

Segment Routing with MPLS Data Plane Encapsulation for In-situ OAM Data

draft-gandhi-spring-ioam-sr-mpls-01

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Agenda

- Requirements and Scope
- Procedures
- Next Steps

Requirements and Scope

Requirements:

- Transport In-situ OAM (IOAM) data fields with SR-MPLS Encapsulation
 - OAM information (e.g. timestamps) carried by data traffic

Scope:

- Using data fields defined in [draft-ietf-ippm-ioam-data](#)
- End-to-end IOAM
- Future: Hop-by-hop IOAM

IOAM Data Field Encapsulation in SR-MPLS Header

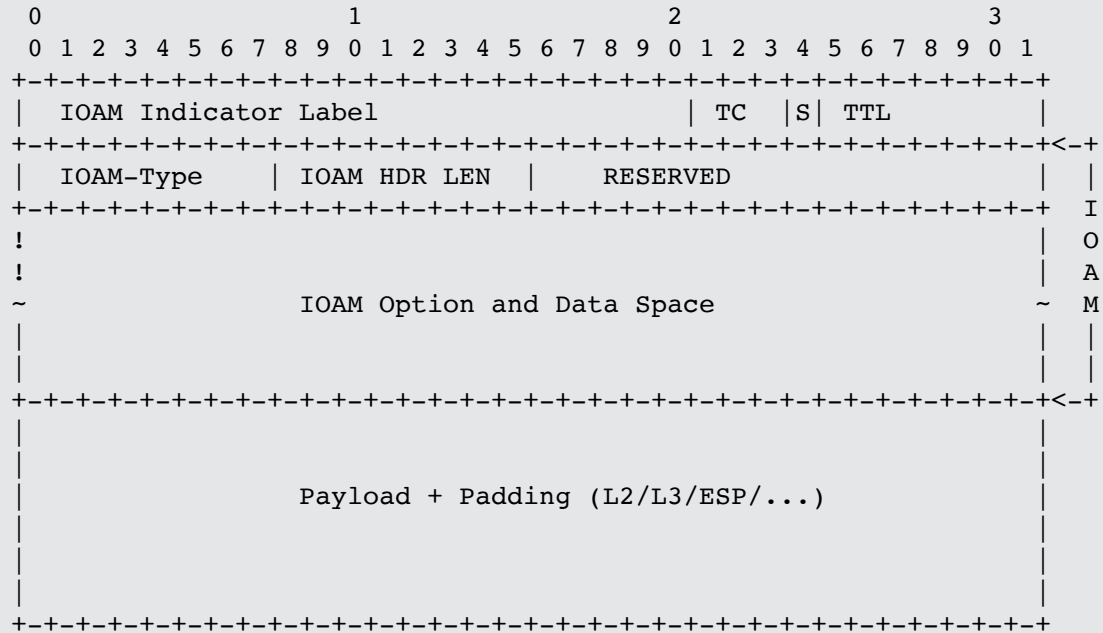


Figure 1: IOAM data encapsulation in SR-MPLS Header

Procedure

1. The encapsulating node inserts the IOAM Indicator Label and one or more IOAM data field(s) in the MPLS header.
2. The decapsulating node "forwards and punts the timestamped copy" of the data packet including IOAM data field(s).
 - The decapsulating node also pops the IOAM Indicator Label and the IOAM data field(s) from the MPLS header.

Indicator Label Allocation Methods

1. Label assigned by IANA with value TBA1
 - From Extended Special Purpose Labels (eSPL) range
2. Global Label allocated by a controller
 - The controller provisions the label on both encapsulating and decapsulating nodes
3. Label allocated by the decapsulating node
 - Signaling mechanism used to convey the label to all encapsulating nodes

Implication on Hashing

1. The encapsulating node needs to make sure the IOAM data field(s) does not start with a well known protocol type (0x4 or 0x6 for IP)
2. Hashing function that uses the label values from the MPLS header may also now include the IOAM Indicator Label

Next Steps

- Additional details on ECMP hashing
- Details on hop-by-hop IOAM
- Welcome your comments and suggestions
- Seeking WG adoption

Thank you