

Multicast Mobility in MIPv6: Problem Statement Update

- draft-schmidt-mobopts-mmcastv6-ps-*.txt -

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Scope

- 🕒 Status of the Draft
- 🕒 Analysis of 'Moving' Distribution Trees
- 🕒 Two New Approaches:
 - 🕒 Shared Tree Based (Romdhani et al.)
 - 🕒 Source Specific Tree Based (Schmidt & Wählisch)



Status of the Draft

- o Version update delayed ☹️
 - But: to appear this summer
- o Several reviews on version 0 – more welcome!
- o Thorough section on proposed solutions
- o Include overlay or hybrid multicast ?
- o Hope for more discussions (in conjunction with new SAM IRTF group ?)

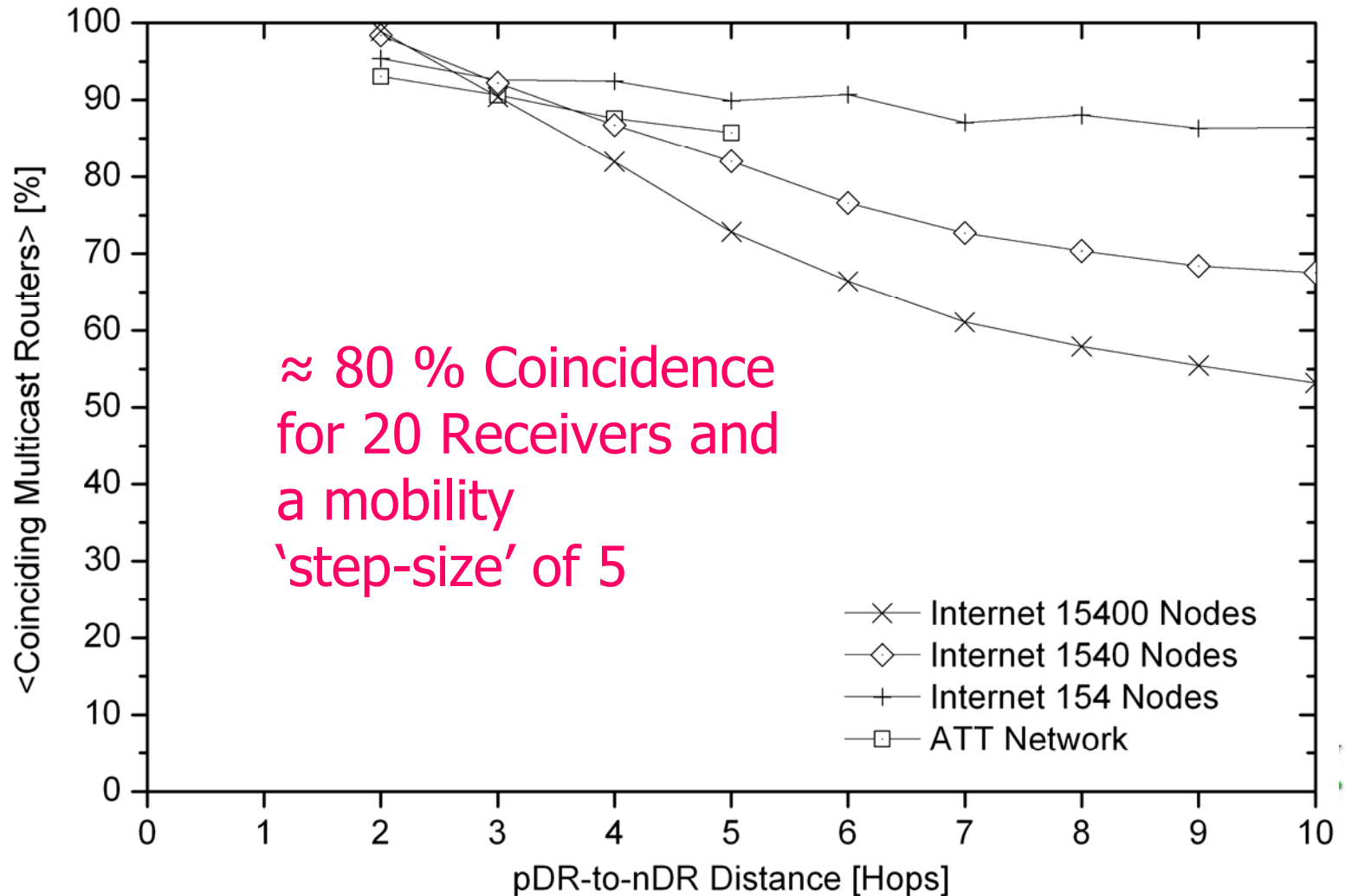


Analysis of 'Moving' Distribution Trees

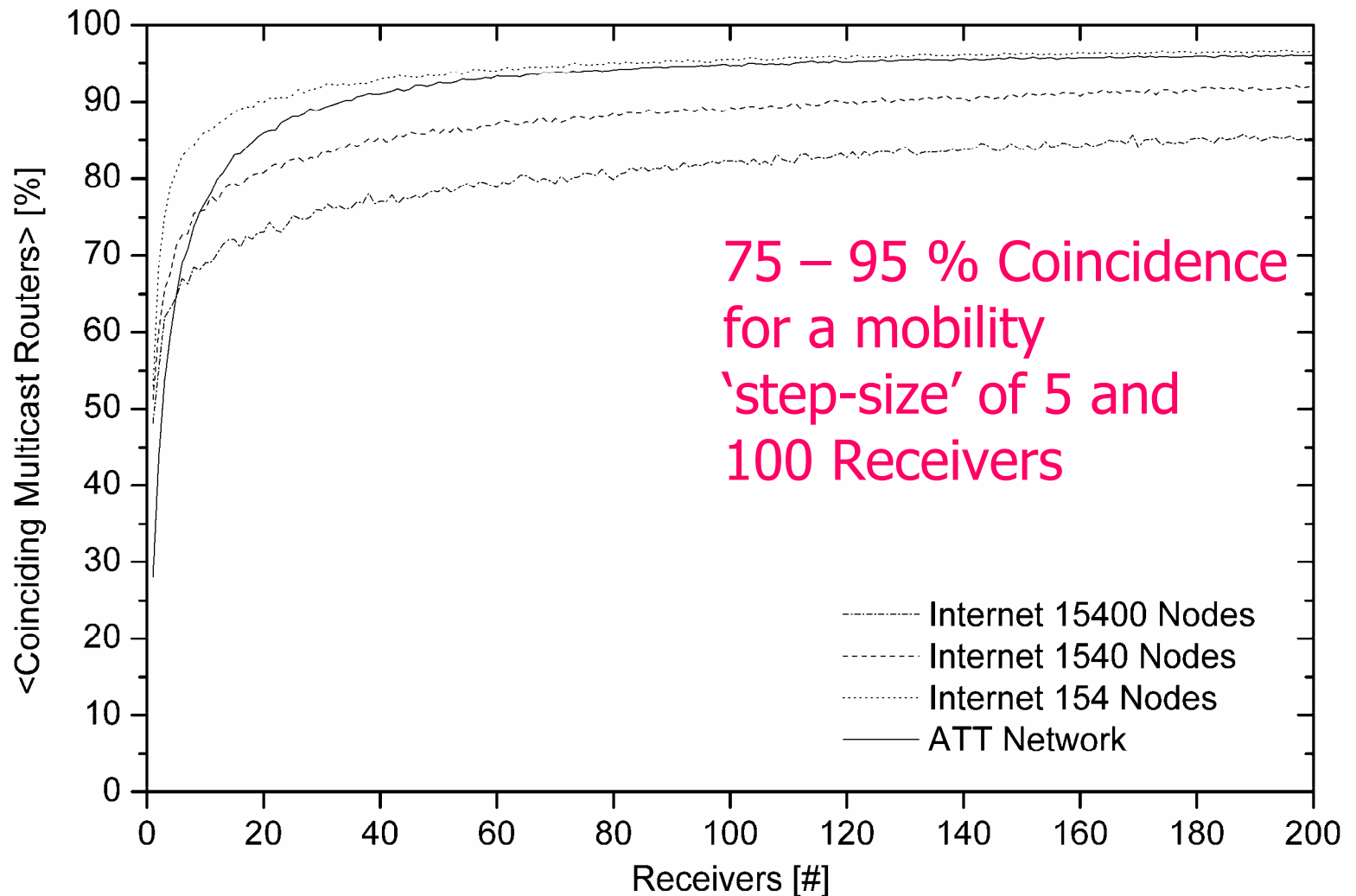
- o Multicast Distribution Trees subsequent under Mobility are highly correlated
- o Results in frequent re-use of Mcast Routers
- o Two characteristic measures
 - 'Step-Size': pDR-to-nDR Distance
 - Tree evolvment: Number of Receivers



Simulation Study: Tree Coincidence wrt. 'Step-Size'



Simulation Study: Tree Coincidence wrt. Tree Evolvemnt

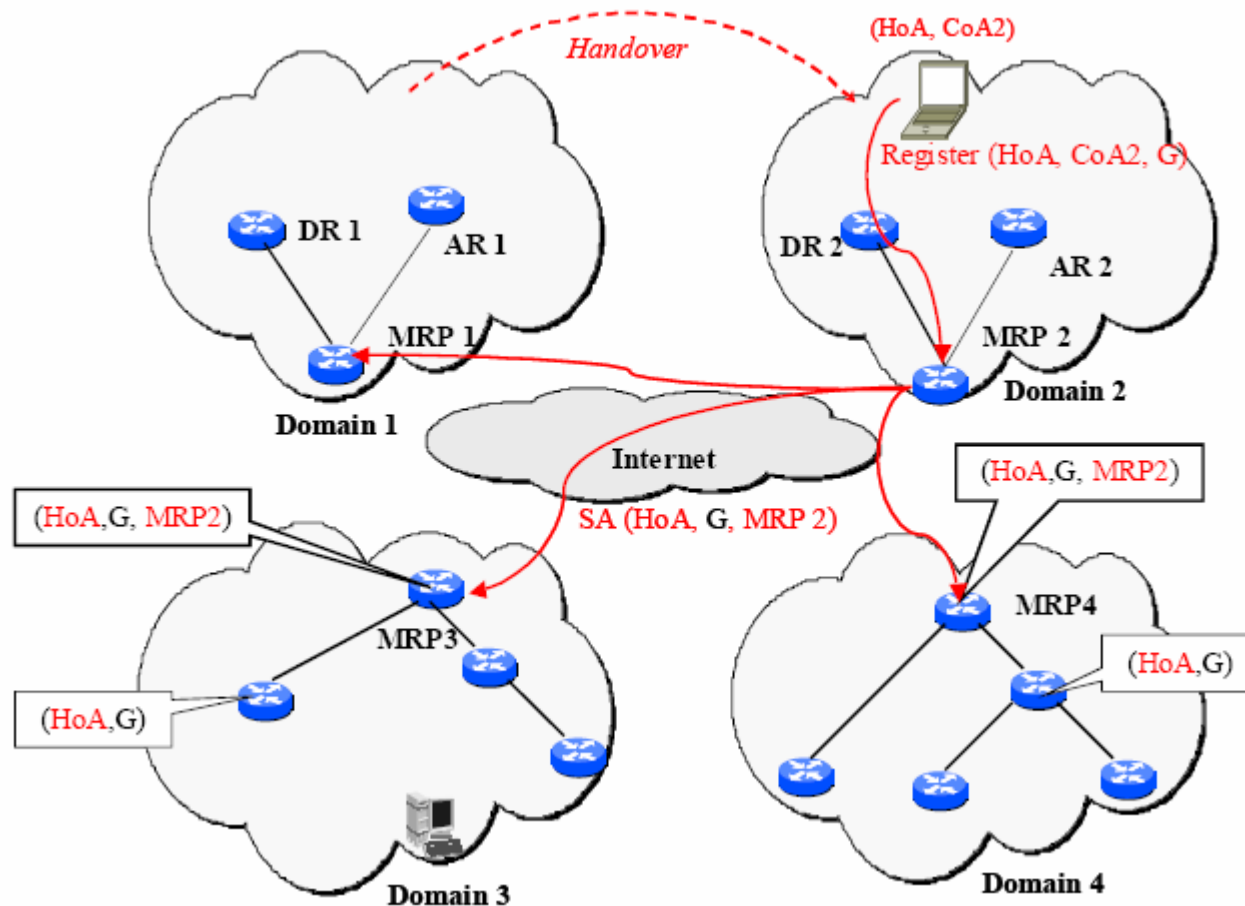


Shared Tree Mobility

- o Use Rendezvous Point as Mobility Anchor:
Mobility-aware Rendezvous Point (MRP)
- o Need to Change Routing:
 - Extend (*,G) states to (HoA, G, MRP-ID)
 - Modify RPF-Check to identify CoA* sources with HoA
 - Operate interdomain handovers via MRP-ID



Mobility-aware Rendezvous Points



Source Specific Tree Modification

Need to Change Routing:

- Extend (CoA,G) states to (CoA,G,HoA)

Need to Preserve Previous Trees:

- Keep contact subsequent to handover

Idea: Morph Previous into Next Tree:

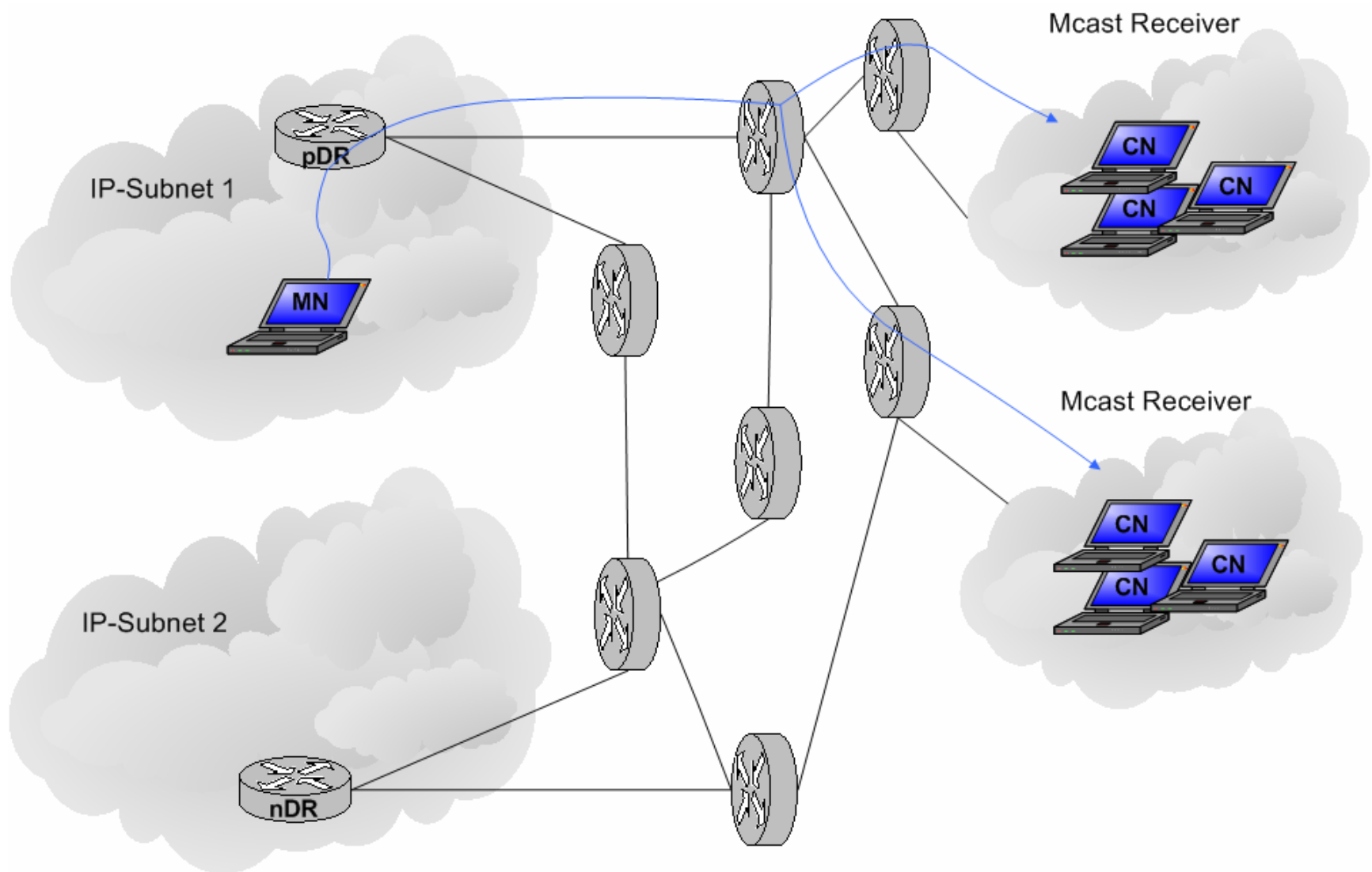
- Elongate root (modify RPF Check)
- Discover shortcuts
- Dismiss unneeded branches



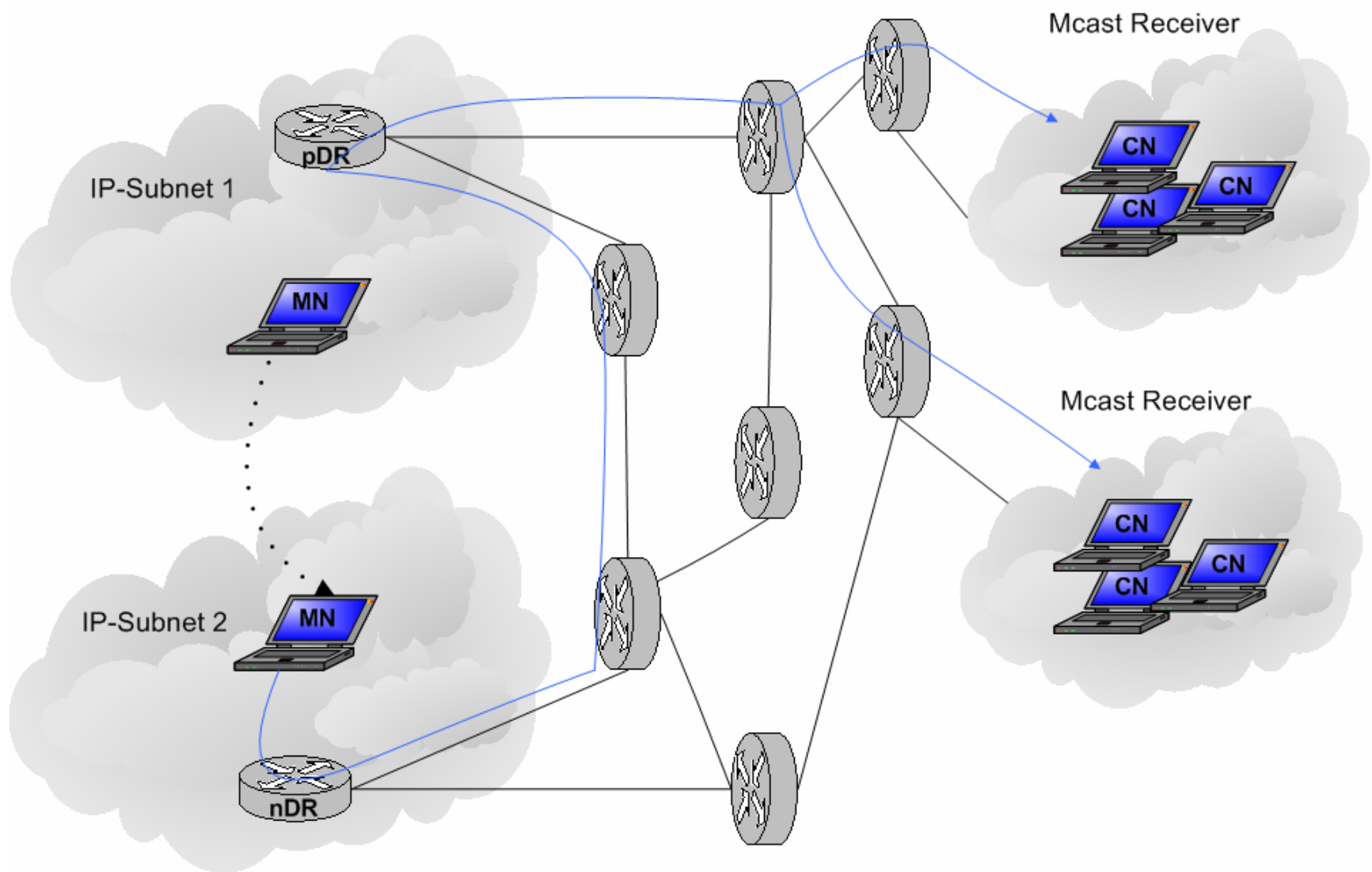
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Source - Schmidt & Wählisch: *A First Performance Analysis of the Tree Morphing Approach to IPv6 Source Mobility in Source Specific Multicast Routing*,
In: Proceedings of the IEEE ICN'06, IEEE Press, April 2006

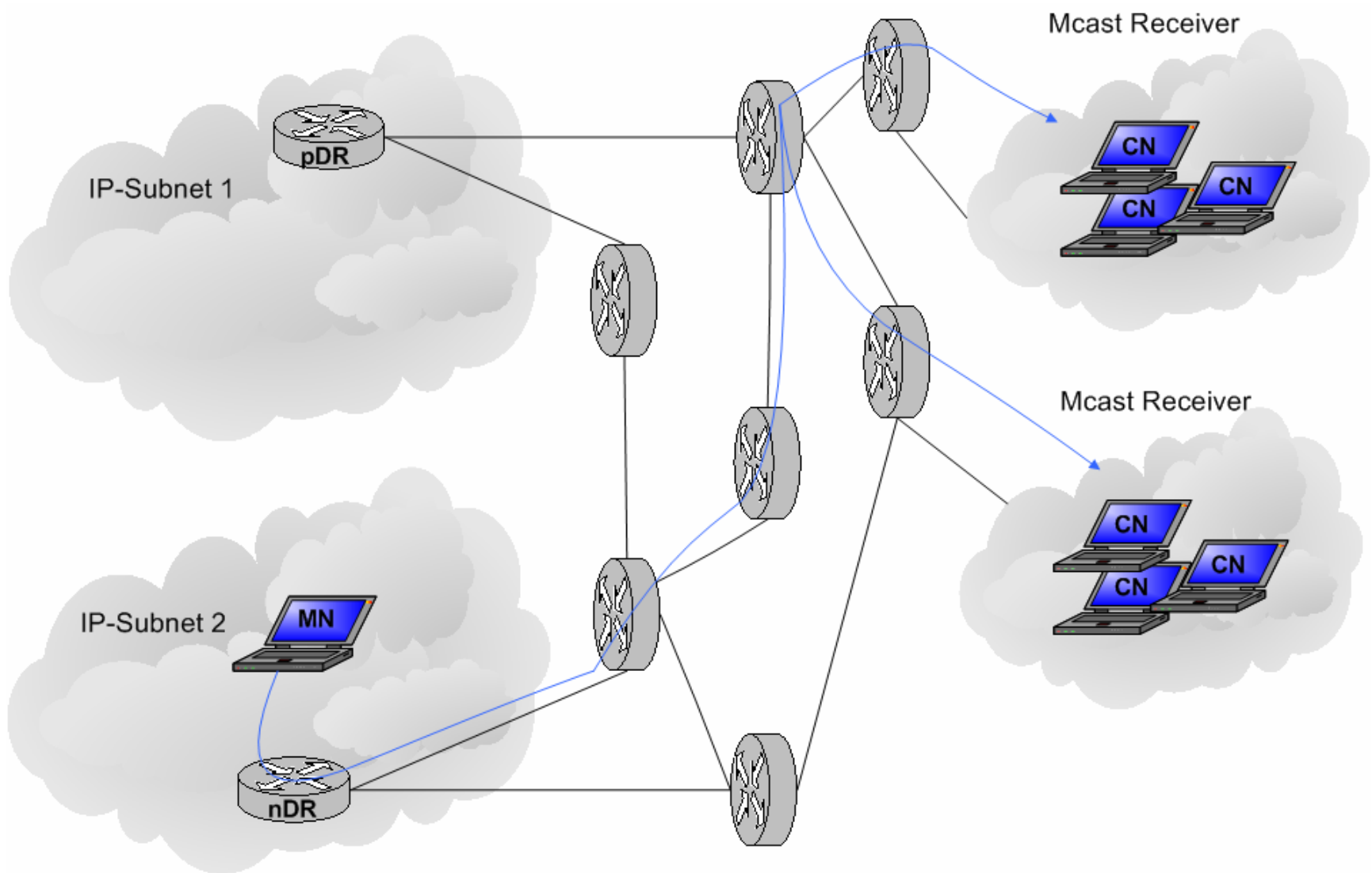
Tree Morphing



Root Elongation Phase



First Shortcut



Optimized Tree

