Carrying NRP related Information in MPLS Packets

draft-ietf-mpls-mna-psd-nrp-selector-01

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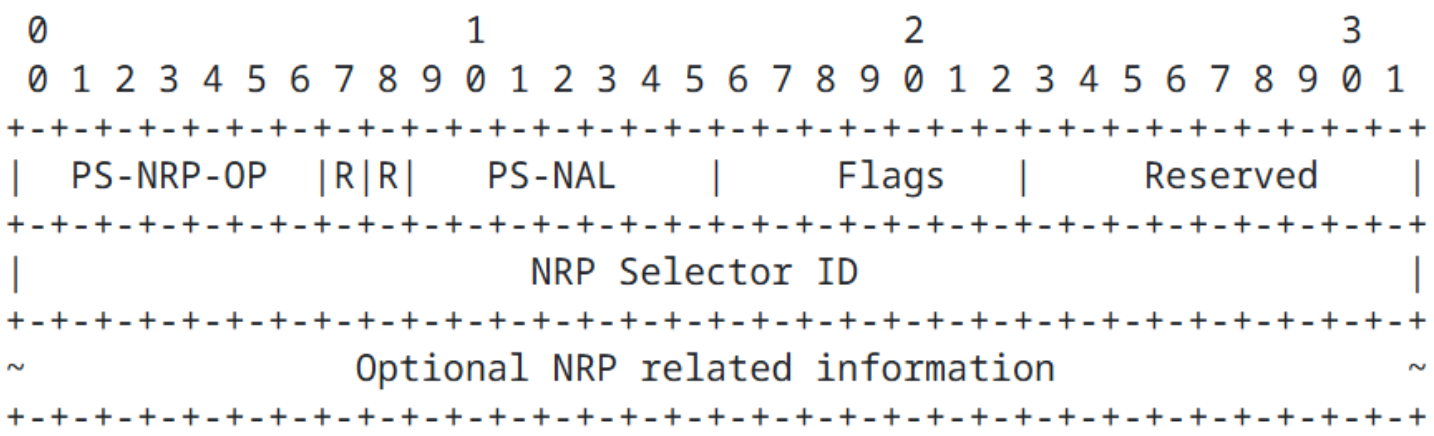
Background Recap

- Network Resource Partition (NRP) is a set of network resources allocated on a connected set of links in the underlay network
  - This concept is introduced in RFC 9543 as an underlay network resource construct
  - An NRP can be used to support one or a group of network slice/enhanced VPN services in RFC 9732
  - In the data plane, an NRP can be identified using an dedicated NRP Selector ID
- This document describes a mechanism to carry NRP information in MPLS packets using MNA Post-Stack Data (PSD)
  - Can be used by transit nodes to determine the NRP a packet belongs to
  - NRP-specific packet processing and forwarding can be performed on each hop along the path
  - The PSD-based approach is complementary to the ISD-based NRP Selector encoding defined in draft-ietf-mpls-mna-nrp-selector

The Encoding of NRP Information in MNA PSD



- PSD allows to carry 4-octet NRP Selector ID efficiently
- It also allows future extensions for NRP related flags and ancillary data

- PS-NRP-OP: Post-stack Opcode for the NRP action, the value is TBA
- PS-NAL: Post-Stack network action length in 4-octet units, excluding the first 4-octets
- Flags: 8-bit flags field. The most significant bit is defined:
  - Strict Match (S)
- NRP Selector ID: 4-octet network-wide ID uniquely identifies an NRP
- Optional NRP related information
  - Ancillary data of the NRP action

The Procedures

- PS-NRP action insertion
- NRP based packet forwarding
- PS-NRP action decapsulation
- Capability advertisement and negotiation

Please check the draft for the details

Next Steps

- Appreciate review and feedbacks
- Revise the draft accordingly
- WG last call?

Thank You