DMM Approaches with Functional Decomposition

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ATLANTA, NOV.2012

Functional Decomposition

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draft-chan-dmm-framework-gap-analysis

- Basic Functional Elements
 - ◆ MR (Mobility Router) : First hop router
 - LM (Location Management)
 - ◆ HAA (Home Address Allocation)
- MRs are deployed in a distributed manner
- ◆ LM/HAA could be deployed in centric manner or deployed as distributed database

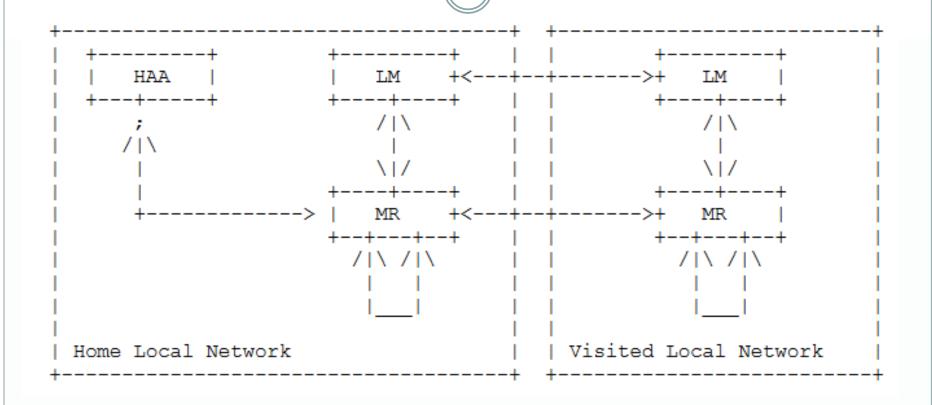
Example of Networking Model

One Administrative Domain

```
) ( LM2/HAA2
  LM1/HAA1
                         ) ( LM3
                                    HAA3
MR11
      MR12
              ) ( MR2
                          ) ( MR31
                                    MR32
                 Local
      Local
                                    Local
     Network1 Network2
                                   Network3
MN1
                              MN2
```

- ◆ A dmm administrative domain consists of multiple Local Networks
- ◆ Each Local Network
 - ◆ Includes one or multiple MRs
 - Includes one HAA and at least one LM
- ◆ Create Interface among LMs within this domain

Concept Architecture



- ◆ Home Local Network: the local network in which the MN performs initial attachment and be assign with IP prefix/address
- ◆ Visited Local Network: the local network the MN is current attached to

Optimized Routing Setup Scenario 1

```
| MR31
                                  MR11
1.IP Traffic
======> | 2. Query
             3. Rsp
    4.Record Location
      of MN1 Locally
              5. Distributed Routing
                                     6.IP Traffic
                                     ======>
```

Buffering first few packets

Optimized Routing Setup Scenario 2

```
| MR12 | | MR11 |
1.IP Traffic
   |2.Don't have MN1's |
     Routing Location |
           | 3. Regular IPv6 Routing
                         4. Query
                         5. Rsp | 6. Distributed
                       ---->| Routing
                8. Redirect |======>|
                                             7.IP Traffic
                                             |======>
                   9. Distributed Routing
                                            10.IP Traffic
                                             |=======>
```

◆ Transfer first few packets to MR which assigns IP prefix/address to the MN in its home network