Enhanced mobility anchoring wt

draft-ietf-dmm-distributed-mobility-anchoring-07 H. A. Chan, J. Lee, S. Jeon, A. Petrescu, X. Wei, F. Templin

Changes in 07 from 06

- draft-ietf-dmm-distributed-mobility-anchoring-07
 - a number corrections per Dirk von Hugo
 - mention segment routing as an example mechanism

Changes in 06 from 05

- draft-ietf-dmm-distributed-mobility-anchoring-06 (reviewer comments from Carlos Bernardos)
 - ► Deleted slice
 - Deleted "Security management" and revised affected texts in other sections.
 - Revised Figure 1 and the associated texts in attempt to simplify the figure and to better explain the figure. Other figures are then built upon the style of Figure 1 with some more explanations then in prior versions. Figures 2, 3, 4 are simplified.
 - In section 3.2.2, deleted all other different approaches to update forwarding tables, leaving only the possibility to update forwarding tables in SDN network, which may be using signaling in the cpdp draft.
 - Deleted FM-state:1. Deleted FR-mr:2
 - Added references to a number of example dmm solutions that had been proposed in this dmm wg.
 - And other editing as suggested

Backup slides

Changes in 05 from 04

- draft-ietf-dmm-distributed-mobility-anchoring-05 (reviewer comments from Byju Pularikkal and Pierrick Seite)
 - Condensed Section 3.1.
 - Added reference to network slice
 - and numerous other editing as suggested

Changes in 04 from 03

- draft-ietf-dmm-distributed-mobility-anchoring-04 (reviewer comments from Dirk von Hugo)
 - Extended security section
 - and numerous editing as suggested

Introduction

This draft defines different configurations, functional operations and parameters for distributed mobility anchoring and explains how to use them to make the route changes to avoid unnecessarily long routes.

Describe Distributed Mobility Anchoring

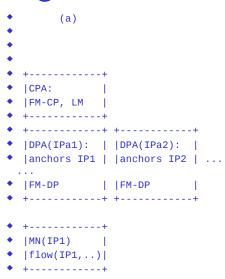
- 3. Distributed Mobility Anchoring
 - ➤ 3.1. Configurations for different networks or network slices
 - 3.1.1. Network-based Mobility Support for a Flat Network
 - 3.1.2. Network-based Mobility Support for a Hierarchical Network
 - 3.1.3. Host-based Mobility Support
 - 3.1.4. Network Mobility (NEMO) Basic Support
 - ► 3.2. Operations and Parameters
 - 3.2.1. Location Management
 - 3.2.2. Forwarding Management

- 4. Mobility Support Only When Needed
 - → 4.1. No Need of IP Mobility: Changing to New IP Prefix/Address 25
 - 4.1.1. Guidelines for IPv6 Nodes
 - ≥ 4.2. Need of IP Mobility
 - 4.2.1. Guidelines for IPv6 Nodes

- ◆ 5. IP Mobility Handling in Distributed Mobility Anchoring Environments - Anchor Switching to the New Network
 - > 5.1. IP Prefix/Address Anchor Switching for Flat Network
 - 5.1.1. Guidelines for IPv6 Nodes: Switching Anchor for Flat Network
 - ➤ 5.2. IP Prefix/Address Anchor Switching for Flat Network with Centralized Control Plane
 - 5.2.1. Additional Guidelines for IPv6 Nodes: Switching Anchor with Centralized CP
 - ≥ 5.3. Hierarchical Network
 - 5.3.1. Additional Guidelines for IPv6 Nodes: Hierarchical Network with No Anchor Relocation
 - ➤ 5.4. IP Prefix/Address Anchor Switching for a Hierarchical Network
 - 5.4.1. Additional Guidelines for IPv6 Nodes: Switching Anchor with Hierarchical Network
 - ≥ 5.5. Network Mobility
 - 5.5.1. Additional Guidelines for IPv6 Nodes: Network mobility

Revised and simplified Figure 1

Figure 1 in 05



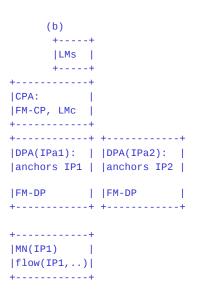
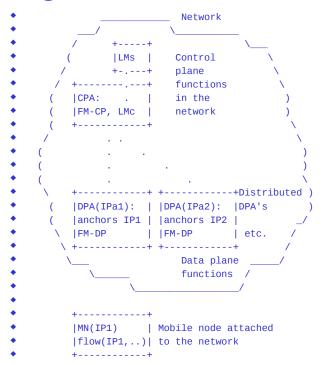


Figure 1 in 06



Revised Figure 9

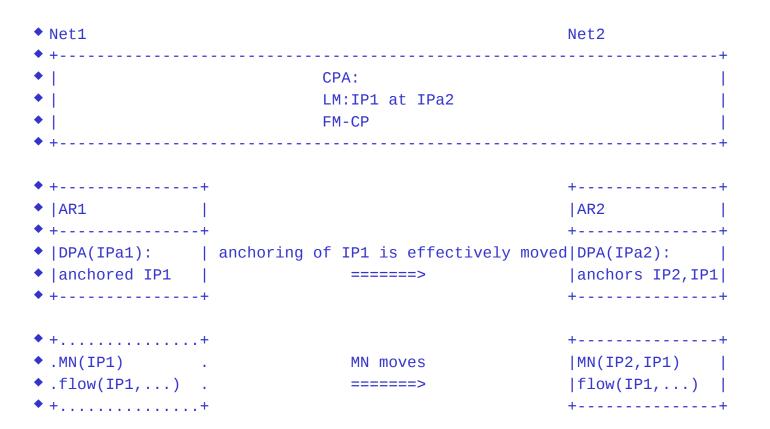


Figure 12

```
CPA, CPN, Aggregate Router: LM: IP1 at IPn2 at IPa2
                           FM-CP
                      +----+
                      | Aggregate Router
                      +----+
                      IFM-DP
                      +----+
+ +----+
IAR1
                                           IAR2
◆ | DPA(IPa1):
             | anchoring of IP1 is effectively moved|DPA(IPa2):
◆ |anchored IP1
                                           |anchors IP2, IP1|
                         ======>
+ +---+
                                           +----+
◆ | FW1
                                           FW2
+ +----+
                        FW is changed
                                           +----+
◆ | DPN(IPn1):
                         ---->
                                           |DPN(IPn2):
♦ | FM-DP
                                           I FM - DP
+----+
+----+
• .MN(IP1)
                         MN moves
                                           |MN(IP2, IP1)
◆ .flow(IP1,...) .
                                           |flow(IP1,...) |
+....+
                                           +----+
```

Figure 13

```
CPA, Aggregate Router: LM:IP1 at IPa2; IPn1 at IP1
                           FM-CP,
                                   LM
•
                    +----+
                    |Aggregate Router
                    +----+
                     | FM-DP
                    +----+
+ +----+
                                         +----+
◆ | AR1
                                         IAR2
                                         +----+
+ +----+
◆ | DPA(IPa1):
             anchoring of IP1 is effectively moved|DPA(IPa2):
◆ |anchored IP1
                                         |anchors IP2, IP1|
                        =====>
◆ |DHCPv6-PD IPn1
◆ | FM-DP
                                         IFM-DP
+ +----+
                                         +----+
+....+
                                         +----+
• .MR(IP1)
                                         [MR(IP2, IP1)
                        MR moves
+...+
                        ======>
                                         +----+
• .FM,
     LMc .
                                         |FM, LMc |
◆ .delegated IPn1 .
                                         |delegated IPn1 |
++...+
                                         +----+
+....+
                                         +----+
• .MNN(IPn1)
                                         |MNN(IPn1)
                     MNN moves with MR
◆ .flow(IPn1,...) .
                                         |flow(IPn1,...) |
                        =====>
++...+
                                         +----+
```