

**I E T F<sup>®</sup>**

# Routes Optimization for Multicast Sender in Proxy Mobile IPv6 Domain

**<draft-liu-multimob-pmipv6-multicast-ro-01>**

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# Objective of the Draft

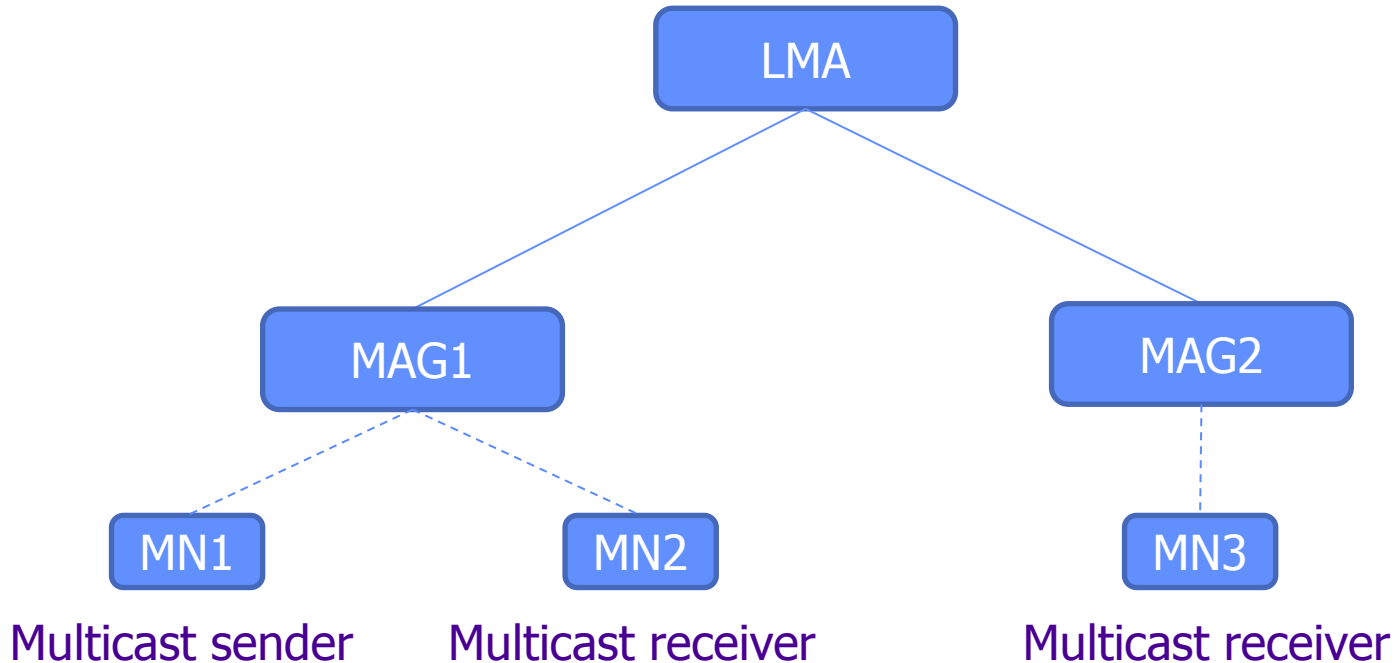
➤ Define Optimized Multicast Sender support for PMIP

➤ Scenario:

1. Multicast sender locally attaches to the MAG
2. The multicast sender sends multicast data to the multicast listeners in the PMIPv6 domain

➤ Send multicast data through bidirectional tunnel between two MAGs

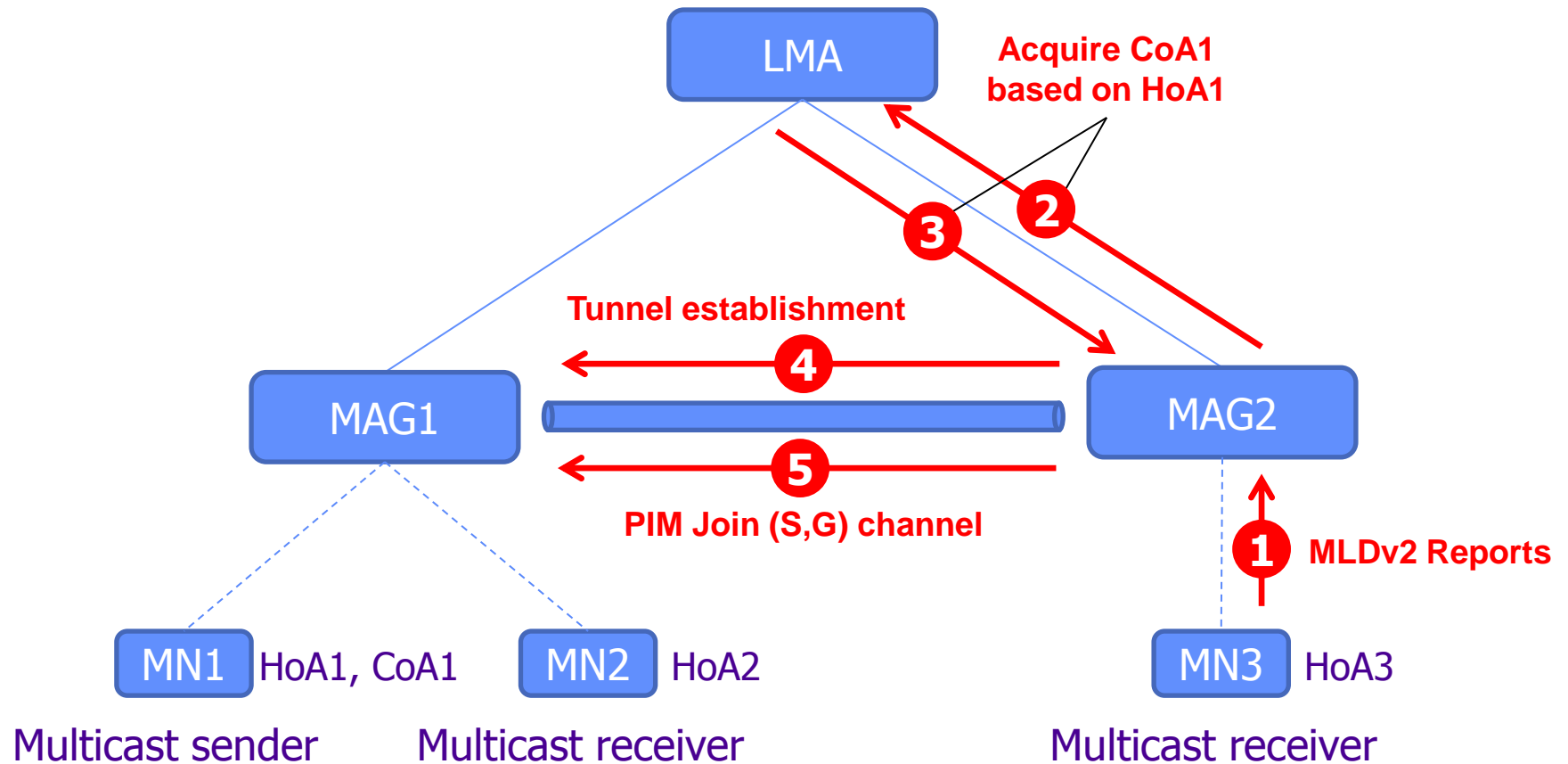
# Multicast Sender Deployment in PMIPv6



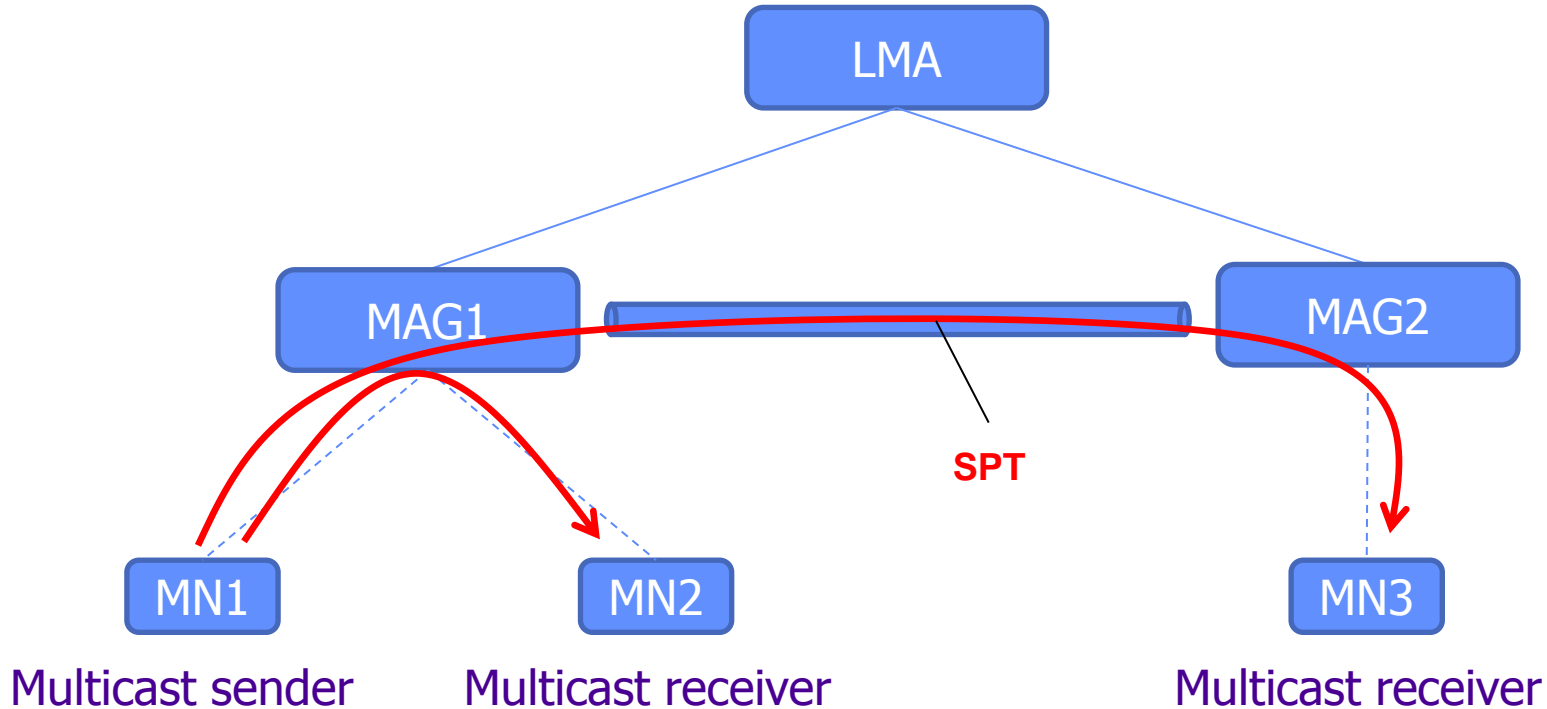
## o Requirements on MN and MAG

- Multicast receiver(e.g., MN2 and MN3) operate as an "SSM-aware" host [RFC4604]
- MAG(e.g., MAG1 and MAG2) operate as an "SSM-aware" router [RFC4604]

# Optimized SPT establishment(SSM Scenario )



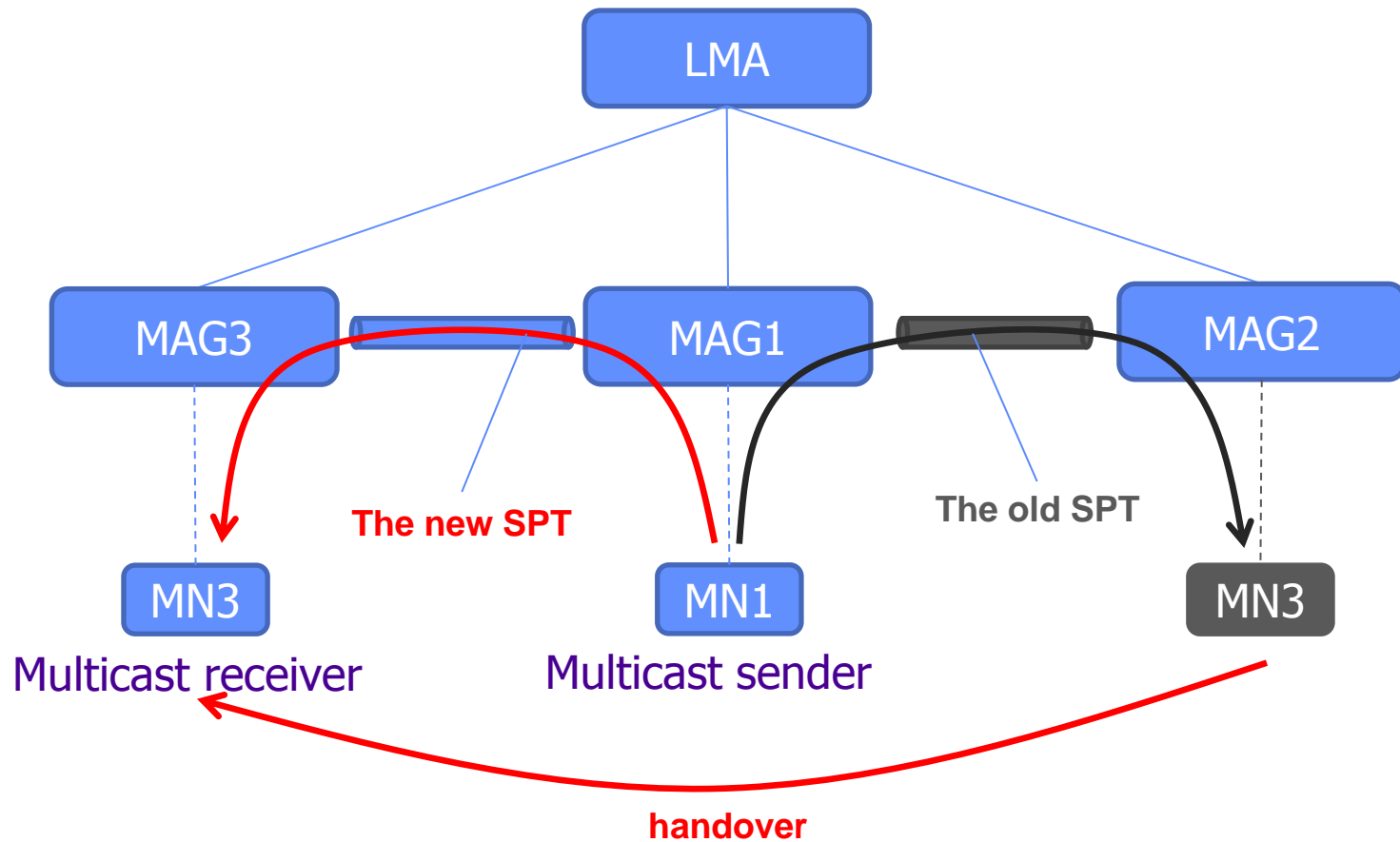
# Multicast data path



## o Optimizations on Source-specific shortest path trees

- SPT don't have to follow LMA-MAG tunnels towards a multicast sender
- Multicast data is transmitted through the bidirectional tunnel between two MAGs
- the bidirectional tunnel between two MAGs can be shared among different multicast senders if needed.

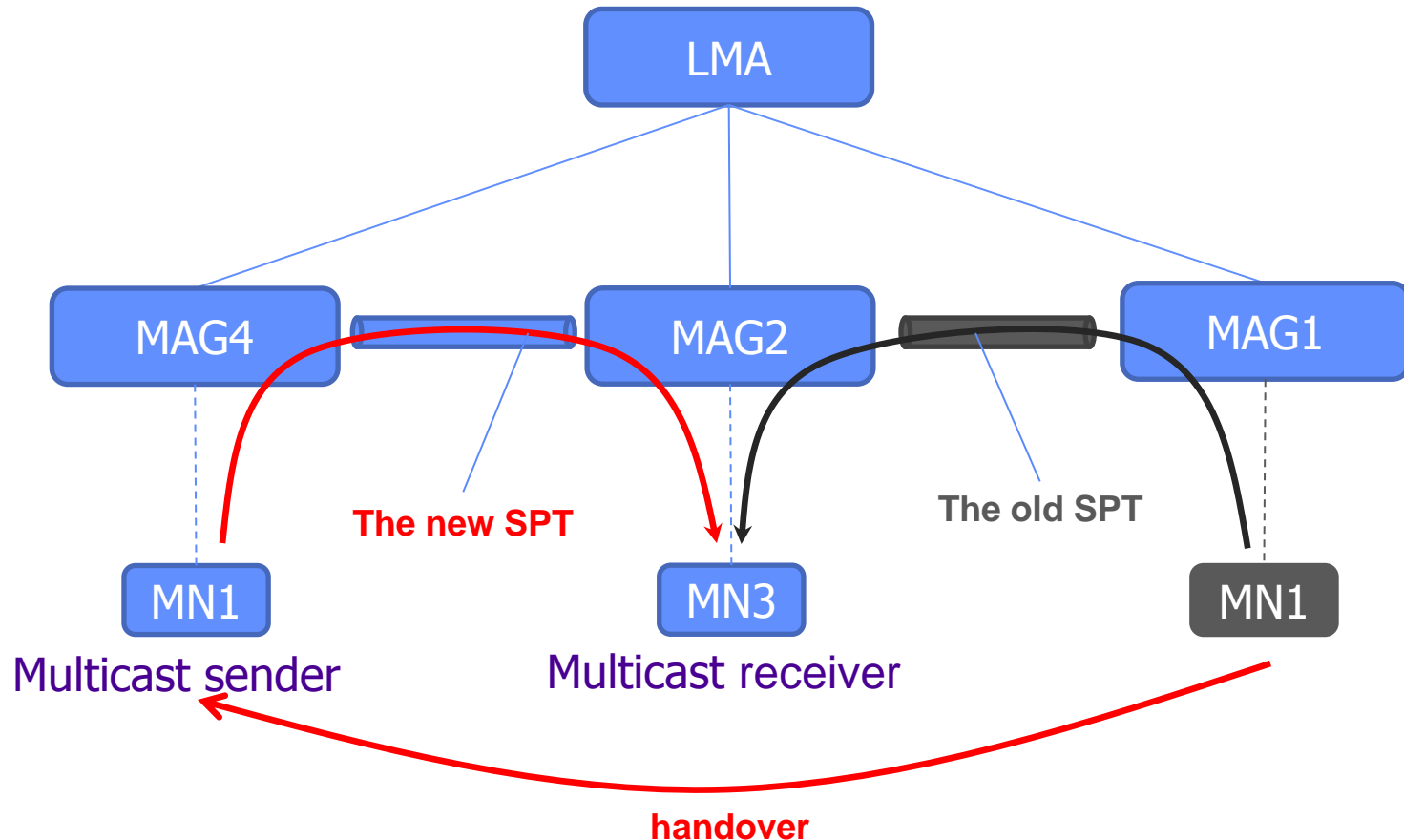
# Multicast listener handover



## o Quickly reestablish optimized SPT on handover

- MAG3 gets from MAG2 all the active multicast subscriptions that match the moving node MN3
- MAG3 reestablishes SPT the same way as stated on page 4

# Multicast sender handover



## o Quickly reestablish optimized SPT on handover

- MAG4 gets from MAG1 all the multicast states that match the moving source MN1
- MAG4 reestablishes SPT with MAG2

# MRIB in MAG

- o MRIB is built independently of the PMIPv6 policy-based routing
  - The bidirectional tunnel routes between two MAGs MUST be added to the MRIB



# Future work

- Handover solution
- Establish SPT in ASM scenario

Questions?