

Encoding Network Slice Identification for SRv6

draft-cheng-spring-srv6-encoding-network-sliceid-04

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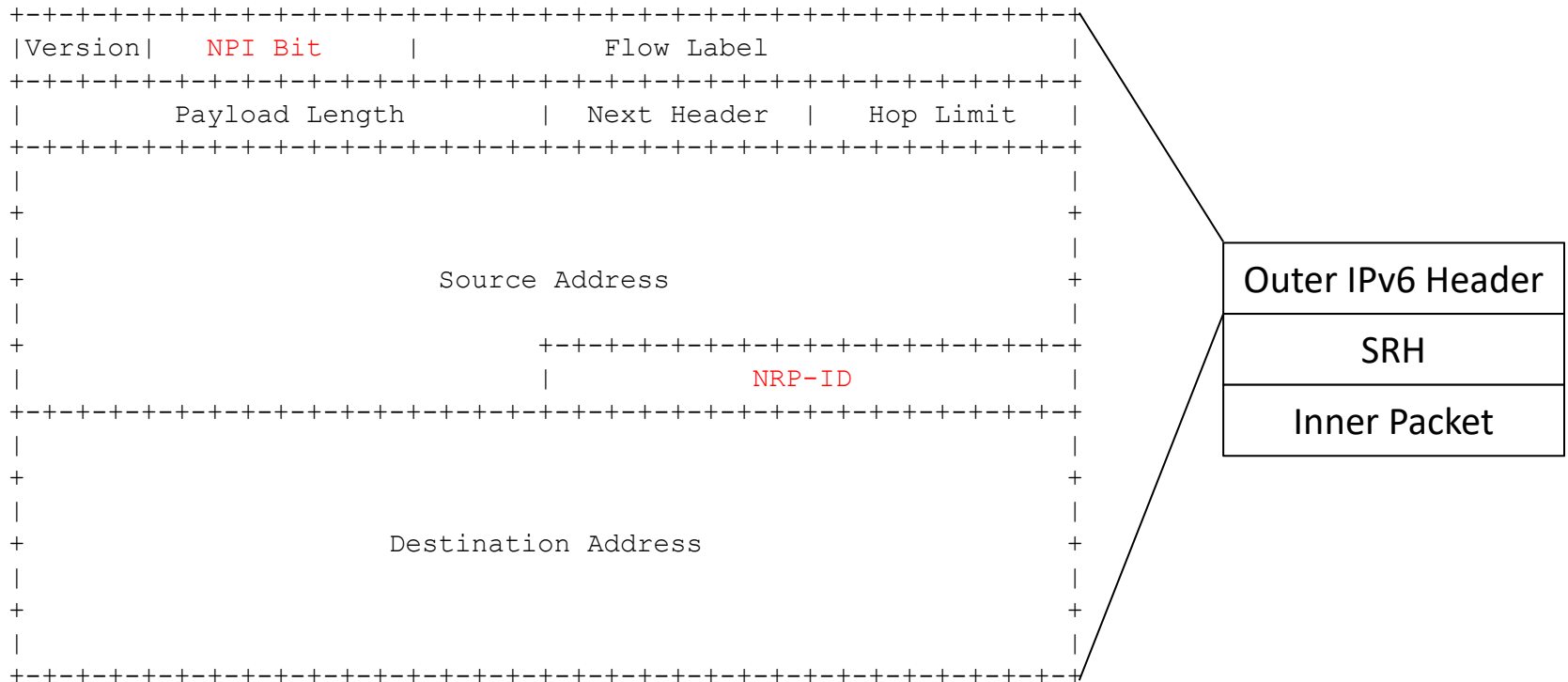
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Overview

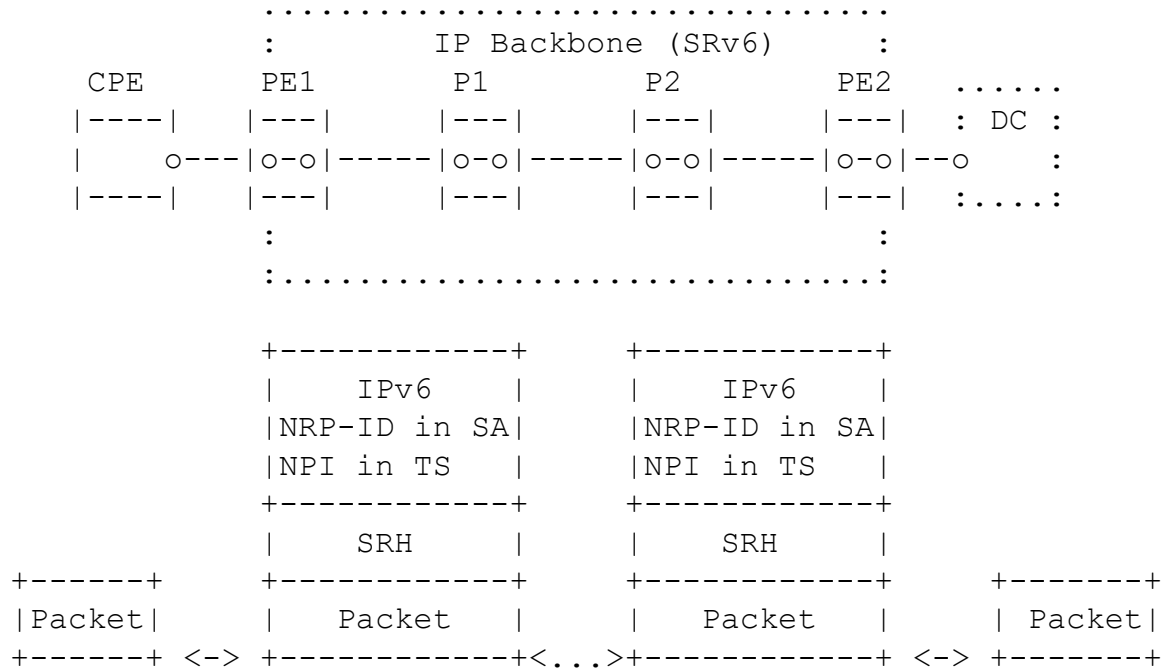
- Network nodes need to identify a packet belonging to a network slice before it can apply the proper forwarding treatment with associated network resources.
- [I-D.draft-ietf-teas-ietf-network-slices] defines the network resource mapped to the network slice as NRP (Network Resource Partition). The NRP-ID carried in the packet can be used to identify the NRP used in the forwarding process.
- In an SRv6 domain, the ingress router encapsulates a received packet in an outer IPv6 header, followed by an optional SRH.
- Draft describes a method to encode NRP-ID in the outer IPv6 header of an SR domain.

Encoding NRP-ID



- NRP-ID: Network Resource Partition Identifier, 16 least significant bits in Source Address of the outer IPv6 header, which uniquely identifies a NRP.
- NPI bit: NRP-ID Presence Indicator, a bit in Traffic Class of the outer IPv6 header. The choice of the NPI bit is a domain-wide configuration.

Procedure



Ingress PE:

- Encapsulate received packet with an outer IPv6 header
- Encode NRP-ID in the 16 least significant bits of Source Address
- Set NPI-bit in Traffic Class

P:

- Check NPI-bit in Traffic Class
- Parse NRP-ID from Source Address
- Apply proper forwarding treatment for the specific network slice

Next Steps

- Update terms, e.g., "SLID" -> "NRP-ID", "SPI-bit" -> "NPI-bit"
- Request further review and feedback

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Thanks