IETF 105 – Montreal
July 2019
LSR Working Group

draft-li-ospf-ospfv3-srv6-extensions-04

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Overview

- This draft specifies OSPFv3 protocol extensions for SRv6
- It was first published before IETF 101 London and was referenced during the first ISIS SRv6 presentation in London
- draft-ietf-lsr-isis-srv6-extensions has been adopted by WG

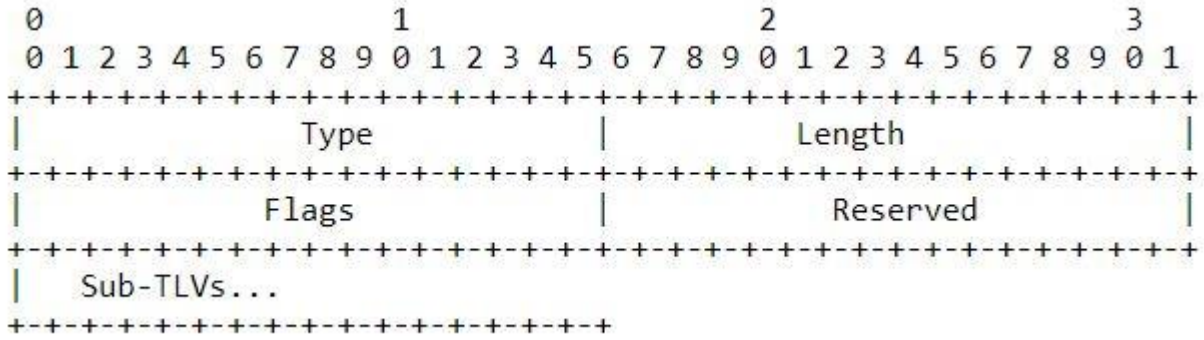
- draft-li-ospf-ospfv3-srv6-extensions-04 is fully aligned with draft-ietf-lsr-isis-srv6-extensions-02
- This presentation is focussed on the OSPFv3 protocol encoding aspects

Key Components

- Advertisement of SRv6 Capabilities & Algorithm participation
  - New TLV for SRv6 Capabilities
- Advertisement of SRv6 specific MSD types
  - New MSD types for SRv6
- Advertisement of SRv6 Locator and SIDs associated with node
  - New LSA type for SRv6 Locator
  - New TLV for SRv6 Locator & its attributes
  - New sub-TLVs for SRv6 SIDs and its attributes
- Advertisement of SRv6 SIDs associated with adjacencies
  - New Link Attribute sub-TLVs for SRv6 SIDs for End.X behaviors

SRv6 Capabilities

- New top-level TLV of OSPFv3 Router Information LSA
- Indicates node's support for SRv6 and its capabilities



- Existing SR Algorithm TLV indicates algorithm participation/support

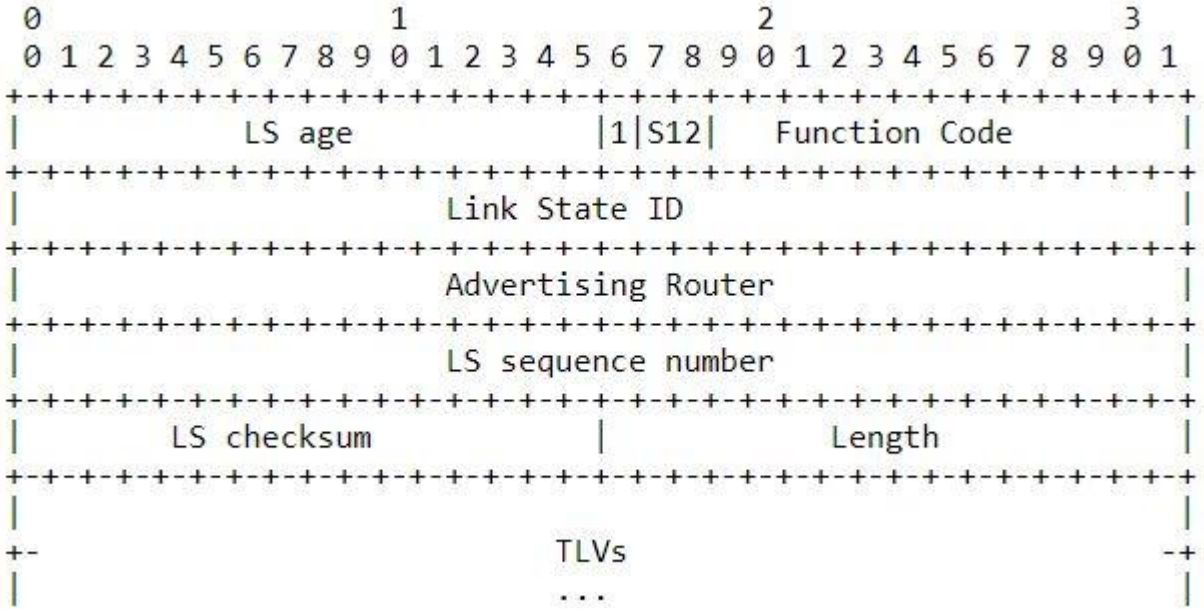
MSD Types for SRv6

- New MSD types defined for SRH operations and SRv6 capabilities in draft-ietf-lsr-isis-srv6-extensions
  - Defined under the common IGP MSD Types registry
- OSPFv3 shares and uses the same types as ISIS
- MSD types applicable at node and link level

SRv6 Locator LSA

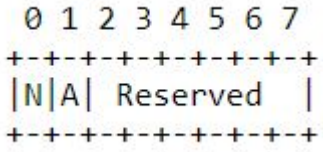
- SRv6 Locators are similar to prefix reachability advertisement but carry algorithm context and have SRv6 SIDs under their subnet
- New SRv6 Locator LSA type introduced in OSPFv3 to carry the locator and all SRv6 SIDs associated with a node under it

- Does not get mixed up with the usual OSPF LSA types for normal prefix reachability
- The scope is determined by the type of locator – intra or inter-area or external

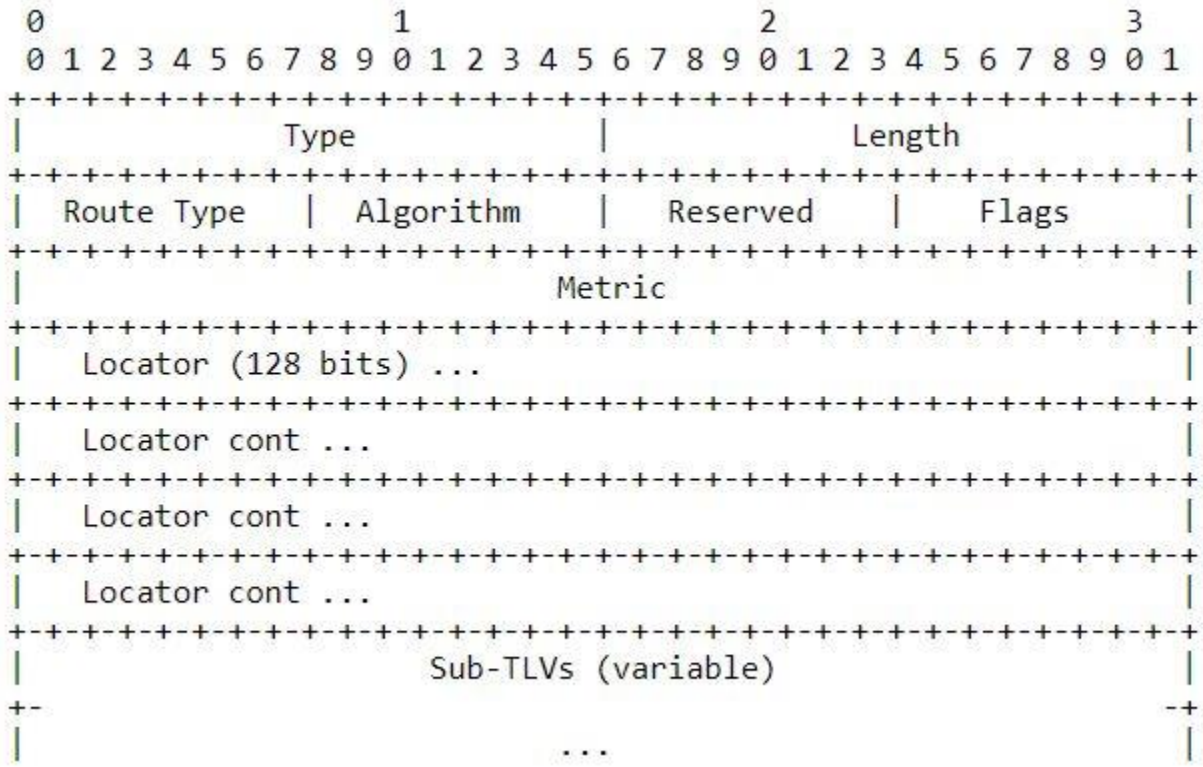


SRv6 Locator TLV

- Used for advertisement of the node's SRv6 Locator in the SRv6 Locator LSA
- Route Types
  - Intra-area
  - Inter-area
  - External
  - NSSA External
- Flags

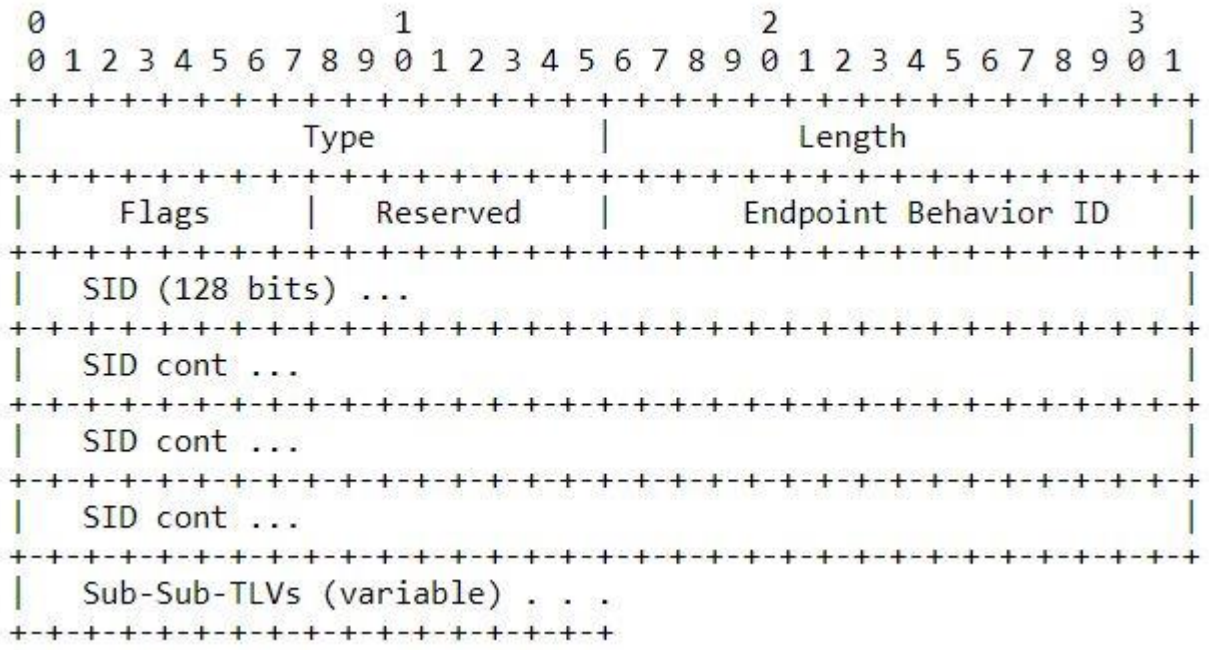


- Metric associated with the locator for specific algorithm



SRv6 SIDs Associated with Node

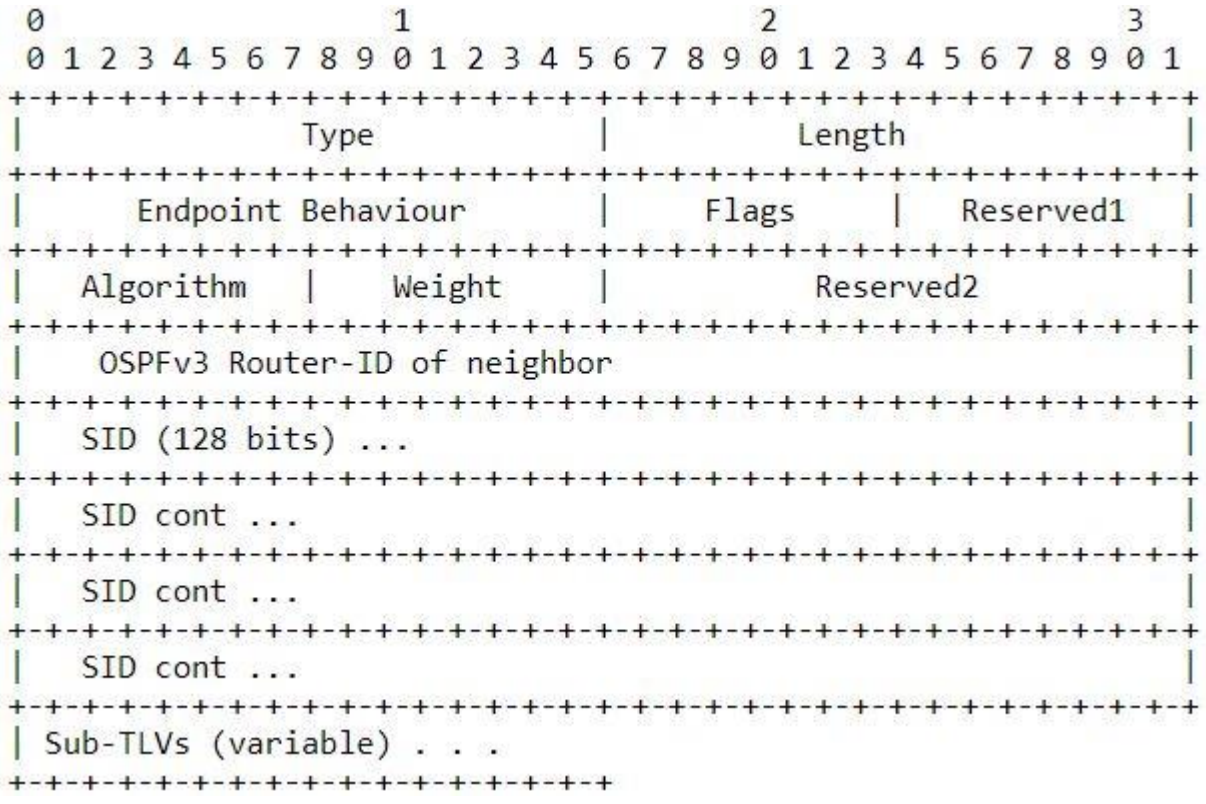
- SRv6 SIDs associated with the node are advertised using SRv6 SID sub-TLV under their respective SRv6 Locator TLV
- E.g. End & End.OP
- Attributes of the SID may be carried as sub-sub-TLVs
- SIDs inherit the algorithm from the locator



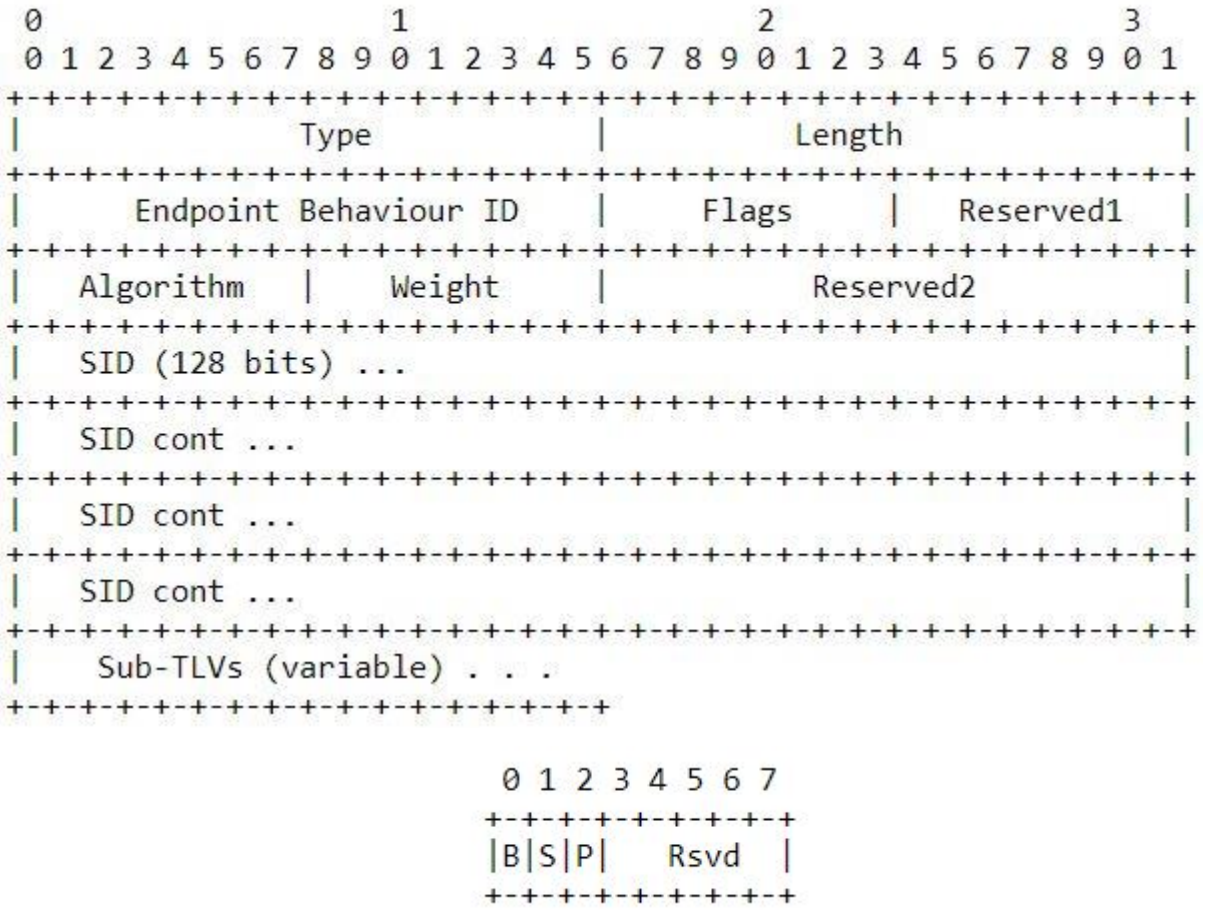
SRv6 SIDs Associated with Adjacencies

- SRv6 SIDs associated with adjacencies are advertised via new sub-TLVs under the E-Router-Link TLV of the E-Router LSA

SRv6 LAN End.X SID sub-TLV

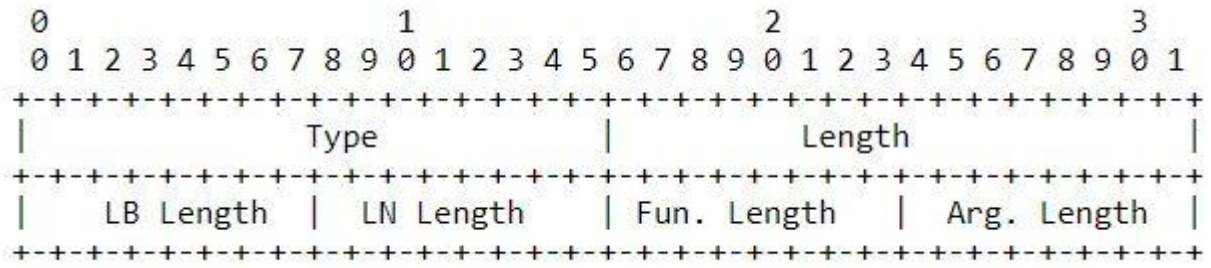


SRv6 End.X SID sub-TLV



SRv6 SID Structure

- New optional sub-TLV introduced for advertisement of the SRv6 SID Structure
- May be included as sub-sub-TLVs for SIDs associated with node or adjacencies



Next Steps …

- Request review and feedback from WG
- Request WG adoption