

Multicast Mobility

Rajeev Koodli

Problem Space

- Multicast data reception and transmission is not guaranteed without explicit signaling *synchronized* with mobility
- What specific actions are needed to ensure:
 - Continued multicast data reception (multicast receiver mobility (MRM))
 - Continuation of multicast data transmission (multicast sender mobility (MSM))

Subject to..

Problem Space Requirements

- Works as normal multicast would (with better performance hopefully); i.e., functioning integrity is not compromised
- Real-time constraints (e.g., multicast reception within X ms of obtaining IP connectivity)
- Packet loss constraints (e.g., ensure lossless multicast reception)
- Minimize signaling on the mobile node and on the network
- Resource constraints (power, CPU,..)

Two Broad Scenarios

- Home network multicast support
 - MIP6 extensions to support multicast traffic without (multiple) unicast tunnels
- Visited network multicast support
 - Provide multicast reception subject to constraints identified earlier
 - Work on multicast sender problem

Specific (multicast receiver) problems

- IGMP/MLD ?
 - Are these tunable parameters specific to a deployment?
- MIP6 multicast traffic “aggregation” ?
 - Extensions to Home Agent to avoid tunneling multicast data within unicast
- Inter-access router protocol to ensure continuation of subscription?
 - To disengage multicast tree convergence latency from time-critical path