MNA for Metadata in SR-MPLS Service Programming

draft-liu-mpls-mna-sr-service-metadata

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Background and Motivation

SR Service Programming

- [draft-ietf-spring-sr-service-programming]: data plane functionality required to implement service segments and achieve service programming in SR-MPLS and SRv6 networks

Metadata

- Contextual information about the data packets which traverse a programmed service path

Metadata in IPv6 Data Plane

- SRH TLV Objects

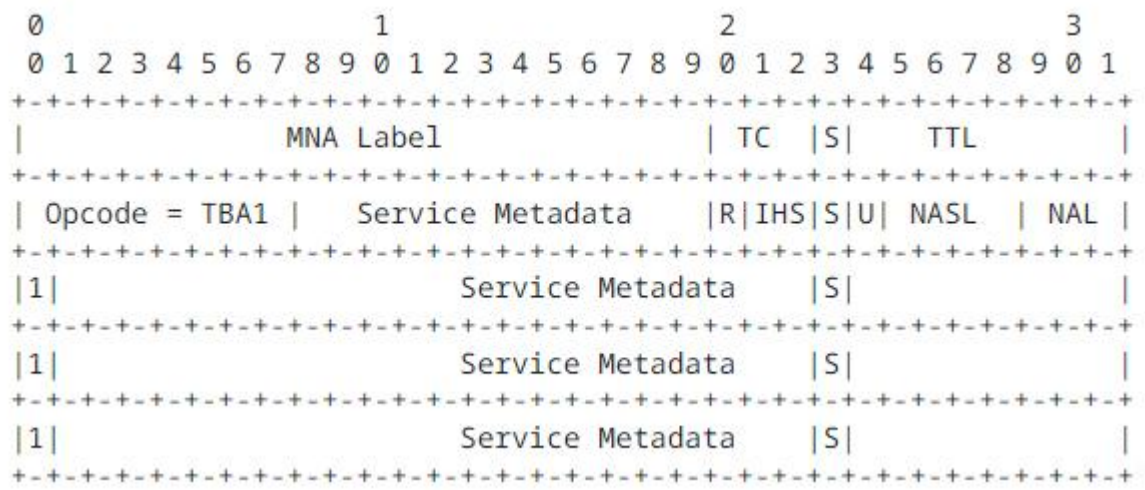
Metadata in MPLS Data Plane, some work in the past

- Payload Protocol Identifier Label at BOS [draft-xu-mpls-payload-protocol-identifier]
- SIDs with the semantic of presence of metadata [draft-ietf-spring-sr-service-programming]

This document defines MNA encoding to carry metadata in SR service programming with SR-MPLS data plane.

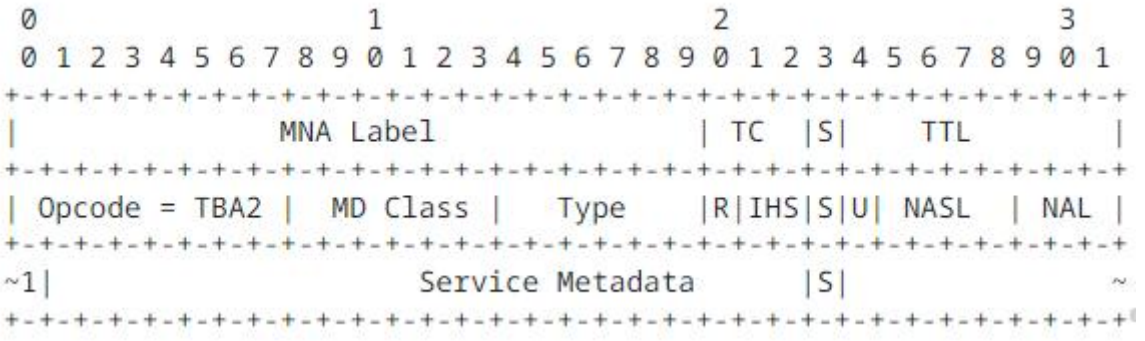
MNA ISD encoding for Service Metadata

Fixed-Length Service Metadata (opcode TBA1)



- Similar with NSH MD Type 1[RFC8300]
- Fixed-Length metadata field

Variable-Length Service Metadata (opcode TBA2)



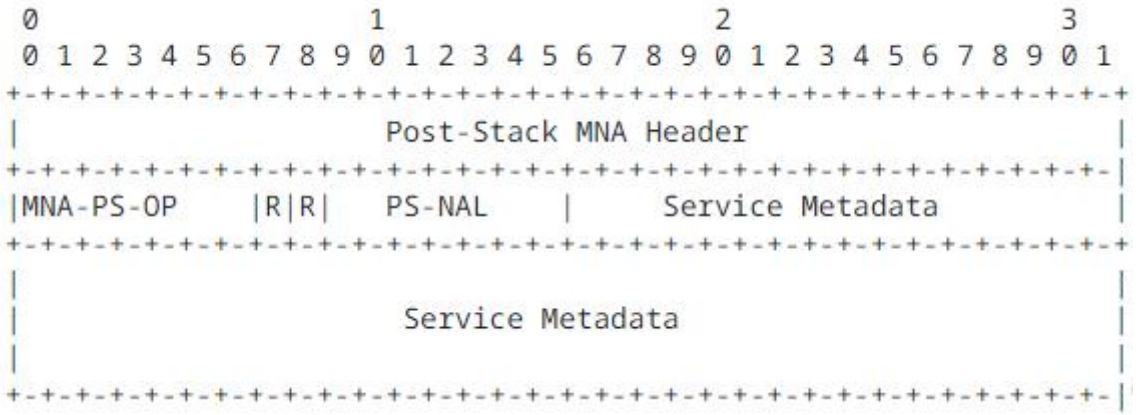
- Similar with NSH MD Type 0x2
- The metadata field length depends on the value of Network Action Length(NAL)

Although it is called "variable-length", the length of the service metadata MUST NOT be changed on the fly

MNA PSD encoding for Service Metadata

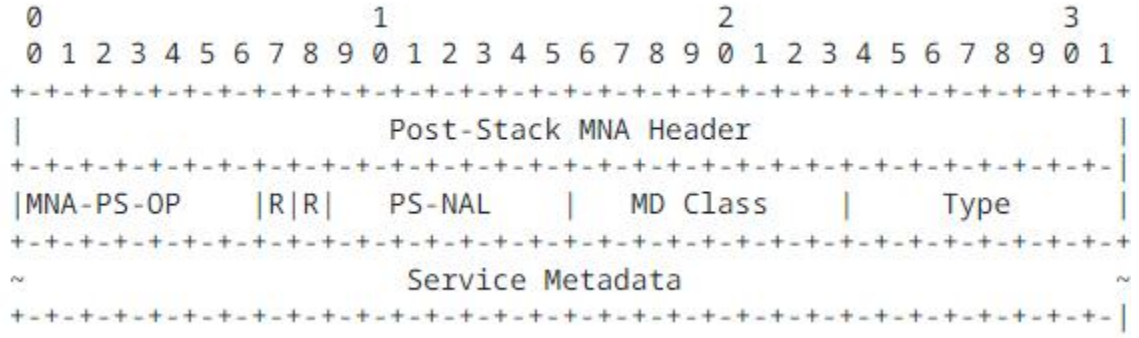
A new opcode(TBA3) for In-Stack Network Action for the service metadata in Post-Stack Header

Fixed-Length Service Metadata



- Fixed-Length metadata field

Variable-Length Service Metadata



- The metadata field length depends on the value of Post-Stack Network Action Length(PS-NAL)

Next Steps

- Discussion
  - the position of metadata : in stack, post stack , or both?
  - the encoding of metadata: other formats required?

- Welcome feedback and comments!

Thank You !