Enhanced mobility anchoring wt

draft-ietf-dmm-distributed-mobility-anchoring-06

H. A. Chan, J. Lee, S. Jeon, A. Petrescu, X. Wei, F. Templin

Reviewers

- Version 03
- Dirk von Hugo, April 11
  - Version 04
- Byju Pularikkal, April 17
- Pierrick Seite, May 2
  - Version 05
- Carlos Bernardos, June 5
  - Version 06
- Marco – coming

Changes in 04 from 03

- draft-ietf-dmm-distributed-mobility-anchoring-04
  - Extended security section
  - and numerous editing as suggested

Changes in 05 from 04

- draft-ietf-dmm-distributed-mobility-anchoring-05
  - Condensed Section 3.1.
  - Added reference to network slice
  - and numerous other editing as suggested

Changes in 06 from 05

- draft-ietf-dmm-distributed-mobility-anchoring-06
  - 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

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

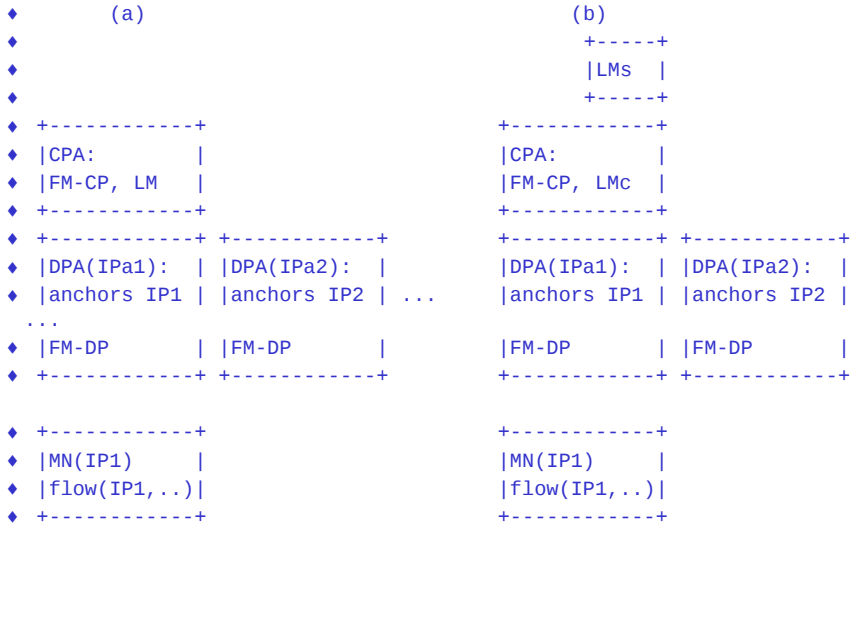
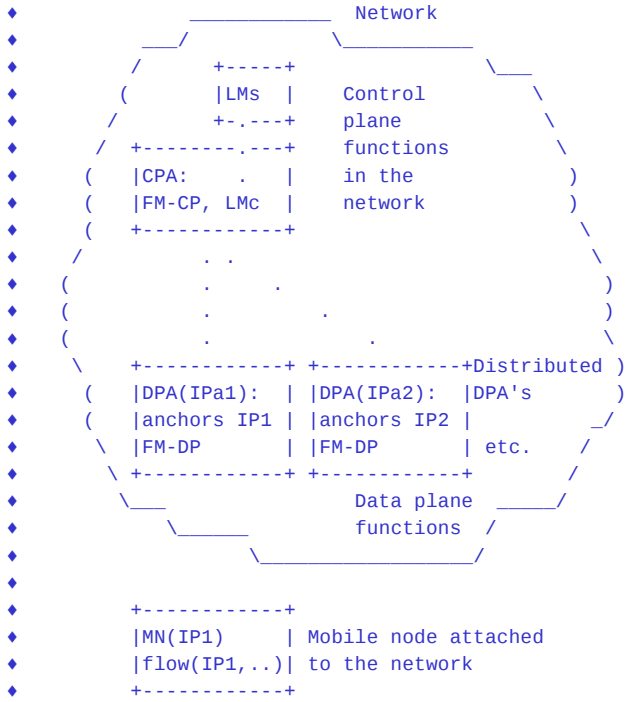
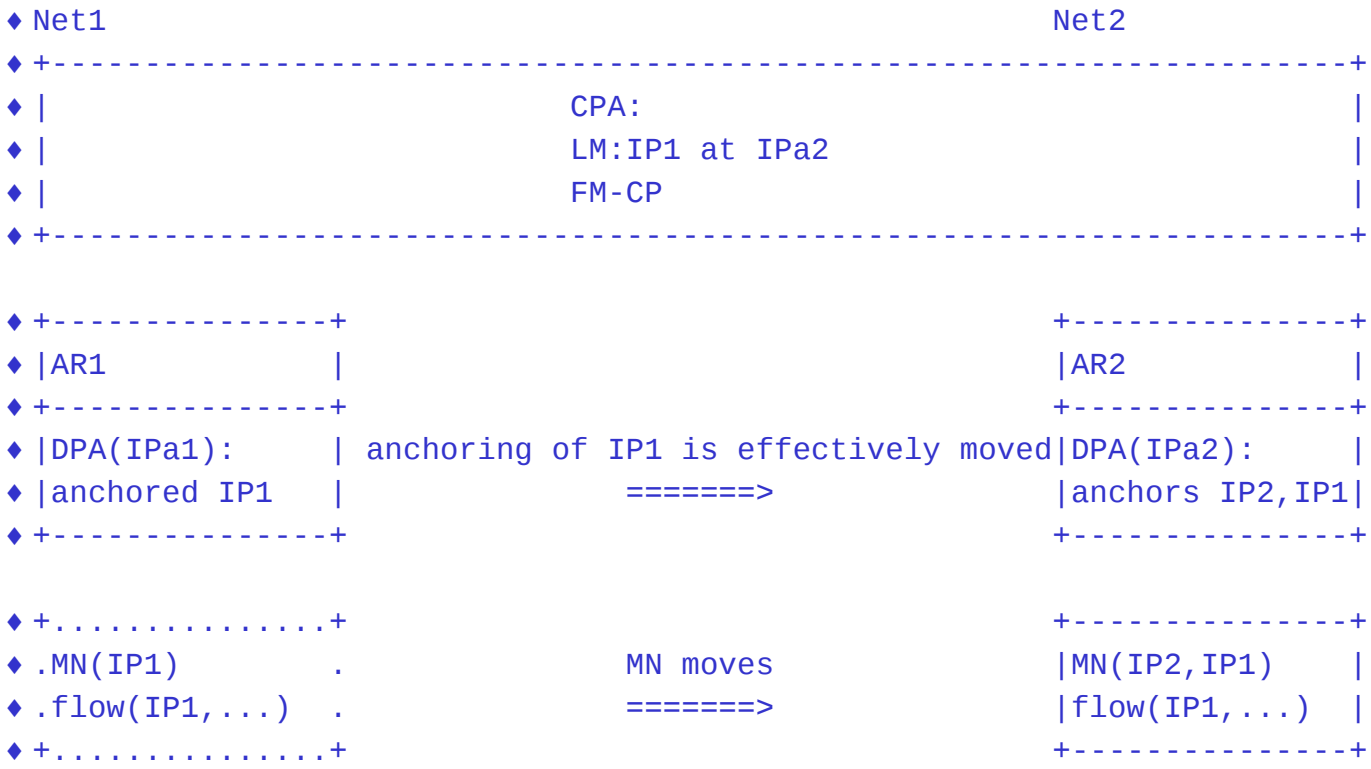


Figure 1 in 06



Revised Figure 9



Backup slides

Figure 12

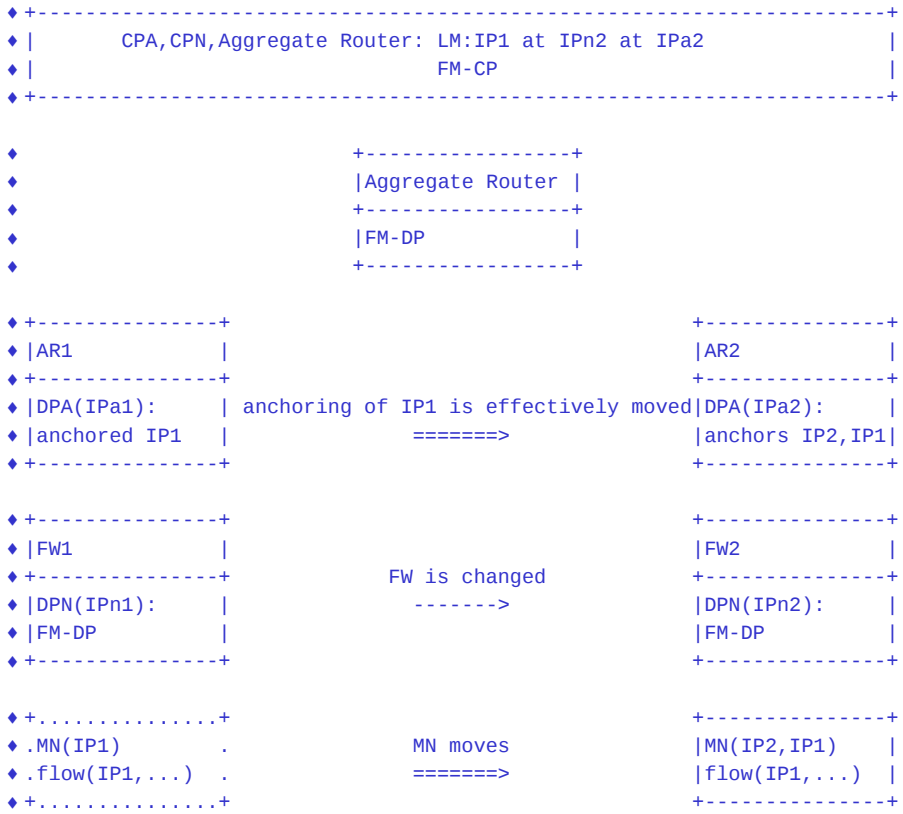
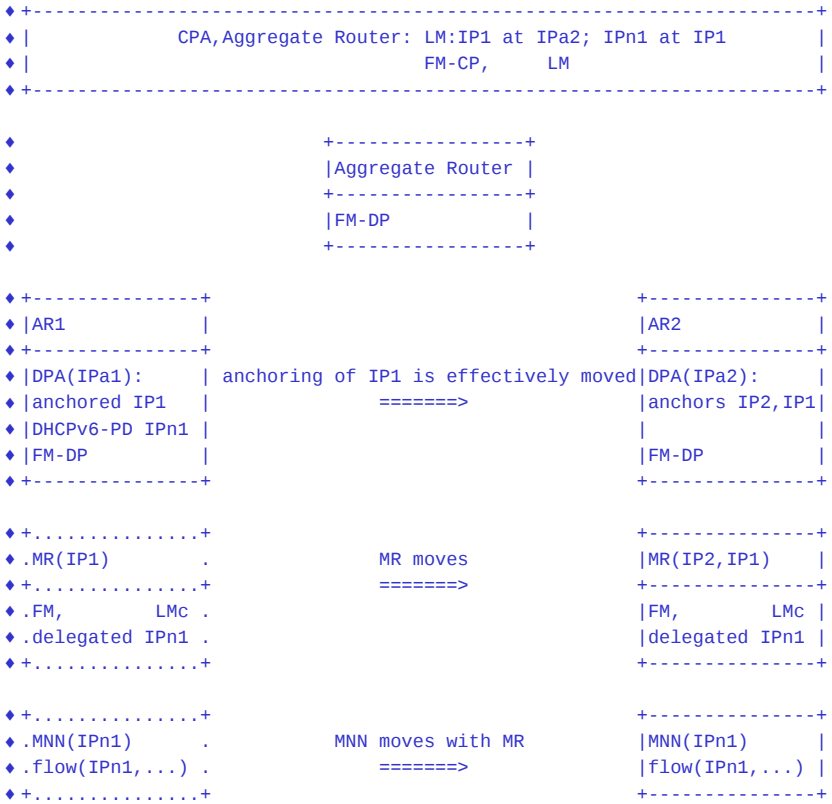

CPA,CPN,Aggregate Router: LM:IP1 at IPn2 at IPa2
FM-CP
Aggregate Router
FM-DP
AR1
DPA(IPa1):
anchored IP1
anchoring of IP1 is effectively moved
=======>
AR2
DPA(IPa2):
anchors IP2,IP1
FW1
DPN(IPn1):
FM-DP
FW is changed
------->
FW2
DPN(IPn2):
FM-DP
.MN(IP1)
.flow(IP1,...)
MN moves
=======>
MN(IP2,IP1)
flow(IP1,...)

Figure 13


CPA,Aggregate Router: LM:IP1 at IPa2; IPn1 at IP1
FM-CP, LM
Aggregate Router
FM-DP
AR1
DPA(IPa1):
anchored IP1
DHCPv6-PD IPn1
FM-DP
anchoring of IP1 is effectively moved
=======>
AR2
DPA(IPa2):
anchors IP2,IP1
FM-DP
.MR(IP1)
.FM, LMc
.delegated IPn1
MR moves
=======>
MR(IP2,IP1)
FM, LMc
delegated IPn1
.MNN(IPn1)
.flow(IPn1,...)
MNN moves with MR
=======>
MNN(IPn1)
flow(IPn1,...)