AAA Support for PMIP6 mobility entities authorization and Discovery during localized routing

Glen Zorn
Qin Wu
Marco Liebsch
Jouni Korhonen

Status

- Presented in IETF 76, adopted as WG item based on feedback from the Group

- Changes in this initial version WG draft
  - Combine draft-wu-dime-pmip6-lr and draft-liebsch-dime-pmip6-lmaresolve-01
  - Remove interaction between MAG1 and the AAA server
  - Allocate new value in the Mobility Capability Registry for use with MIP6-Feature-Vector instead of defining new value for service type

Issues #1: Merging with Liebsch's work

- Add authorization with multiple AAA servers extracted from draft-liebsch-dime-pmip6-lmaresolve-01

- Remove interaction between MAG1 and the AAA server

- Discovery takes place as a side-effect of authorization, coupling the query to localized routing authorization is a good choice

Issue #2: Allocate new bits/flag in the MIP6-Feature-Vector

- The requesting peer sets this flag if LR feature/capability is supported/desired.

- The answering/authorizing peer sets the same flag in the response
  - if a) it was in the request
  - and b) authorization for the requested feature/capability succeeds & exists.

Issue #3: More flexible extension for increased applicability?

- Proposal for more flexibility: According to Slide 3

- Extension applicable to more use cases

  – Add one new use case on LMA resolution as further example

- Clarification with the DIME WG:

  – The NetExt WG has not arrived at consensus on a solution for multi-LMA support for Localized Routing

  – <u>But:</u> Increasing flexibility with the proposed Diameter extension allows application to different LR use cases

Proposal 1 from Editors

- To make protocol operation more generic, Change figure 2 in I-D.ietf-dime-pmip6-lr as follows:

```
+---+       +----+       +----+        +---+       +----+      +----+      +---+
|MN1|       |MAG1|       |LMA1|        |AAA|       |LMA2|      |MAG2|      |MN2|
+-+-+       +-+--+       +-+--+        +-+-+       +-+--+      +-+--+      +-+-+
  |           |            |             |           |           |          |
  |         Anchored       |             |           |         Anchored     |
  o------------------------o             |           o------+--------------o
Data[MN1->MN2]             |             |           |           |          |
  |-------->|              |             |           |           |          |
  |           |LROREQ(MN2)               |           |           |          |
  |         |-------->|                  |           |           |          |
  |           |        |AAR(MN2,MFV)     |           |           |          |
  |           |        |--------->|      |           |           |          |
  |           |        |AAA(LMA2) |      |           |           |          |
  |           |        |<---------|      |           |           |          |
  |         |LRORSP(LMA2)         |      |           |           |          |
  |         |<-------|            |      |           |           |          |
```
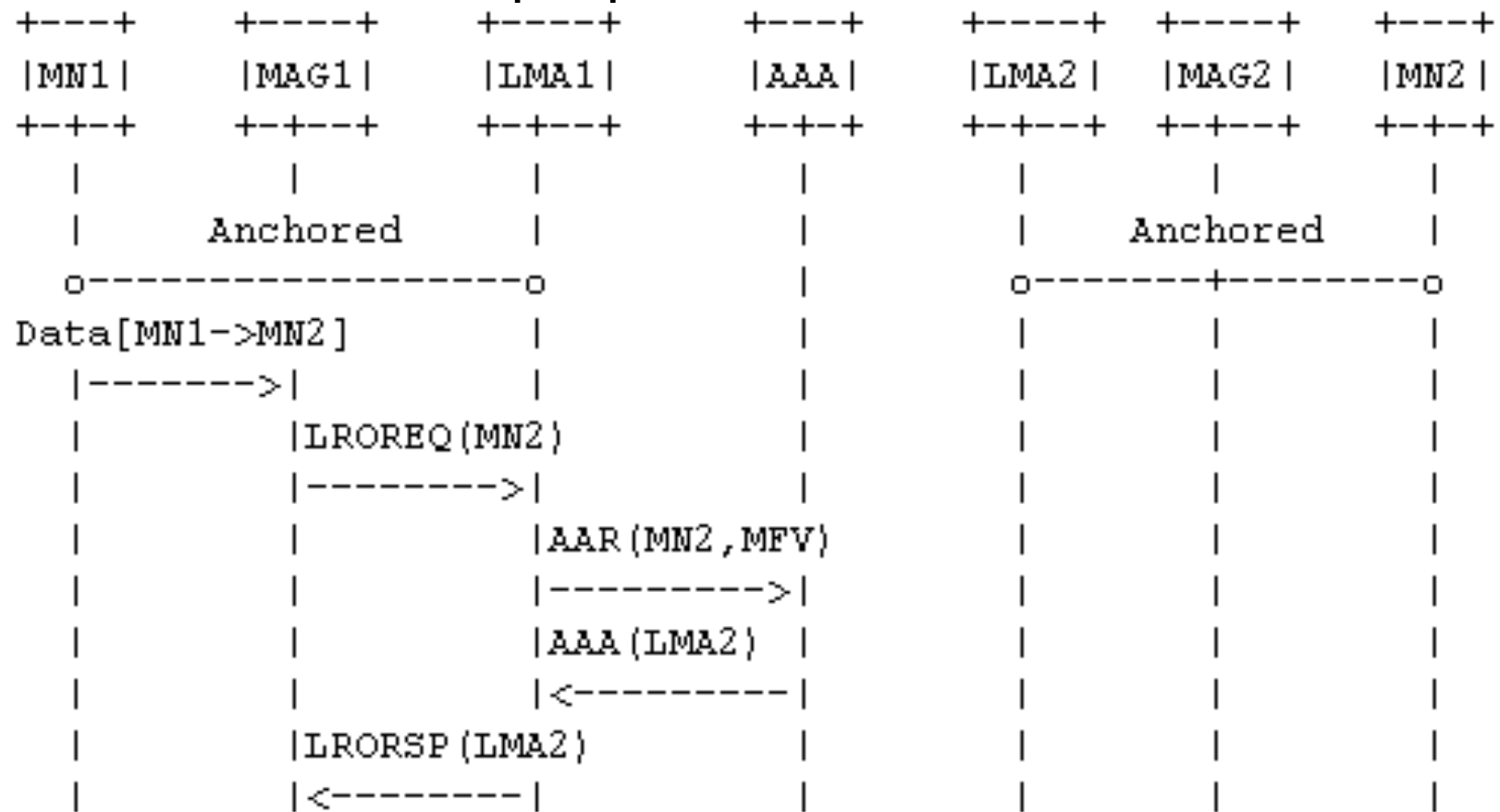Figure 2: MAG-initiated Localized Routing Authorization

Proposal 1 from Editors

- Also Change figure 3 in I-D.ietf-dime-pmip6-lr as follows:

```
+--+      +---+    +---+         +--+       +---+     +---+    +--+
|MN1|     |MAG1|   |LMA1|        |AAA|      |LMA2|    |MAG2|   |MN2|
+-+-+     +-+-+    +-+-+         +-+-+      +-+-+     +-+-+    +-+-+
  |         |        |            |           |         |       |
  |      Anchored    |            |           |      Anchored   |
  o--------+------o  |            |           o-------+--------o
  | Data[MN2->MN1] |  |           |           |         |       |
  |--------+------>|  |           |           |         |       |
  |         |        |AAR(MN2,MFV) |           |         |       |
  |         |        |--------->|  |           |         |       |
  |         |        |AAA(LMA2)  |  |           |         |       |
  |         |        |<---------|  |           |         |       |
  |      LROREQ(MN2,LMA2)        |  |           |         |       |
  |         |<------|            |  |           |         |       |
  |      LRORSP(Succ)            |  |           |         |       |
  |         |------>|            |  |           |         |       |
```
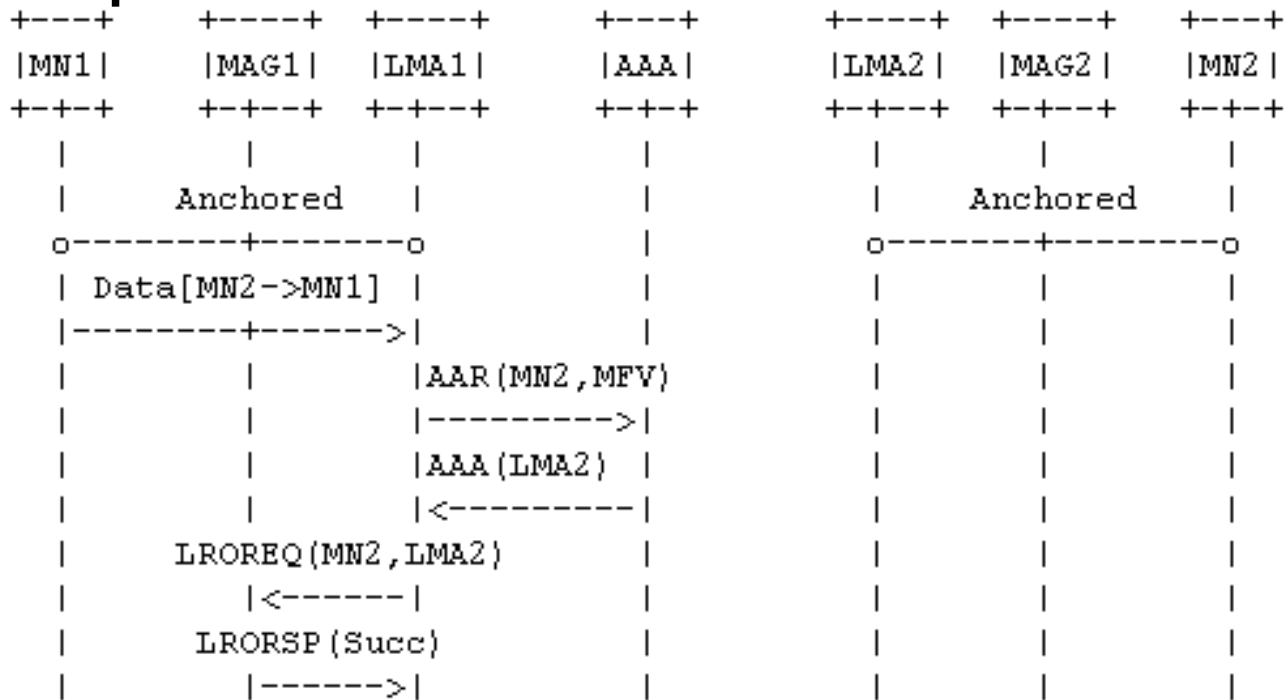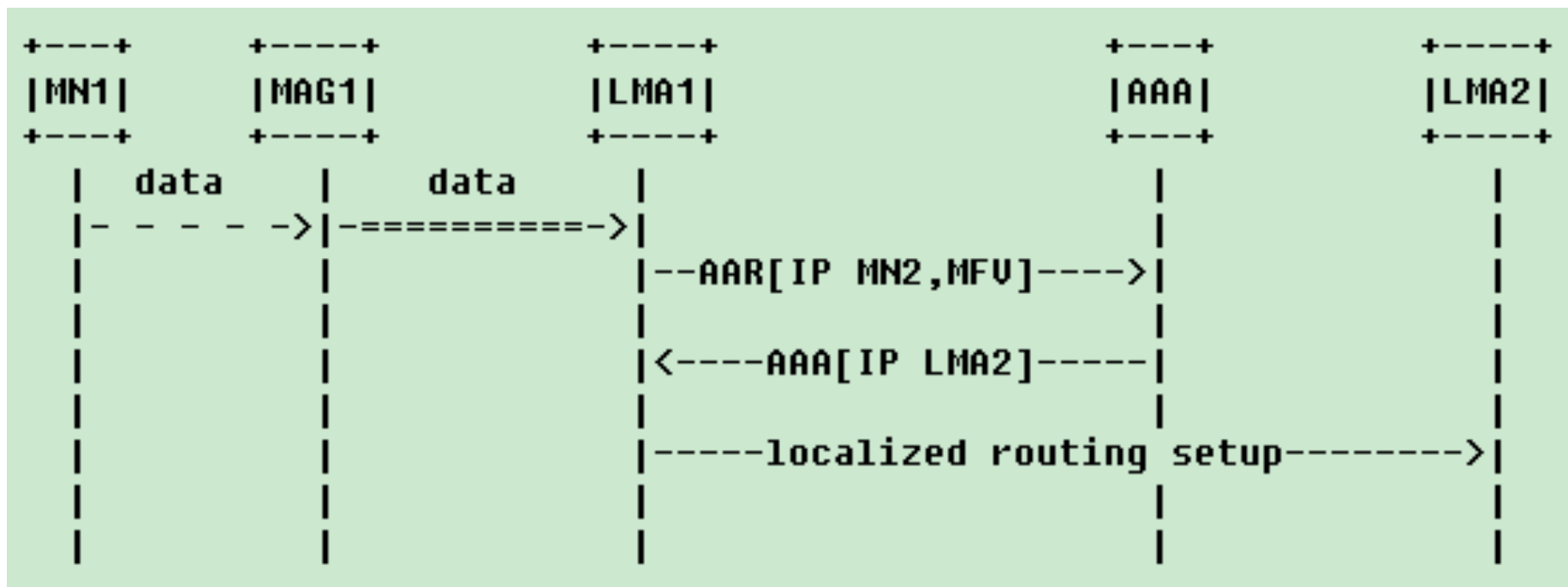
Figure 3: LMA-initiated Localized Routing Authorization

Proposal 2 from other author (Marco)

- Add one new use case that the LMA resolution can be used

```
+---+        +----+           +----+                    +---+              +----+
|MN1|        |MAG1|           |LMA1|                    |AAA|              |LMA2|
+---+        +----+           +----+                    +---+              +----+
 |   data     |     data       |                         |                  |
 |- - - - ->|-==========->|                              |                  |
 |            |                |--AAR[IP MN2,MFU]---->|                     |
 |            |                |                         |                  |
 |            |                |<----AAA[IP LMA2]-----|                     |
 |            |                |                         |                  |
 |            |                |-----localized routing setup------->|       |
 |            |                |                         |                  |
 |            |                |                         |                  |
```

Proposal 3 from other author (Marco)

- Figure 1 in the I-D.ietf-dime-pmip6-lr should not list a. and b. as steps, as it may confuse the reader to think both steps are mandatory, suggest to reword as:

  "

  The interaction of the MAG and the LMA

  with the AAA server according to the extension specified in this document

  considers the following features

  "

Moving Forward

- Request WG to make decision on these three proposals?

- Encourage more review of draft and early feedback