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OSPFv3 CodePoint for MPLS LSP Ping
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Abstract

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. This document also requests to rename the existing codepoints of these two TLVs from OSPF to OSPFv2.

Status of This Memo

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[1.](#) Introduction

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 [[IANA-MPLS-LSP-PING](#)]. [[RFC8287](#)] defines the code point for different Interior Gateway Protocol (IGP).

[[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.

The initiator MUST NOT set the protocol field of the Segment ID Sub-TLV Type 35 as OSPFv2.

When the protocol field in the received Segment ID Sub-TLV Type 35 is OSPFv2, the responder MAY treat the protocol value as 0 and process the as defined in [Section 7.4 of \[RFC8287\]](#).

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. OSPFv2 Protocol in Segment ID and DDMAP Sub-TLVs

[Section 5 of \[RFC8287\]](#) defines the code point for OSPF to be used in the Protocol field of the Segment ID Sub-TLV. [Section 6 of \[RFC8287\]](#) defines the code point for OSPF to be used in the Protocol field of the DDMAP TLV.

This document renames the above codepoints from OSPF to OSPFv2.

7. IANA Considerations

7.1. 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:

Value	Meaning	Reference
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TBD1	OSPFv3	This document
1	OSPFv2	RFC8287

IANA is also requested to rename the existing codepoint as OSPFv2.

7.2. 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:

Value	Meaning	Reference
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TBD2	OSPFv3	This document
5	OSPFv2	RFC8287

IANA is also requested to rename the existing codepoint as OSPFv2.

8. Security Considerations

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

9. Acknowledgement

The authors would like to thank Les Ginsberg, Zafar Ali, Loa Andersson and Andrew Molotchko for their review and suggestions.

10. Normative References

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