

# DMM Framework and Analysis based on Functional Elements

draft-liebsch-dmm-framework-analysis-01

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DMM WG

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# Document history

- -00 presented in Atlanta
- Changes in version 01:
  - Included Mobile Node C-/U-Plane functions to the set of available functions where DMM functions can be added
  - Added uplink routing considerations
  - Added examples about how to use the framework for a gap analysis and for the design of optimized DMM solutions
  - Positioning of a Multicast framework to be discussed with the WG
  - Clearer structure with framework as document core and valuable applications of the framework in the appendix

# Motivation and Methodology

- Define Protocol agnostic **Functional Framework** for DMM specification and analysis
  - can apply to solutions that are solely based on existing IP mobility protocols
  - can apply to solutions which get support from non mobility protocols
- Define specific DMM Functional Entities
  - Keep these functions decoupled from IP mobility management protocols, but complementary
- Apply DMM Functional Entities to architecture components of existing architectures & associated protocols
  - DMM FEs expected to be added to existing mobility and network functions

# Existing and DMM functional entities

- Existing functional entities:

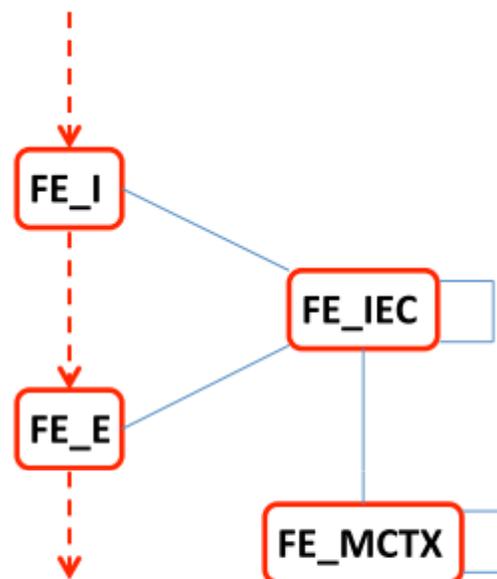
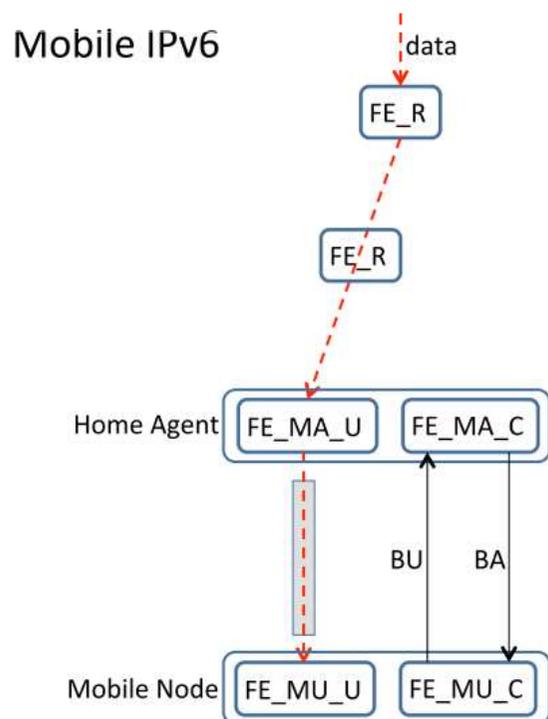
FE\_MA\_C: FE Mobility Anchor, Control Plane

FE\_MA\_U: FE Mobility Anchor, User Plane

FE\_MU\_C: FE Mobile User Client, Control Plane

FE\_MU\_U: FE Mobile User Client, User Plane

FE\_R: FE of a standard IP Router/Switch



- 4 Specific DMM functions:

**FE\_I:** Ingress for DMM indirection

**FE\_E:** DMM Egress Function

**FE\_IEC:** Control to establish states for DMM indirection

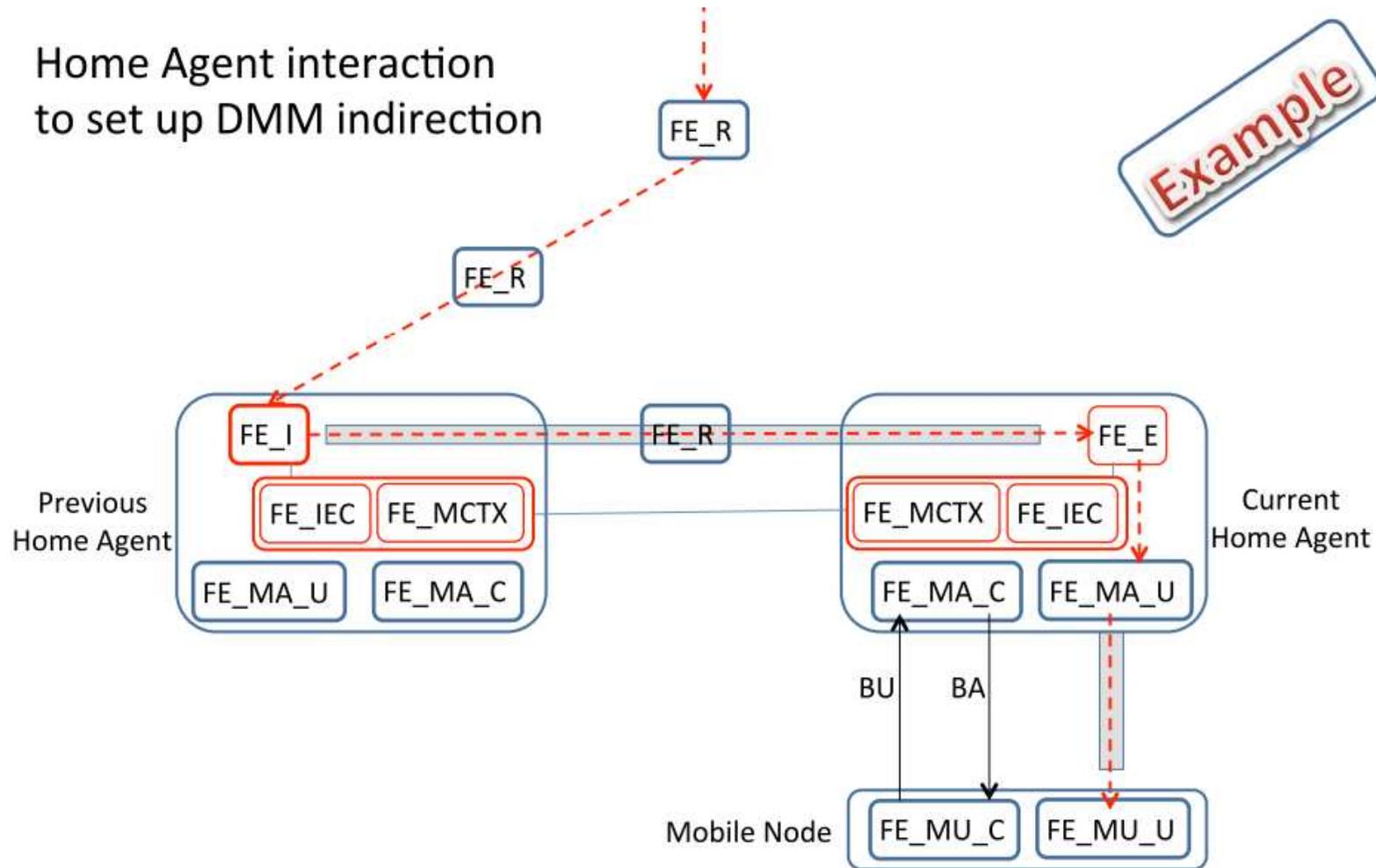
**FE\_MCTX:** Function to establish MN mobility context

# Application

- A DMM FE may be accomplished by an existing protocol or an extension to an existing protocol
- Not all identified DMM Functional Entities may be required
  - Depends on the target level of optimization (e.g. routing) and requirements (e.g. host modification)

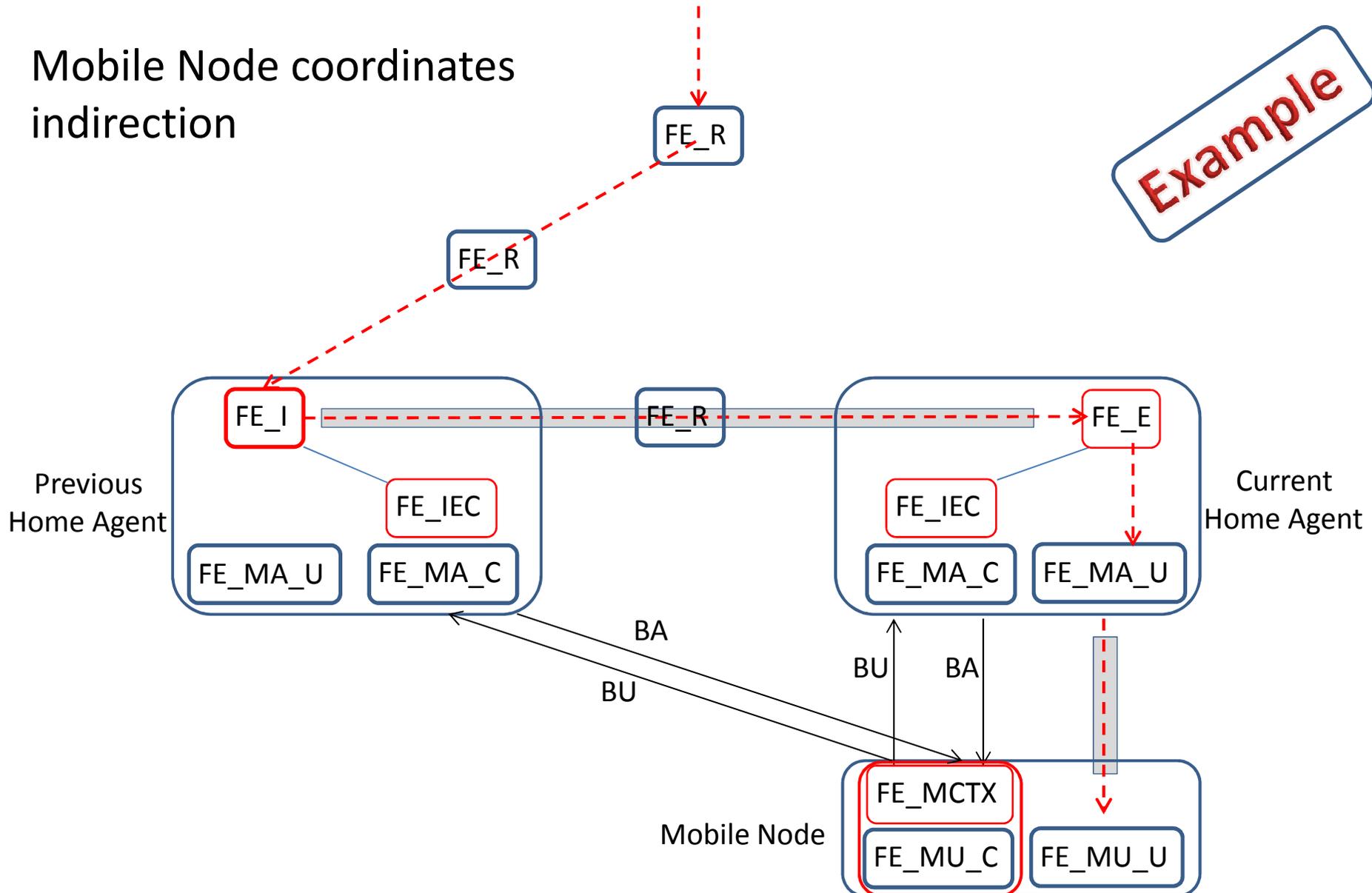
# Mobility Protocol Centric Solutions

Home Agent interaction  
to set up DMM indirection



# MN Centric Model – Mobile IPv6

Mobile Node coordinates  
indirection



# Conclusions

- DMM analysis and specification of extensions should be done on a functional level
- Proposed functional framework enables analysis and specification beyond mobility protocol level
  - Keep DMM solution extensible and deployable

# Next Steps

- DMM Unicast Framework considered mature
  - Further feedback appreciated
- Solicit feedback to the DMM Multicast Framework
  - How to position the DMM Multicast Framework?
- Adopt this framework in the DMM WG?