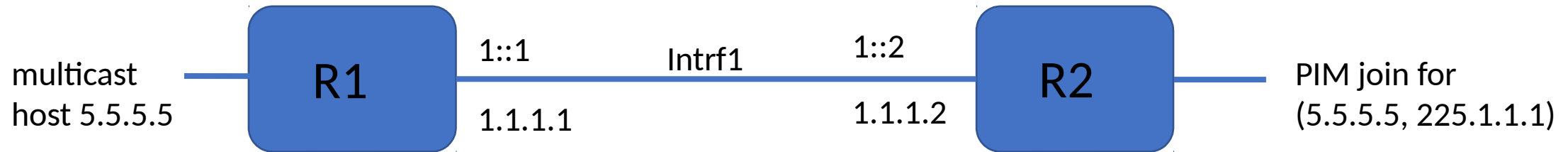# draft-pim-with-ipv4-prefix-over-ipv6-nh

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Example Topology

Problem Statement

- Multicast routing needs a RPF tree to be formed in order to receive one copy of multicast data on lowest-cost, loop-free path.

- In case of PIMv4, it needs a valid PIMv4 neighbor to send PIMv4 join.

- When using RFC5549, a IPv4 prefix is reachable over IPv6 Next-hop [or vice-versa].

- If RPF-interface has more than 1 PIMv4 neighbor, a separate mechanism is needed to choose correct neighbor.

Solution when PIMv4 and PIMv6 are enabled

- Use of Interface identifier as per RFC6395
- Can serve as lookup key for mapping IPv6 neighbor to IPv4 neighbor.

Solution with only PIMv4 or PIMv6 enabled networks

- Use of secondary address list option in PIM hello.

- Use of MAC-Address in PIM hello (new proposed PIM hello option)

Status

- A solution based on secondary address list option is already shipping and deployed by at least one customer.

- Draft needs to be reviewed by WG.