Use of p2mp BFD in PIM-SM (over shared-media segment)
draft-mirsky-pim-bfd-p2mp-use-case
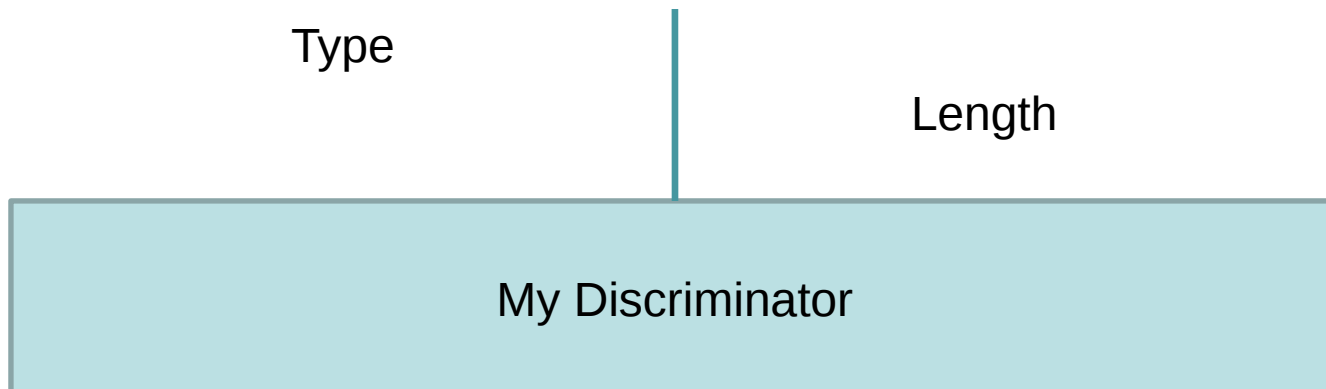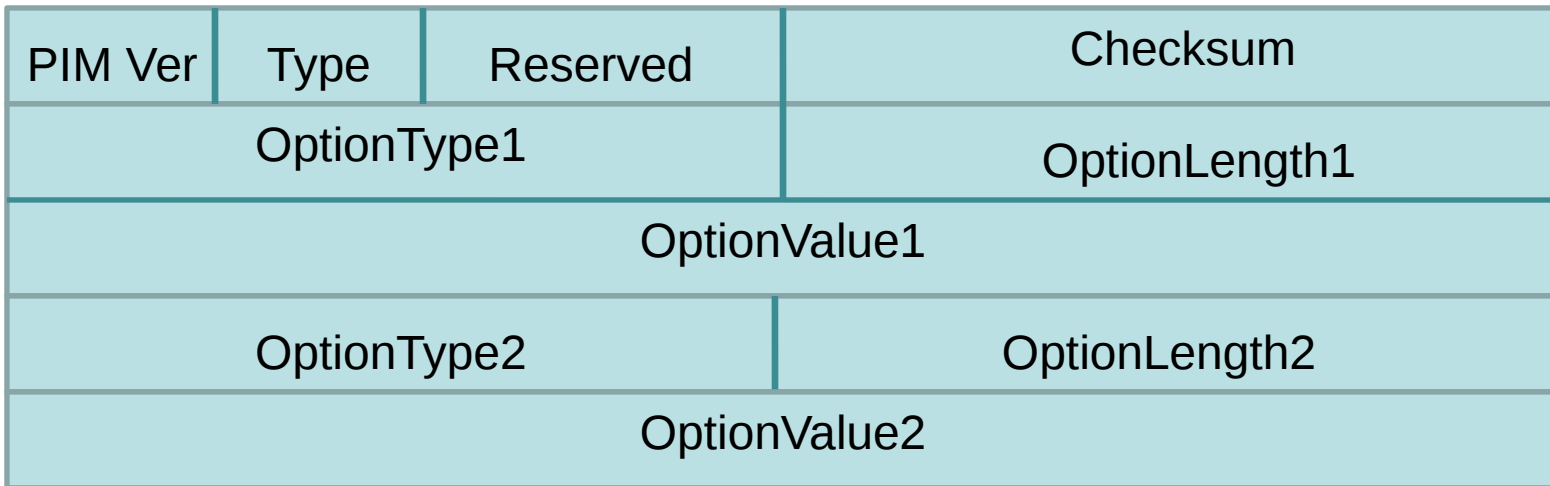
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IETF-105, July 2019, Montreal

Proposed solution

- RFC 8562 BFD for Multipoint Networks extends BFD for use in multipoint and multicast networks
- PIM DR advertises its BFD My Discriminator in PIM Hello packet (extension to RFC 7761) to bootstrap p2mp BFD session
- Non-DR creates a MultipointTail session and uses My Discriminator value from PIM Hello packet and DR's IP address to demultiplex BFD control packets
- Thus the p2mp BFD session has PIM DR router as the MultipointHead and non-DR routers as MultipointTail. The DR uses the same IP address it uses in PIM Hello as the source IP address for p2mp BFD control packets
- In p2mp BFD there's no P-F sequence with interval negotiation and Your Discriminator must always be zero
- Detection time is the product of the value in the Desired Min Tx Interval and the value in the Detect Mult. Field of the last received valid BFD control packet

Extend PIM Hello

PIM Ver	Type	Reserved	Checksum
OptionType1			OptionLength1
OptionValue1			
OptionType2			OptionLength2
OptionValue2			

Type

Length

My Discriminator

Procedures with draft-ietf-pim-dr-improvement

- DR MUST include BFD TLV in its PIM-Hello message. BFD TLV MUST be included after DR Address TLV

- BDR is RECOMMENDED to include BFD TLV in its PIM-Hello message. BFD TLV MUST be included after BDR Address TLV

Next steps

- Comments are welcome
- WG LC?

Thank you!