# PIM Null Register packing

https://datatracker.ietf.org/doc/draft-ietf-pim-null-register-packing/?include_text=1

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# Problem Overview

- PIM uses NULL register mechanism to refresh multicast states at the RP (Rendezvous point) from the FHR( first hop router)

- One NULL register packet carries only one Multicast state (S,G) . If there are more multicast (S,G)  states the total number of NULL register packets sent from FHR to the RP increases.

- This could potentially cause control plane policing drops at the RP, when there is scale which might lead to eventual expiry of the S,G entry

- This is a valid problem to solve since many customers have reported this issue

# Proposal in the draft

- The draft [https://datatracker.ietf.org/doc/draft-ietf-pim-null-register-packing/?include_text=1](https://datatracker.ietf.org/doc/draft-ietf-pim-null-register-packing/?include_text=1) proposes a method to pack multiple (S,G) states in a single NULL register packet

- Multiple (S,G) could be packed in a single NULL register packet rather than sending one NULL Register per S,G

- The draft also proposes a compatibility checking mechanism among RP and FHR so as to use this new packet format if and only if the routers (RP and FHR) in the network support this format

# Advantages

- Reduces the overall PIM null register packets in the PIM-SM network
- Better control plane utilization with scale

# Updates – 01 version

- Included the new PIM message type extension format for the packed register message types

- Anycast RP considerations.