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Updates to Algorithm Related Adjacency SID Advertisement in RF9085
draft-chen-idr-bgp-ls-algo-related-adjacency-sid-00

Abstract

This draft updates [[RFC9085](#)] to defines extensions to the Border Gateway Protocol-Link State (BGP-LS) address family in order to carry algorithm Related Adjacency SID.

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[1.](#) Introduction

[I-D.ietf-lsr-algorithm-related-adjacency-sid] defines the algorithm identifier can be included as part of an Adjacency-SID advertisement for SR-MPLS.

[RFC9085] defines extensions to the Border Gateway Protocol-Link State (BGP-LS) address family in order to carry SR information via BGP, and an algorithm identifier is included as part of the Prefix-SID TLV advertisement. This draft updates [RFC9085] and defines extensions to the Border Gateway Protocol-Link State (BGP-LS) address family in order to carry algorithm Related Adjacency SID.

[2.](#) Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [BCP 14](#) [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

[3.](#) BGP-LS Extensions for link Attribute

The following link attribute TLVs are defined:

```

+====+====+
| Type | Description |
+====+====+
| TBD1 | Adjacency SID per Algorithm |
+-----+-----+

```

```

| TBD2 | LAN Adjacency SID per Algorithm |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+

```

Figure 1: Link Attribute TLVs

3.1. Adjacency SID per Algorithm TLV

The Adjacency SID per Algorithm TLV is used in order to advertise information related to an algorithm Related Adjacency SID. This information is derived from the Adjacency Segment Identifier (Adj-SID) per Algorithm Sub-TLV of ISIS/OSPFv2/OSPFv3 (Section 4 of [\[I-D.ietf-lsr-algorithm-related-adjacency-sid\]](#)).

The Adjacency SID per Algorithm TLV has the following format:

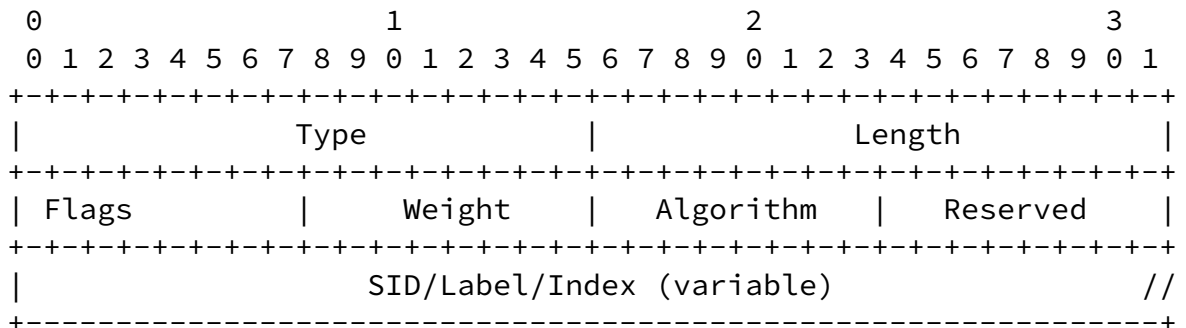


Figure 2: Adjacency SID per Algorithm TLV

where:

Type: TBD1 (Suggested value to be assigned by IANA)

Length: variable.

Flags: 1-octet value that should be set as:

- o IS-IS Adj-SID per Algorithm flags as defined in Section 4.1.1 of [\[I-D.ietf-lsr-algorithm-related-adjacency-sid\]](#)).
- o OSPFv2 Adj-SID per Algorithm Sub-TLV as defined in Section 4.2.1 of [\[I-D.ietf-lsr-algorithm-related-adjacency-sid\]](#)).

- o OSPFv3 Adj-SID per Algorithm Sub-TLV as defined in Section 4.3.1 of [[I-D.ietf-lsr-algorithm-related-adjacency-sid](#)]).

Weight: 1 octet carrying the weight used for load-balancing purposes. The use of weight is described in [Section 3.4 of \[RFC8402\]](#).

Algorithm: Refer to ISIS/OSPFv2/OSPFv3 Adj-SID per Algorithm([\[I-D.ietf-lsr-algorithm-related-adjacency-sid\]](#)).

Reserved: 1-octet that MUST be set to 0 and ignored on receipt.

SID/Label/Index: Refer to ISIS/OSPFv2/OSPFv3 Adj-SID per Algorithm([\[I-D.ietf-lsr-algorithm-related-adjacency-sid\]](#)).

3.2. LAN Adjacency SID per Algorithm TLV

This information is derived from LAN-Adj-SID per Algorithm Sub-TLV of ISIS/OSPFv2/OSPFv3 (Section 4 of [\[I-D.ietf-lsr-algorithm-related-adjacency-sid\]](#)).

The LAN Adjacency SID per Algorithm TLV has the following format:

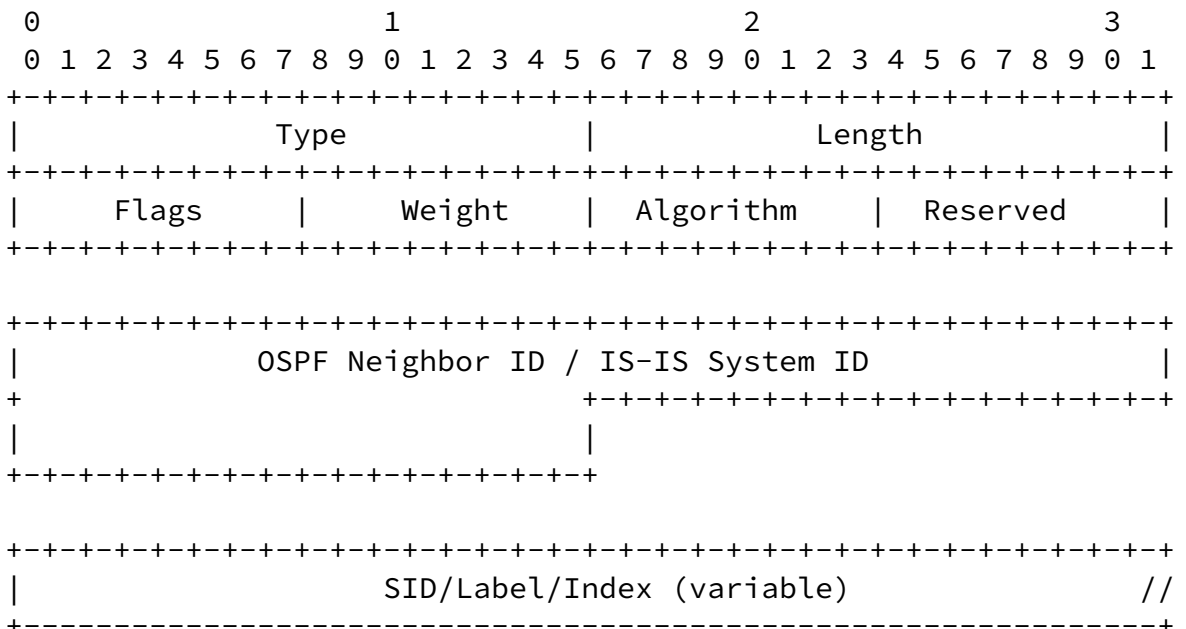


Figure 3: LAN Adjacency SID per Algorithm TLV

where:

Type: TBD2 (Suggested value to be assigned by IANA)

Length: variable.

Flags: 1-octet value that should be set as:

- o IS-IS LAN-Adj-SID per Algorithm flags as defined in Section 4.1.2 of [[I-D.ietf-lsr-algorithm-related-adjacency-sid](#)]).
- o OSPFv2 LAN-Adj-SID per Algorithm Sub-TLV as defined in Section 4.2.2 of [[I-D.ietf-lsr-algorithm-related-adjacency-sid](#)]).

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- o OSPFv3 LAN-Adj-SID per Algorithm Sub-TLV as defined in Section 4.3.2 of [[I-D.ietf-lsr-algorithm-related-adjacency-sid](#)]).

Weight: 1 octet carrying the weight used for load-balancing purposes. The use of weight is described in [Section 3.4 of \[RFC8402\]](#).

Algorithm: Refer to ISIS/OSPFv2/OSPFv3 LAN-Adj-SID per Algorithm([\[I-D.ietf-lsr-algorithm-related-adjacency-sid\]](#)).

Reserved: 1-octet that MUST be set to 0 and ignored on receipt.

Neighbor ID/IS-IS System ID: Refer to ISIS/OSPFv2/OSPFv3 LAN-Adj-SID per Algorithm([\[I-D.ietf-lsr-algorithm-related-adjacency-sid\]](#)).

SID/Label/Index: Refer to ISIS/OSPFv2/OSPFv3 LAN-Adj-SID per Algorithm([\[I-D.ietf-lsr-algorithm-related-adjacency-sid\]](#)).

4. IANA Considerations

This document makes the following Link Attribute TLVs registry under the "Border Gateway Protocol-Link State (BGP-LS) Parameter".

Type	Description
TBD1	Adjacency SID per Algorithm
TBD2	LAN Adjacency SID per Algorithm

Table 1: The new Link Attribute TLVs

5. Acknowledgements

TBD

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