number of mobile users and their traffic demand is expected to be ever-increasing in future years
- This growth can represent a limitation for deploying current mobility management schemes that are intrinsically centralized, e.g., Mobile IPv6 and Proxy Mobile IPv6
- Distributed and dynamic mobility management (DMM) approaches aim at reducing operators’ burdens, evolving to a cheaper and more efficient architecture
- This demo shows a full functional real-life prototype of a network-based DMM solution, based on:
  - Partially distributed DMM approach as described in draft-bernardos-dmm-pmip [1]
  - Distributed Logical Interface concept as described in draft-bernardos-dmm-distributed-anchoring [2]

A PMIPv6-based solution for DMM

- Partially distributed approach for network-based DMM
  - Only data forwarding is distributed
- Entities
  - MAAR: Mobility Anchor and Access Router
    - First IP hop seen by the MNs connected on its access links. It runs LMA and MAG functionalities
  - CMD: Central Mobility Database
    - It stores the mobility sessions for the MNs in the domain
  - 3 different signaling modes:
    - CMD as PBU/PBA relay
    - CMD as MAAR locator
    - CMD as MAAR proxy
    - PBU/PBA signaling between MAARs and CMD (no direct MAAR-to-MAAR signaling)

The Distributed Logical Interface concept

- The Distributed Logical Interface (DLIF) is a software construct allowing to hide the change of anchor from the MN
- Each serving MAAR exposes itself towards a given MN as multiple routers, one per active anchoring MAAR associated to the MN
  - This is achieved by the serving MAAR configuring different logical interfaces
  - From the point of view of the MN, the anchoring MAARs are portrayed as different routers, although the MN is physically attached to a single interface of the serving MAAR

References