

Enterprise Multihoming using Provider-Assigned Addresses without Network Prefix Translation: Requirements and Solution

[draft-ietf-rtgwg-enterprise-pa-multihoming-022](#)

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Refresh: Problems with PA Multihoming

Q: How to send packets to the correct uplink (BCP38)?

Q: How to implement policies?

Q: How to react to links failure/recovery?

WITHOUT NAT!

Solutions with PA Multihoming

Q: How to send packets to the correct uplink (BCP38)?

A: Source Address Dependent Routing (SADR)

**NO
NAT!**

Q: How to implement policies?

Q: How to react to link failure and recovery?

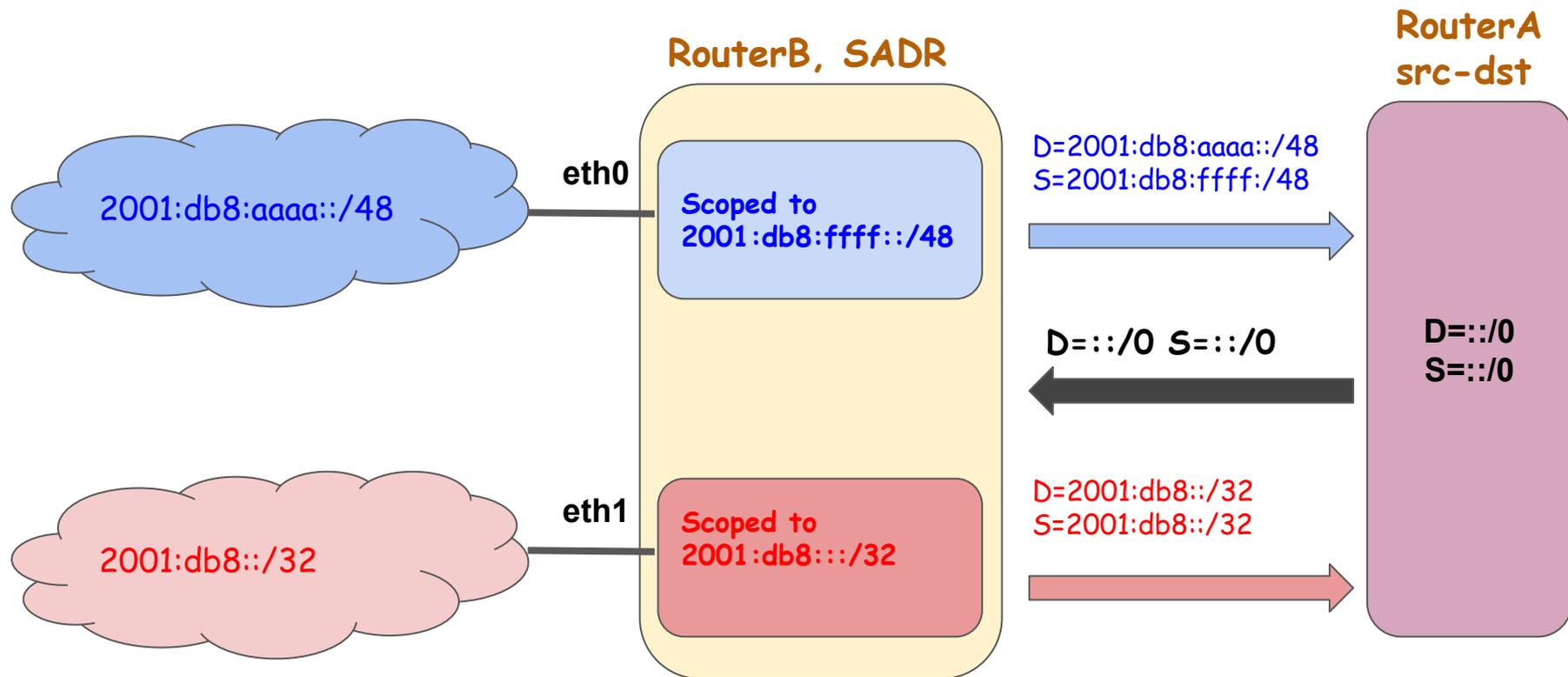
A: Influence source address & next-hop selection on hosts

The only change since -01

Changing the Step3 of *Generating Source-Prefix-Scoped Forwarding Tables* process:

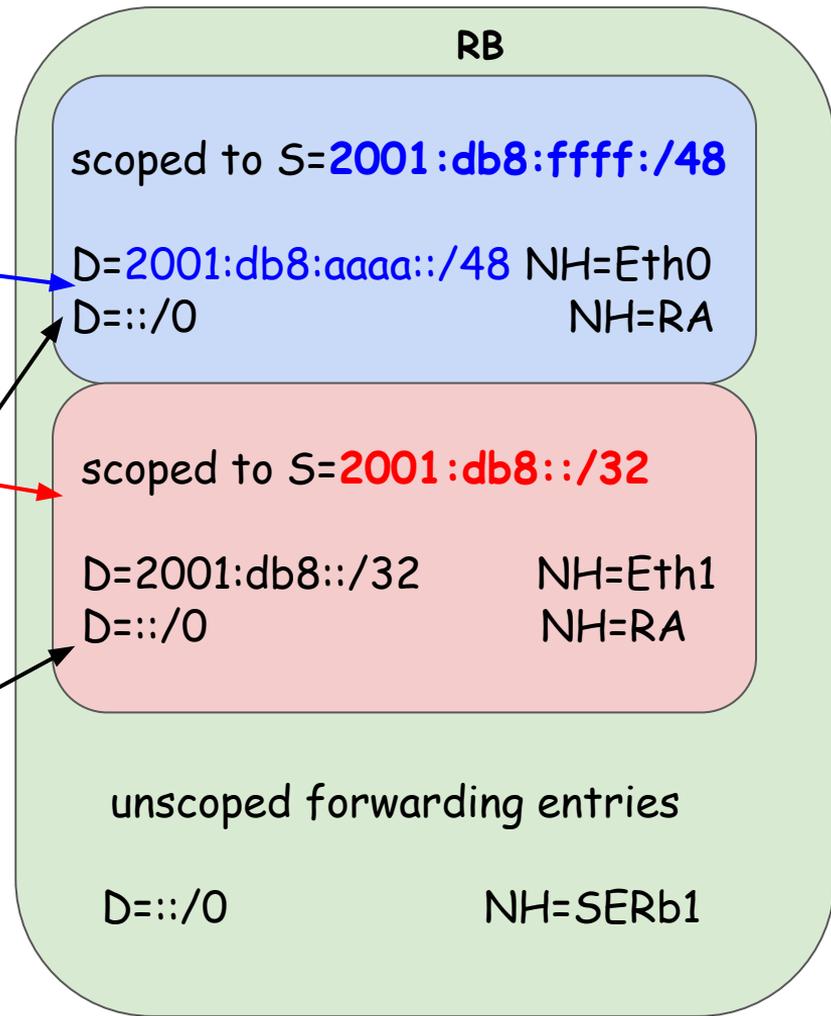
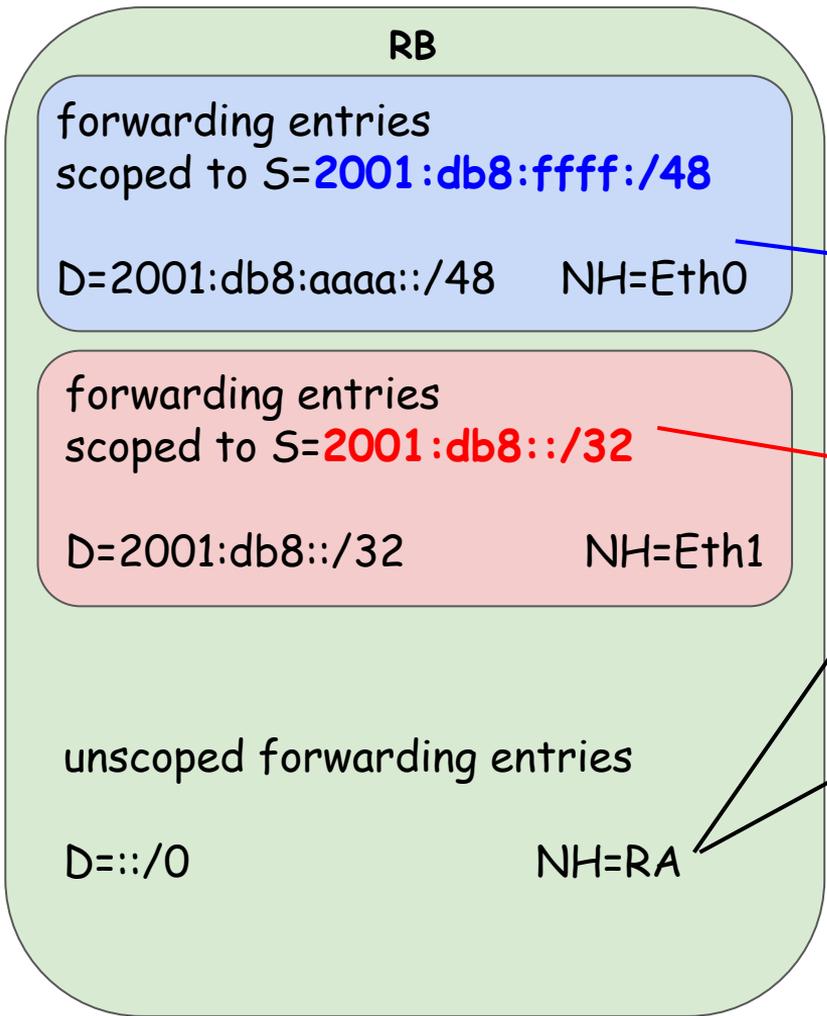
- The old behaviour conflicted with [draft-ietf-rtgwg-dst-src-routing](#)
- Might lead to routing loops in mixed environments

Example Topology: Routing

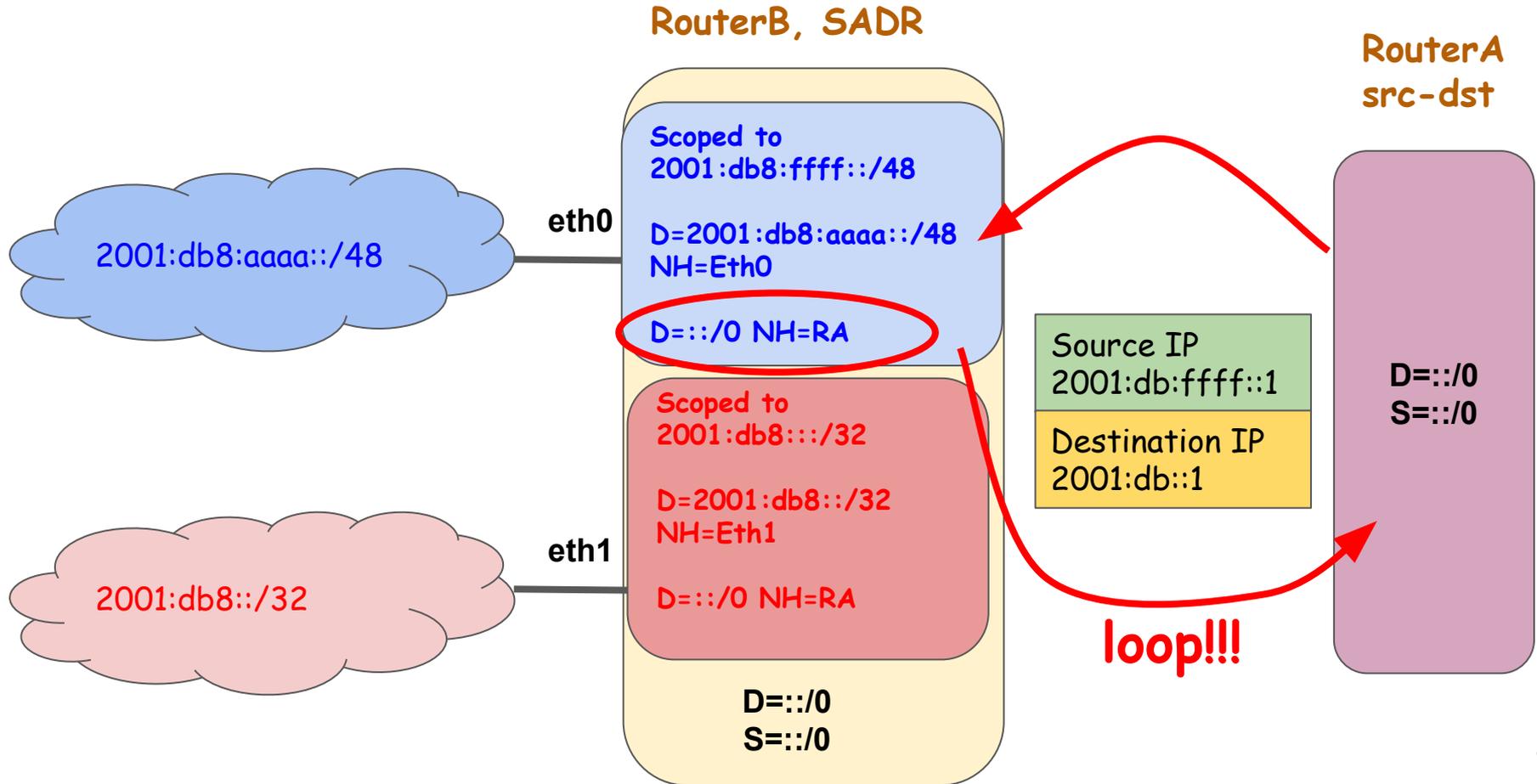


Old Text

Augment each source-prefix-scoped forwarding table with unscoped forwarding table entries based on the following rule. If the destination prefix of the unscoped forwarding entry exactly matches the destination prefix of an existing source-prefix-scoped forwarding entry (including destination prefix length), then do not add the unscoped forwarding entry. If the destination prefix does NOT match an existing entry, then add the entry to the source-prefix-scoped forwarding table.



Loop Scenario



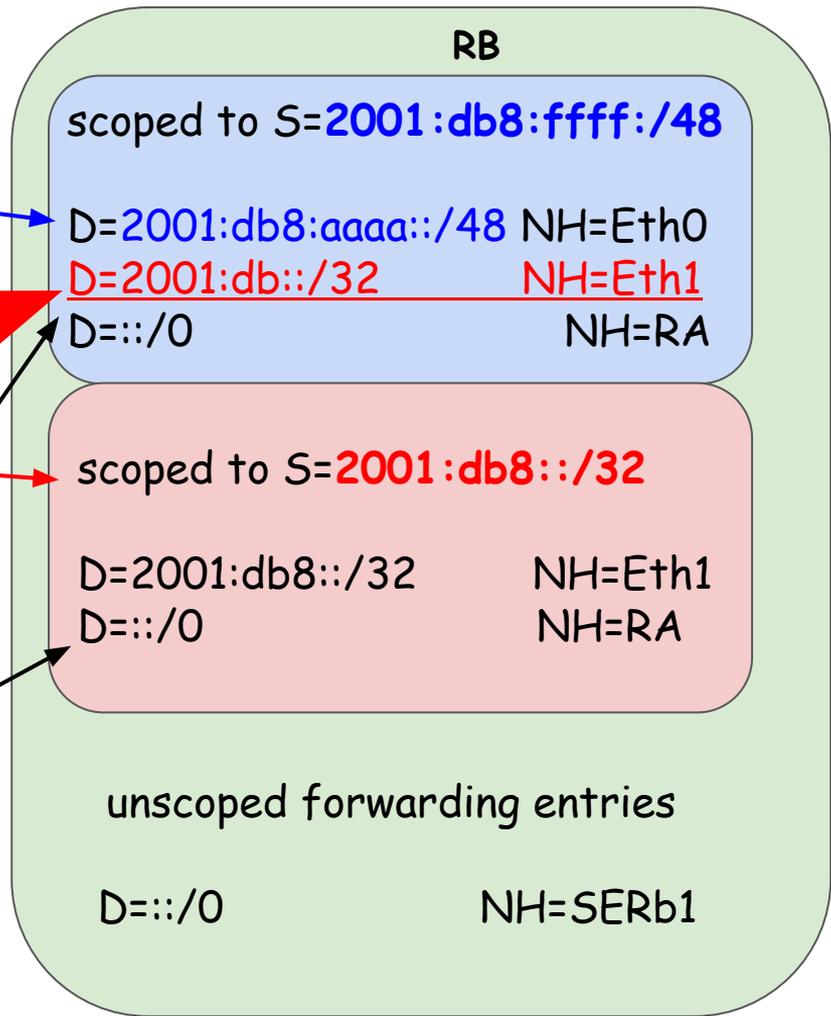
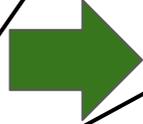
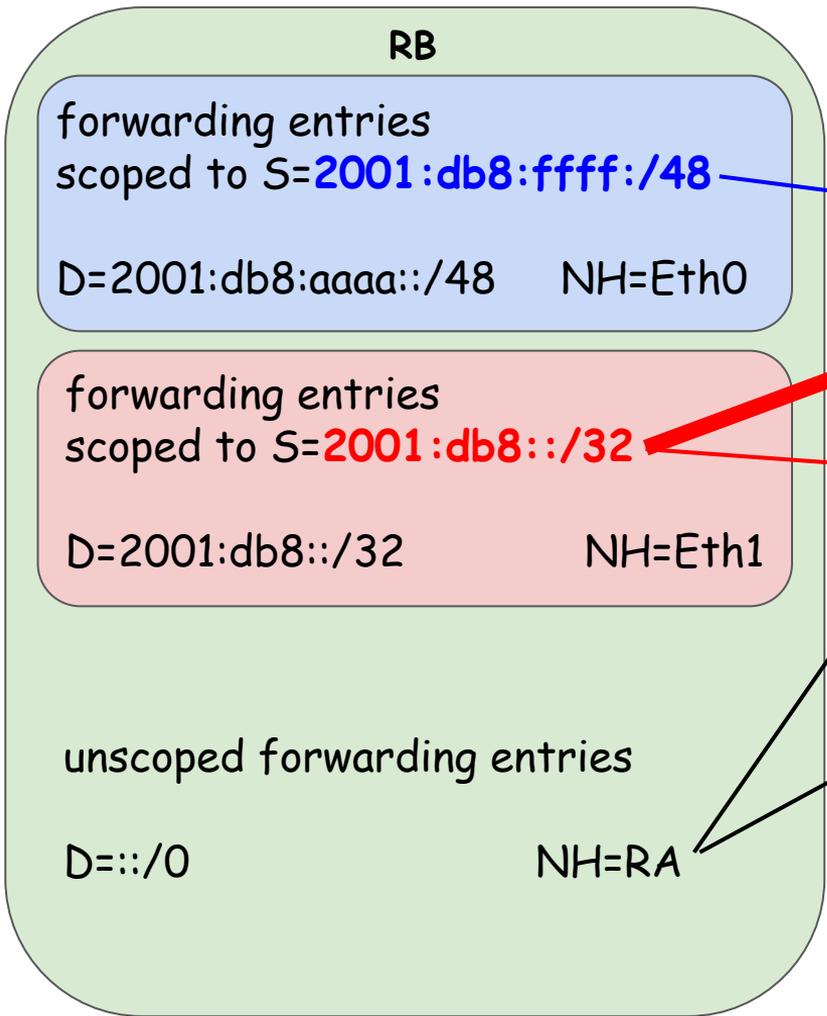
Root Cause

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Routes are copied from the unscoped table to scoped

Solution

Consider "unscoped" as "scoped for ::/0" and copy from "less specific to more specific" starting from "::/0" aka "unscoped"



QUESTIONS/COMMENTS?