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
– Multicast support for MIPv6-based DMM
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 Mobility Management (DMM) based on Proxy Mobile IPv6 (PMIPv6) or Client Mobile IPv6 (MIPv6).
  - Proposes to only transfer group management between MARs using new in-band options.
  - How to maintain sync with unicast.
   - Proposes to only transfer group management between MARs using new in-band options.

• New CXTP messages/options