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Internet-Draft   ZTE Corporation
Intended status: Standards Track   S. Sidor
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                                                    22 February 2024

PCEP Extensions for sid verification for SR-MPLS
draft-chen-pce-sr-mpls-sid-verification-08

Abstract

   This document defines a new flag for indicating the headend is
   explicitly requested to verify SID(s) by the PCE.

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   provisions of BCP 78 and BCP 79.

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1. Introduction

[RFC9256] 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 defines a new flag for indicating the headend is
explicitly requested to verify SID(s) by the PCE.

1.1. 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.

2. SID verification flag(V-Flag)

2.1. 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 doucument in the SR-
ERO Subobject [RFC8664] for indicating the pcc is explicitly
requested to verify SID(s) by the PCE.

V 1bit TBD : When the V-Flag is set then PCC MUST consider the "SID
verification".

2.2. V-Flag in SR-RRO Subobject

The format of the SR-RRO 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-RRO and is ignored on receipt at
the PCE.

2.3. SID verification Processing

On receiving an SR-ERO with the V-flag is set, a PCC MUST verify
SID(s) as described in Section 5.1 in [RFC9256].

If a PCC "Verification fails" for a SID, it MUST report this error by
including the LSP-ERROR-CODE TLV with LSP error-value "SID
Verification fails" in the LSP object in the PCRpt message to the
PCE.

3. Acknowledgements

We would like to thank Dhruv Dhody and John Scudder for their useful
comments and suggestions.

4. IANA Considerations

4.1. 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
        ---     -----------------------     --------------
        TBD     SID verification(V)         This document
```

                            Figure 1

5. Security Considerations

   TBD.

6. Normative References

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