draft-gopal-pim-pfm-forwarding-enhancements-02

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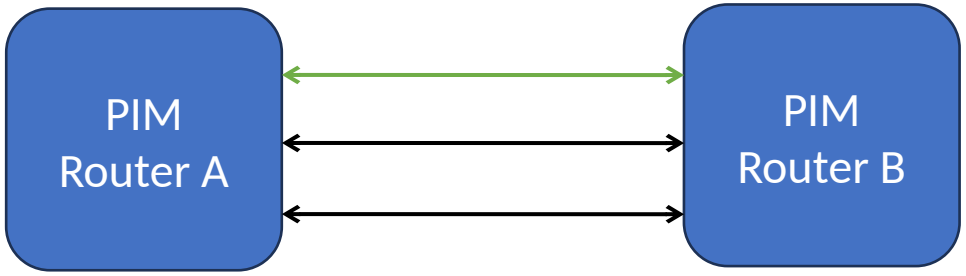
Overview

- Today, PIM Flooding Mechanism (PFM) messages are flooded on all PIM interfaces and are processed via RPF checks.
- The same messages are processed on multiple links between a pair of PIM neighbors.
- This can be avoided with an optimization solution.



Proposed Solution

- With RFC 6395 compliance, routers exchange a unique Router Identifier in their PIM Hellos.
- If the router has multiple interfaces with only one neighbor per interface, the router can check if those neighbors announce an RFC 6395 Router-ID.
- If a PIM router can see the same Router-ID for multiple neighbors, PFM message exchange can be optimized by using a new PIM Hello Option.

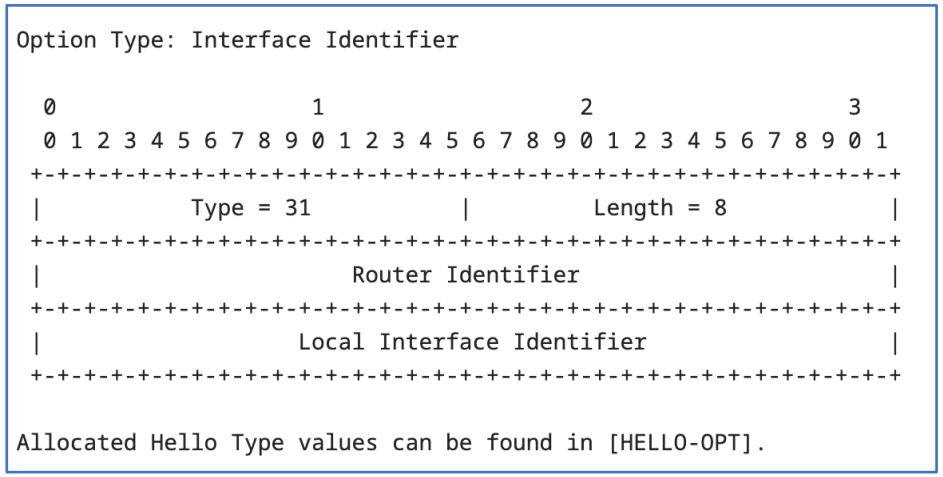


Figure: RFC6395 Hello Option

Proposed Solution

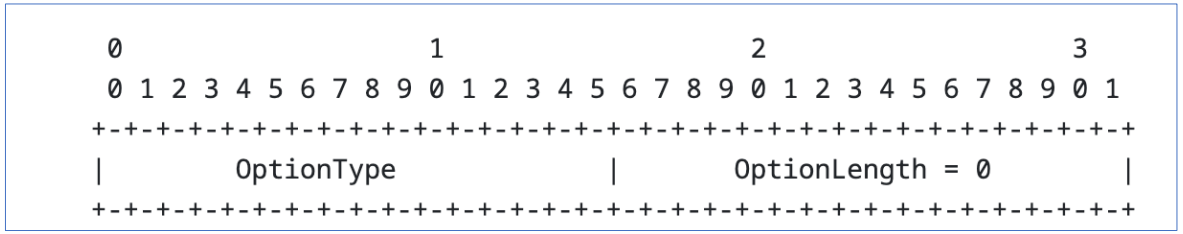


Figure: PFM optimization Hello Option
OptionType: TBD

- A new PIM Hello Option that indicates the forwarding optimization support is introduced.
- This new option, along with the unique Router-ID, can be used to choose **one link** per PIM router pair to exchange PFM messages.
- The Router-ID is used in order to relax RPF check on the chosen link as well not forwarding a message back to the router it came from on another interface.
- This would reduce the number of PFM exchanges between PIM routers, which can be useful in use-cases like PFM-SD.

Questions/Comments?