Proxy Mobile IPv6 extensions for Distributed Mobility Management

draft-bernardos-dmm-pmipv6-dlif-01

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Outline

• Overview
• Network-based DMM
• Distributed Logical Interface
• Demos & Open Source
• Next Steps
Overview

• Network based DMM approach
  • Based on Proxy Mobile IPv6 (RFC 5213)
• Mobility management pushed to the edge
  • Access router level
• Partially distributed solution
  • **Centralized control plane**
    • A central node (kind-of LMA) stores mobility sessions of MNs
  • **Distributed data plane**
    • Only the edge routers handle the data forwarding
Entities

- **Mobility Anchor and Access Router (MAAR)**
  - One IP hop distance from the MN
  - Concentrates AR, LMA & MAG functions per-MN, per-prefix
    - Access-DPN, Home-DPA and Access-CPN
  - Delegates and anchors an IP prefix to each MN attached
    - Serving MAAR (S-MAAR)
    - Anchor MAAR (A-MAAR)
  - Forwards data packets to/from IP networks

- **Central Mobility Database (CMD)**
  - Central node storing the BCEs of all the MNs in the domain
    - H-CPA
  - It plays the role of the LMA for the control plane
Operations: initial registration

- The S-MAAR registers the MN at the CMD through a PBU/PBA handshake.
CMD as PBU/PBA proxy

• The CMD receives a PBU from the new S-MAAR announcing the MN attachment

• The CMD sends instructions to the S-MAAR and A-MAAR(s) on how to establish the proper routing configuration
Demos & Open Source

- **ODMM**: Open platform for **DMM** solutions
  - https://www.odmm.net
    - GitHub repo http://github.com/ODMM
  - Platform hosting Open Source DMM implementations
    - Mobility Anchors Distribution for PMIPv6 (MAD-PMIPv6)
      - https://odmm.net/node/12
      - draft-bernardos-dmm-pmip & draft-bernardos-dmm-distributed-anchoring

- Network-based DMM demonstrations

  83rd IETF, Paris (March 2012)

  87th IETF, Berlin (July 2013)
Status & Next steps

• Version -00 (merge of previous solution drafts) presented in Singapore
  • Consensus for adopting the document
• Version -01 posted before London
  • Addressing comments received in Singapore from Danny and Sri
  • Discussed over the mailing list
  • Reviews from Dirk, Xinpeng, Alex, Akbar and Daniel
• Ready for WG adoption?