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Updates to SID Verification for SR-MPLS in [RFC 8664](#)
draft-chen-pce-sr-mpls-sid-verification-03

Abstract

This document updates [[RFC8664](#)] to clarify usage of "SID verification" bit signalled in Path Computation Element Protocol (PCEP), and this document proposes to define a new flag for indicating the headend is explicitly requested to verify SID(s) by the PCE.

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[1.](#) Introduction

[I-D.ietf-spring-segment-routing-policy] describes the "SID verification" bit usage. SID verification is performed when the headend is explicitly requested to verify SID(s) by the controller via the signaling protocol used. Implementations MAY provide a local configuration option to enable verification on a global or per policy or per candidate path basis.

[RFC8664] specifies extensions to the Path Computation Element Communication Protocol (PCEP) that allow a stateful PCE to compute and initiate Traffic-Engineering (TE) paths, as well as a Path Computation Client (PCC) to request a path subject to certain constraints and optimization criteria in SR networks.

This document updates [\[RFC8664\]](#) to clarify usage of "SID verification" bit signalled in Path Computation Element Protocol (PCEP), and this document proposes to define a new flag for indicating the headend is explicitly requested to verify SID(s) by the PCE.

[2.](#) Requirements Language

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119](#) [[RFC2119](#)].

cloud transport network: It is usually a national or province backbone network to achieve interconnection between multiple regional clouds/core clouds deployed in the country/province.

3. SID verification flag(V-Flag)

3.1. Extended V-Flag in SR-ERO Subobject

[Section 4.3.1](#) in Path Computation Element Communication Protocol (PCEP) Extensions for Segment Routing [[RFC8664](#)] describes a new ERO subobject referred to as the "SR-ERO subobject" to carry a SID and/or NAI information. A new flag is proposed in this document in the SR-ERO Subobject for indicating the pcc is explicitly requested to verify SID(s) by the PCE.

The format of the SR-ERO subobject as defined in [[RFC8664](#)] is:

```

      0                               1                               2                               3
      0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|L|  Type=TBD  |      Length      | NT  |      Flags  |V|F|S|C|M|
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|                               SID (optional)                               |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
//                               NAI (variable, optional)                               //
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+

```

Figure 1

V: When the V-Flag is set then PCC MUST consider the "SID verification" as described in Section 5.1 in [[I-D.ietf-spring-segment-routing-policy](#)].

The other fields in the SR-ERO subobject is the same as that of the SR-ERO subobject as defined in [[RFC8664](#)].

[3.2.](#) Extended V-Flag in SR-RR0 Subobject

The format of the SR-RR0 subobject is the same as that of the SR-ERO subobject, but without the L-Flag, per [\[RFC8664\]](#).

The V flag has no meaning in the SR-RR0 and is ignored on receipt at the PCE.

[4.](#) Acknowledgements

TBD.

[5.](#) IANA Considerations

[5.1.](#) SR-ERO Subobject

This document defines a new bit value in the sub-registry "SR-ERO Flag Field" in the "Path Computation Element Protocol (PCEP) Numbers" registry.

Bit	Name	Reference
TBA	SID verification(V)	This document

Figure 2

[6.](#) Security Considerations

TBD.

[7.](#) Normative References

[I-D.ietf-spring-segment-routing-policy]

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