DMM Requirements
draft-ietf-dmm-requirements

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Status

- Draft-ietf-dmm-requirements-01
- Discussed extensively in IETF 84

- Draft-ietf-dmm-requirements-02
- Changes based on discussions in IETF84
- Also minor improvements in text: improve clarity, avoid long sentences
- Uploaded and sent each requirement in separate email to solicit further comments.
- Received no suggested changes

REQ1: Distributed deployment

- Minor improvements in text: improve clarity, avoid long sentences
- REQ1:
- Motivation
- PS1: Non-optimal routes
- PS2: Non-optimality in Evolved Network Architecture
- PS3: Low scalability of centralized route and mobility context maintenance
- PS4: Single point of failure and attack

REQ2: Transparency to Upper Layers when needed

- Minor improvements in text: improve clarity, avoid long sentences
- REQ2:
- Motivation
- PS5: Wasting resources to support mobile nodes not needing mobility support – Rephrase based on comments at IETF84
- O-PS1: Mobility signaling overhead with peer-to-peer communication – Revise to clarify

REQ2: Transparency to Upper Layers when needed

- PS5: IP mobility support is not always required, and not every parameter of mobility context is always used. For example, some applications do not need a stable IP address during a handover to maintain IP session continuity. Sometimes, the entire application session runs while the terminal does not change the point of attachment.
- O-PS1: Wasting resources when mobility signaling (e.g., maintenance of the tunnel, keep alive, etc.) is not turned off for peer-to-peer communication. Peer-to-peer communications have particular traffic patterns that often do not benefit from mobility support from the network. Thus, the associated mobility support signaling (e.g., maintenance of the tunnel, keep alives, etc.) wastes network resources for no application gain. In such a case, it is better to enable mobility support selectively.

REQ3: IPv6 deployment

- Minor improvements in text: improve clarity, avoid long sentences
- REQ3
- Motivation

REQ5: Compatibility

- Re-ordered sentences, rephrase to remove trusted networks
- The DMM solution MUST be able to co-exist with existing network deployments and end hosts. For example, depending on the environment in which DMM is deployed, DMM solutions may need to be compatible with other deployed mobility protocols or may need to interoperate with a network or mobile hosts/routers that do not support DMM protocols. Furthermore, a DMM solution SHOULD work across different networks, possibly operated as separate administrative domains, when allowed by the trust relationship between them.
- Motivation: The motivations of this requirement are (1) to preserve backwards compatibility so that existing networks and hosts are not affected and continue to function as usual, and (2) enable inter-domain operation if desired.

REQ6: Security considerations

- REQ6: Added examples of security aspects
- Motivation

REQ6: Security considerations

- DMM protocol solutions MUST consider security aspects, including confidentiality and integrity. Examples of aspects to be considered are authentication and authorization mechanisms that allow a legitimate mobile host/router to use the mobility support provided by the DMM solution; signaling message protection in terms of authentication, encryption, etc.; data integrity and confidentiality; opt-in or opt-out data confidentiality to signaling messages depending on network environments or user requirements.