

Supplement of BGP-LS Distribution for SR Policies and State

draft-lp-idr-bgp-ls-sr-policy-supplement

Yao Liu	ZTE (presenter)
Shaofu Peng	ZTE
Zhenqiang Li	China Mobile

MPLS

IETF125

Mar, 2026

Background and Motivation

➤ RFC9857 describes the mechanism to collect the configuration and state of the SR Policy on the node and advertise via BGP-LS.

- Various TLVs are defined to enable the headend to report the information at different level.

```
-SR Candidate Path State TLV  
-SR Segment List TLV  
-SR Segment Sub-TLV
```

➤ Reporting MPLS labels inserted in the SID List----- supported by RFC9857

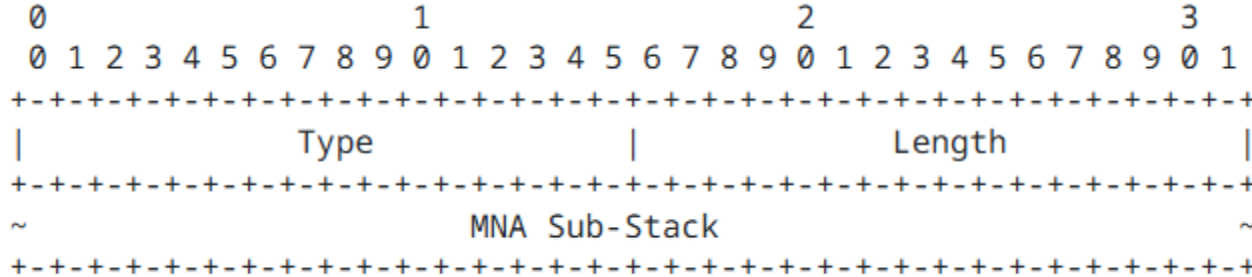
- SR Segment sub-TLV of Segment Type A may carry in general any MPLS label, but the TC, S, and TTL MUST be set to 0.

➤ Reporting MPLS LSEs with none-zero TC/TTL fields (e.g., MNA sub-stack)--- not supported yet

- MNA sub-stack solution repurposes the TC&TTL fields to carry additional information. MNA such as NRP [I-D.ietf-mpls-mna-nrp-selector], IOAM [I-D.ietf-mpls-mna-ioam] can be inserted in the SID list in the format of LSEs. The contents of the LSEs inserted in the SID-lists may also be required by the controller when the headend reports the state of SR Policies via BGP-LS.

BGP-LS Extension

➤ MNA Sub-Stack Sub-TLV in SR Segment List TLV



- one or more 4-octet-field carrying the MNA Sub-Stack defined in [[I-D.ietf-mpls-mna-hdr](#)]
- optional, can appear more than once in the SR Segment List TLV

History of the Draft

- v-00 submitted in 2023.3
- v-03 presented in IETF 124
 - MPLS LSE Sub-TLV for MNA added
- v-05 presented in IDR interim in 2026.2, comments includes:
 - The relationship between in-stack MNA and SR Policy architecture (ongoing discussion in SPRING)
 - How to carry the MNA information in BGP-LS, a dedicated sub-TLV or a new segment type
 - Backward compatibility considerations
- v-06 (this version)
 - "MNA Sub-Stack sub-TLV" replaces "MPLS LSE Sub-TLV", considering that besides MNA sub-stack, there seems no other usecases that need to report the MPLS LSEs (with none-zero TC and TTL) inserted into the SID List via BGP-LS.
 - Backward compatibility: receivers who don't recognize the new sub-TLV SHOULD skip it and process the remaining part in the SR Segment List TLV

Welcome feedback and comments.

Thank You !