PIM Join/ Prune Attributes for LISP Environments using Underlay Multicast

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Updates since last IETF

• Draft was presented in PIM and LISP WGs @IETF-111
  • Draft will be progressed by PIM WG, WG adoption completed
  • Security considerations section is work-in-progress.
Problem statement

• IP Multicast Source(s) and receiver(s) in different (and same) LISP sites [RFC6831]
  • ASM, SSM and BIDIR modes supported in overlay

• IP-multicast based underlay

• ‘m’ Overlay IP multicast groups mapped to ‘n’ underlay IP multicast groups, where m >> n (Sec 8.1.2 of RFC 6831)
  • Problem compounded for IP multicast flowing across multisite

• Border nodes play a special role:
  • They participate in the PIM signaling of upto three different PIM domains: Two in the underlay and one in the overlay.
Illustration

IP Multicast capable LISP core
Domain-1 (R1)

Domain-2 (R2)

Domain-3 (R3)

Domain-4 (R4)
Receiver ETR Group address TLV

- A new TLV MAY be signaled in the PIM Join/Prune attribute [RFC8059] [RFC7887].
- Definition of F, E, Type, Length and Address Family same as RFC8059
  - Multicast Group: The underlay group address (G-u) used for transporting the overlay multicast stream to which the downstream router is sending a join
  - The proposed TLV can be appended to the Joined Group Address (Encoded Group format) or the Joined Source Address (Encoded Source format)
Next Steps

• Get comments from WG and work towards WGLC