Extension of the MLD proxy functionality to support multiple upstream interfaces

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Motivation

• The support of multiple upstream interfaces on an MLD proxy functionality has been identified as an opportunity for system optimization

• Complexity
  • Handling of control messages for/from multiple upstreams
  • Efficient handling of data traffic for/from multiple upstreams

• Purpose
  • Requirements identification for supporting multiple upstreams
  • Specification of the needed MLD proxy functional extensions

• Changes from last version
  • Fixed network communication scenarios introduced
  • PMIPv6 appendix included for explanatory introduction to mobile scenarios (MULTIMOB-centered)
Scenarios of applicability for MULTIMOB

• Advantages for MULTIMOB scenarios:
  ✓ Traffic routing optimization within the PMIPv6 domain
  ✓ Simultaneous support of remote & local multicast subscription
  ✓ Avoidance of multi-MLD proxy instances on MAG

• Documented listener mobility scenarios
  ✓ Single MLD proxy instance on MAG
  ✓ Remote and local multicast subscription
  ✓ Dual subscription to multicast groups during handover

• Documented source mobility
  ✓ Support of remote and direct subscription in basic source mobility
  ✓ Direct communication between source and listener associated with distinct LMAs but on the same MAG
  ✓ Route optimization support in source mobility for remote subscribers
Next steps

• Collect pending / potential MULTIMOB scenarios not yet covered

• Receive comments on documented requirements, and identify new ones, if not yet raised

• Move the draft proposal to PIM WG
  – Keep ensuring alignment with present and future MULTIMOB WG goals