

Multimob possible future work I': dmm multicast

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Introduction

- Multimob chartered focus so far: guidance for supporting multicast in a mobile environment ... limited to Proxy Mobile IPv6
 - LMA ne. MAG!
- What about DMM? Would base solution apply to flat infrastructure (MAR=LMA=MAG)
 - Worse tunnel convergence problem
 - counteract optimization of multicast traffic during a handover
 - and/or support multicast source mobility efficiently?

Distributed Mobility Management

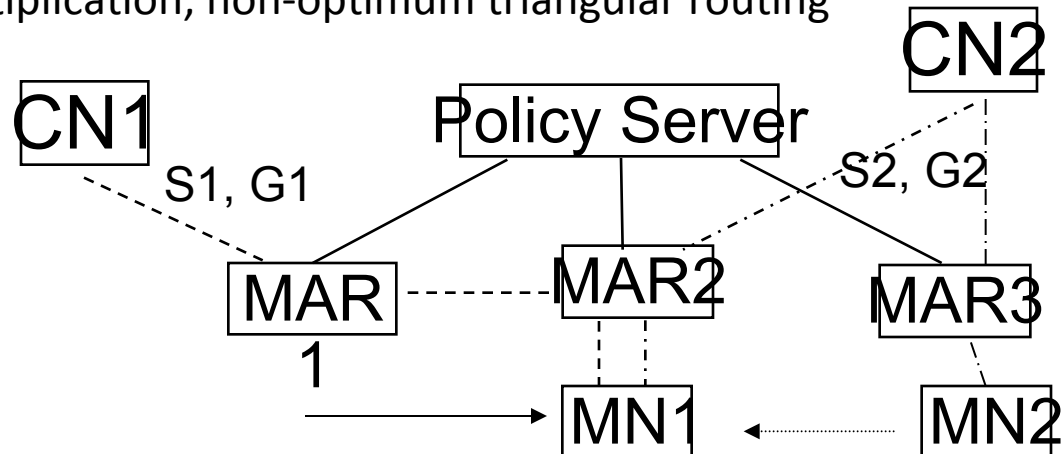
- detailed protocol up to now unknown
 - E.g. inheriting from PMIP or CMIP?
- importance of DMM concept thanks to (promised) improved
 - scalability/robustness,
 - routing path length/delay and network load
 - i.e. efficiency ... e.g. control/data
 - support for NG service-centric content- and cloud-based networks
- New networks evolve towards flat architecture due to (expected and real)
 - Mobile data traffic growth
 - mainly video => efficient data dissemination => multicast

Mobile Multicast

- Multicast: typically single source for multiple receivers, i.e. centralized scenario
 - Mobility caused challenges like tunnel convergence, data duplication, ...
- Under such a prospect, the MULTIMOB WG needs to identify
 - base solution causes traffic impact on DMM
 - use cases applicable to DMM
 - Study PMIP & CMIP multicast architectures for dmm and identify problems arising
- Way forward: assuming generic dmm components, i.e.
 - Multiple anchors (e.g. Mobility Anchor/Access Router, MAR) at network edge instead of central entity
 - transparent maintenance of active sessions during mobility
 - Optimal efficient traffic distribution

DMM Multicast

- Assumed architecture
 - Multicast sources at CN1, CN2
 - Policy server/common data base required only for some approaches?
 - Inter-MAR tunnels or MN to MAR tunnels to forward data and/or control
 - (dynamic) address management
 - Optimization broken?
 - traffic multiplication, non-optimum triangular routing



Open questions

- DMM as natural evolution for next re-chartering?
- Problem statement required?
- Way forward ...

Back-up: “State of the art”

Exemplary solutions

- Multicast Support for PMIPv6-based DMM
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PMIPv6-based DMM use cases

analyses resulting problems from both listener and sender perspective, with MLD Proxy and Multicast Router at Mobility AR

- Triangular routes for mobile multicast source

Context/state transfer for DMM Multicast

- Context Transfer for Multicast support in Distributed Mobility Management (DMM)
 - describes context transfer based concept to support overarching IP multicast services applicable to various existing approaches for Distributed IPv6/MIPv6 Management (DMM) (MIPv6 based on Proxy Mobile IPv6 (PMIPv6) or Mobile IPv6 (MIPv6))
 - Proposes to only transfer group management between MARs
 - New XML messages) options
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 - how to maintain synch with unicast