IANA has created "Protocol in the Segment IS Sub-TLV" registry and "Protocol in the Label Stack Sub-TLV of the Downstream Detailed Mapping TLV" under the "Multi-Protocol Label Switching (MPLS) Label Switched Paths (LSPs) Ping Parameters" registry. RFC8287 defines the code point for different Interior Gateway Protocol (IGP).

This document proposes the code point to be used in the Segment ID Sub-TLV and Downstream Detailed Mapping TLV when the IGP protocol is OSPFv3.
1. Introduction


[RFC5340] describes OSPF version 3 (OSPFv3) protocol to support IPv6. [RFC5838] describes the mechanism to support multiple address families (AFs) in OSPFv3. Accordingly OSPFv3 may be used to advertise IPv6 and IPv4 prefixes.

This document proposes the code point to be used in the Segment ID Sub-TLV (Type 34, 35 and 36) and Downstream Detailed Mapping (DDMAP) TLV when the IGP protocol is OSPFv3.

2. Terminology

This document uses the terminologies defined in [RFC8402], [RFC8029], [RFC8287] and so the readers are expected to be familiar with the same.
3. Requirements notation

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.

4. OSPFv3 protocol in Segment ID Sub-TLVs

When the protocol field of the Segment ID Sub-TLV Type 34, 35 and 36 is set to TBD1, the responder MUST perform the FEC validation using OSPFv3 as the IGP protocol.

5. OSPFv3 protocol in Downstream Detailed Mapping TLV

The protocol field of the Downstream Detailed Mapping (DDMAP) TLV in an echo reply is set to TBD2 when OSPFv3 is used to distribute the label carried in the Downstream Label field.

6. IANA Considerations

6.1. Protocol in the Segment ID sub-TLV

IANA is requested to assign one new code point of OSPFv3 from "Protocol in the Segment ID sub-TLV" registry under the "Multi-Protocol Label Switching (MPLS) Label Switched Paths (LSPs) Ping Parameters" registry:

<table>
<thead>
<tr>
<th>Value</th>
<th>Meaning</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBD1</td>
<td>OSPFv3</td>
<td>This document</td>
</tr>
</tbody>
</table>

6.2. Protocol in Label Stack Sub-TLV of Downstream Detailed Mapping TLV

IANA is requested to assign one new code point for OSPFv3 from "Protocol in Label Stack Sub-TLV of Downstream Detailed Mapping TLV" registry under the "Multi-Protocol Label Switching (MPLS) Label Switched Paths (LSPs) Ping Parameters" registry:

<table>
<thead>
<tr>
<th>Value</th>
<th>Meaning</th>
<th>Reference</th>
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</thead>
<tbody>
<tr>
<td>TBD2</td>
<td>OSPFv3</td>
<td>This document</td>
</tr>
</tbody>
</table>
7. Security Considerations

This document updates [RFC8287] and does not introduce any additional security considerations.

8. Acknowledgement

To be Updated.

9. Normative References

[IANA-MPLS-LSP-PING]


Decraene, B., Litkowski, S., and R. Shakir, "Segment
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