

IGP Extensions for Segment Routing Service Segment

draft-lz-lsr-igp-sr-service-segments-02

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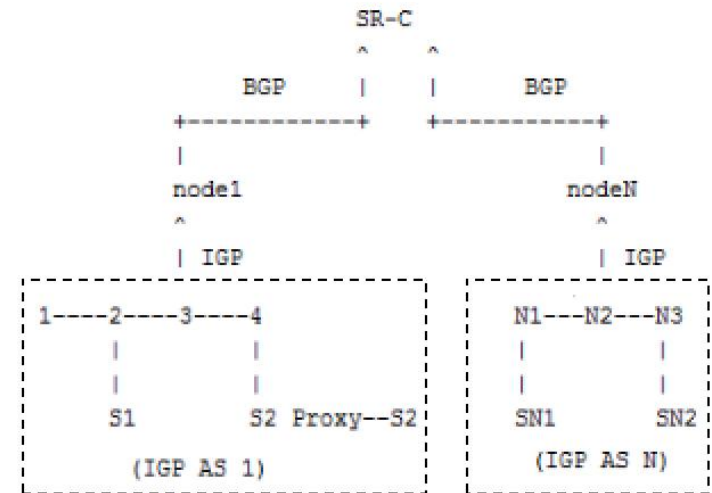
LSR WG

IETF#108

July, 2020

Background

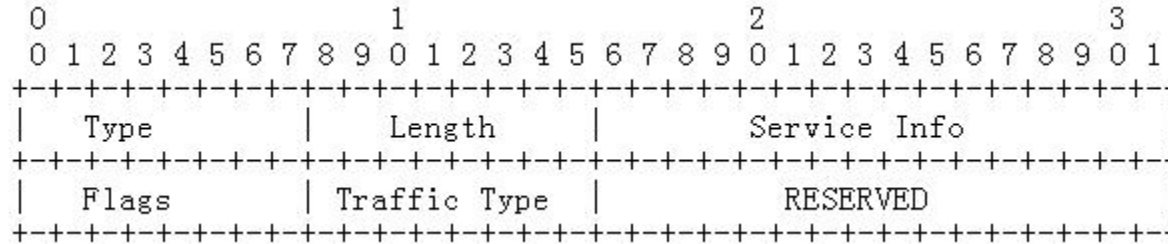
- SR service programming is described in *draft-ietf-spring-sr-service-programming*
 - achieve service function chaining (SFC) in SR-enabled MPLS and IPv6 networks
 - associate a service (FW, LB, DPI, etc) with an SID
 - an SR-unaware service is associated with a service segment instantiated on the SR proxy
- BGP-LS extensions are specified in *draft-dawra-idr-bgp-ls-sr-service-segments*
 - SR-C can receive BGP-LS updates to discover topology
- This document defines IGP (IS-IS, OSPFv2, OSPFv3) extensions for service segments
 - use IGP to advertise the SF information intra AS
 - definitions of many fields are the same as *draft-dawra-idr-bgp-ls-sr-service-segments*



IS-IS Extensions

➤ new sub-sub-TLVs for SRv6 End SID sub-TLV and SR-MPLS Prefix-SID Sub-TLV

- Service Chaining (SC) TLV



- Traffic Type: indicates if Service Function is IPv4 or IPv6 or L2 Ethernet Capable



- 0000:SR-aware function.
- 0001:Static proxy.
- 0010:Dynamic proxy.
- 0011:Masquerading proxy (for SRv6 only)
- 0100:Shared memory proxy.
- Other values are reserved.

- Service Info Field
 - Service Type: categorizes the service function type, such as "Firewall", "Load Balance" etc.
 - P Flag: indicates the SR proxy Type

P Flag is mainly defined for SR-MPLS.

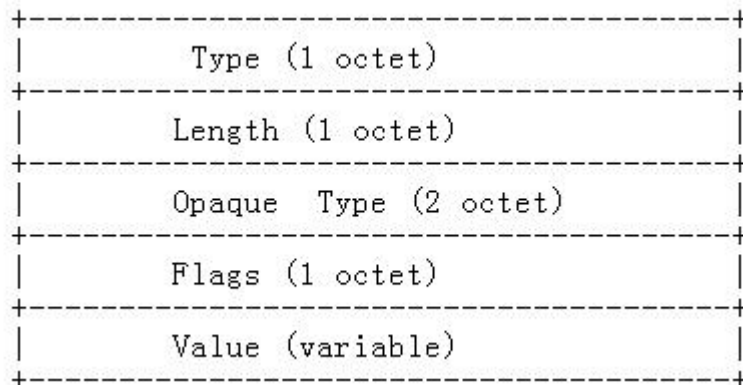
In SRv6, useful in situations like:

- the proxy of certain type cannot be associated with a network programming function
- the user want to define a new type of proxy for private use

IS-IS Extensions

➤ new sub-sub-TLVs for SRv6 End SID sub-TLV and SR-MPLS Prefix-SID Sub-TLV

- Opaque Metadata (OM) TLV



- Opaque Type: 8-bit field. Only publishers and consumers of the opaque data are supposed to understand the data.
- Flags: 8 bit field. Bits SHOULD be 0 on transmission and MUST be ignored on reception.
- Value: Variable Length. Based on the data being encoded and length is recorded in length field.

- encode vendor specific information
- same as *draft-dawra-idr-bgp-ls-sr-service-segments*

➤ OSPFv2 and OSPFv3 extensions are similar

Next Steps

- Request feedbacks and comments

Thank You !